INITIAL PFAS INVESTIGATION REPORT

Spokane International Airport

Spokane, WA

APPENDIX D

Analytical Laboratory Reports

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 4/2/2025 9:17:49 AM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118511-4

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

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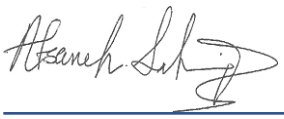

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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-4

Qualifiers

LCMS

Qualifier	Qualifier Description
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118511-4 — Eurofins Sacramento

Job Narrative
320-118511-4

Receipt
The samples were received on 1/23/2025 9:55 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.8º C and 5.9º C.

LCMS
Method 1633: The low level continuing calibration verification (CCVL) associated with batch 320-843420 recovered above the upper control limit for Perfluoropentanoic acid (PFPeA). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: FIT-002-N-S015-01212025 (320-118511-6), SRA-003-N-S012-01212025 (320-118511-35) and (CCVL 320-843420/2).

Method 1633: Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: (CCB 320-843420/1). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 1633: The transition mass ratio was outside of the established ratio limit for Perfluoropentanoic acid (PFPeA) and Perfluorooctanesulfonamide (PFOSA) in (CCVL 320-843420/2) associated to this data set. This is indicated by the "R" flag in the raw data. As the flagged data is in control in the low level continuing calibration verification (CCVL), there is no adverse impact to the data.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 28 days. The following samples in analytical batch 320-841927 were prepared and analyzed outside this time period : FIT-002-N-S015-01212025 (320-118511-6) and SRA-003-N-S012-01212025 (320-118511-35).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-4

Client Sample ID: FIT-002-N-S015-01212025 — Lab Sample ID: 320-118511-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.11	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-003-N-S012-01212025 — Lab Sample ID: 320-118511-35

No Detections.

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-4

Client Sample ID: FIT-002-N-S015-01212025
Date Collected: 01/21/25 07:50
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-6
Matrix: Solid
Percent Solids: 87.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.099	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
Perfluoropentanoic acid (PFPeA)	ND	^+	0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
Perfluorooctanesulfonic acid (PFOS)	**0.11**	**J**	0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.099	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.099	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1

Client Sample ID: FIT-002-N-S015-01212025

Lab Sample ID: 320-118511-6

Date Collected: 01/21/25 07:50
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 87.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.099	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	03/31/25 07:16	04/01/25 05:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*93.7*		*8 - 130*	*03/31/25 07:16*	*04/01/25 05:49*	*1*
13C5 PFPeA	*82.4*		*35 - 130*	*03/31/25 07:16*	*04/01/25 05:49*	*1*
13C5 PFHxA	*90.1*		*40 - 130*	*03/31/25 07:16*	*04/01/25 05:49*	*1*
13C4 PFHpA	*96.4*		*40 - 130*	*03/31/25 07:16*	*04/01/25 05:49*	*1*
13C8 PFOA	*91.1*		*40 - 130*	*03/31/25 07:16*	*04/01/25 05:49*	*1*
13C9 PFNA	*91.1*		*40 - 130*	*03/31/25 07:16*	*04/01/25 05:49*	*1*
13C6 PFDA	*82.0*		*40 - 130*	*03/31/25 07:16*	*04/01/25 05:49*	*1*
13C7 PFUnA	*63.6*		*40 - 130*	*03/31/25 07:16*	*04/01/25 05:49*	*1*
13C2 PFDoA	*49.5*		*40 - 130*	*03/31/25 07:16*	*04/01/25 05:49*	*1*
13C2 PFTeDA	*39.4*		*20 - 130*	*03/31/25 07:16*	*04/01/25 05:49*	*1*
13C3 PFBS	*77.2*		*40 - 135*	*03/31/25 07:16*	*04/01/25 05:49*	*1*
13C3 PFHxS	*80.1*		*40 - 130*	*03/31/25 07:16*	*04/01/25 05:49*	*1*
13C8 PFOS	*73.0*		*40 - 130*	*03/31/25 07:16*	*04/01/25 05:49*	*1*
13C8 FOSA	*51.7*		*40 - 130*	*03/31/25 07:16*	*04/01/25 05:49*	*1*
d3-NMeFOSAA	*60.0*		*40 - 135*	*03/31/25 07:16*	*04/01/25 05:49*	*1*
d5-NEtFOSAA	*52.9*		*40 - 150*	*03/31/25 07:16*	*04/01/25 05:49*	*1*
13C2 4:2 FTS	*59.9*		*40 - 165*	*03/31/25 07:16*	*04/01/25 05:49*	*1*
13C2 6:2 FTS	*59.2*		*40 - 215*	*03/31/25 07:16*	*04/01/25 05:49*	*1*
13C2 8:2 FTS	*62.4*		*40 - 275*	*03/31/25 07:16*	*04/01/25 05:49*	*1*
13C3 HFPO-DA	*98.6*		*40 - 130*	*03/31/25 07:16*	*04/01/25 05:49*	*1*
d7-N-MeFOSE-M	*40.4*		*20 - 130*	*03/31/25 07:16*	*04/01/25 05:49*	*1*
d9-N-EtFOSE-M	*40.5*		*15 - 130*	*03/31/25 07:16*	*04/01/25 05:49*	*1*
d5-NEtPFOSA	*38.9*		*10 - 130*	*03/31/25 07:16*	*04/01/25 05:49*	*1*
d3-NMePFOSA	*36.6*		*10 - 130*	*03/31/25 07:16*	*04/01/25 05:49*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	13	H	0.10	0.10	%			03/24/25 14:34	1

Client Sample ID: SRA-003-N-S012-01212025

Lab Sample ID: 320-118511-35

Date Collected: 01/21/25 13:25
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 91.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
Perfluoropentanoic acid (PFPeA)	ND	^+	0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.060	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-4

Client Sample ID: SRA-003-N-S012-01212025
Date Collected: 01/21/25 13:25
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-35
Matrix: Solid
Percent Solids: 91.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.061	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.24	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.24	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.060	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.073	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-4

Client Sample ID: SRA-003-N-S012-01212025
Date Collected: 01/21/25 13:25
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-35
Matrix: Solid
Percent Solids: 91.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	03/31/25 07:16	04/01/25 06:05	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*95.0*		*8 - 130*	*03/31/25 07:16*	*04/01/25 06:05*	*1*
13C5 PFPeA	*80.0*		*35 - 130*	*03/31/25 07:16*	*04/01/25 06:05*	*1*
13C5 PFHxA	*88.7*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:05*	*1*
13C4 PFHpA	*86.0*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:05*	*1*
13C8 PFOA	*91.2*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:05*	*1*
13C9 PFNA	*86.3*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:05*	*1*
13C6 PFDA	*84.5*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:05*	*1*
13C7 PFUnA	*72.4*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:05*	*1*
13C2 PFDoA	*66.0*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:05*	*1*
13C2 PFTeDA	*55.2*		*20 - 130*	*03/31/25 07:16*	*04/01/25 06:05*	*1*
13C3 PFBS	*80.0*		*40 - 135*	*03/31/25 07:16*	*04/01/25 06:05*	*1*
13C3 PFHxS	*76.5*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:05*	*1*
13C8 PFOS	*74.2*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:05*	*1*
13C8 FOSA	*66.9*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:05*	*1*
d3-NMeFOSAA	*66.3*		*40 - 135*	*03/31/25 07:16*	*04/01/25 06:05*	*1*
d5-NEtFOSAA	*62.1*		*40 - 150*	*03/31/25 07:16*	*04/01/25 06:05*	*1*
13C2 4:2 FTS	*60.6*		*40 - 165*	*03/31/25 07:16*	*04/01/25 06:05*	*1*
13C2 6:2 FTS	*56.0*		*40 - 215*	*03/31/25 07:16*	*04/01/25 06:05*	*1*
13C2 8:2 FTS	*59.5*		*40 - 275*	*03/31/25 07:16*	*04/01/25 06:05*	*1*
13C3 HFPO-DA	*91.9*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:05*	*1*
d7-N-MeFOSE-M	*55.7*		*20 - 130*	*03/31/25 07:16*	*04/01/25 06:05*	*1*
d9-N-EtFOSE-M	*53.7*		*15 - 130*	*03/31/25 07:16*	*04/01/25 06:05*	*1*
d5-NEtPFOSA	*51.4*		*10 - 130*	*03/31/25 07:16*	*04/01/25 06:05*	*1*
d3-NMePFOSA	*47.7*		*10 - 130*	*03/31/25 07:16*	*04/01/25 06:05*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**8.5**	**H**	0.10	0.10	%			03/24/25 14:34	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118511-4
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (8-130)	PFPeA (35-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (40-130)
320-118511-6	FIT-002-N-S015-01212025	93.7	82.4	90.1	96.4	91.1	91.1	82.0	63.6
320-118511-35	SRA-003-N-S012-01212025	95.0	80.0	88.7	86.0	91.2	86.3	84.5	72.4
LCS 320-843241/3-A	Lab Control Sample	94.9	76.7	95.7	99.1	98.9	95.6	92.6	83.3
LCSD 320-843241/4-A	Lab Control Sample Dup	93.8	75.6	94.6	96.3	93.0	91.9	92.5	85.1
LLCS 320-843241/2-A	Lab Control Sample	97.8	76.3	96.9	99.5	92.7	95.3	89.7	81.2
MB 320-843241/1-A	Method Blank	97.4	75.7	94.0	103	97.1	94.2	89.8	75.6

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (40-130)	PFTDA (20-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-135)	d5NEFOS (40-150)
320-118511-6	FIT-002-N-S015-01212025	49.5	39.4	77.2	80.1	73.0	51.7	60.0	52.9
320-118511-35	SRA-003-N-S012-01212025	66.0	55.2	80.0	76.5	74.2	66.9	66.3	62.1
LCS 320-843241/3-A	Lab Control Sample	75.0	62.2	87.1	87.5	84.3	78.1	78.6	72.3
LCSD 320-843241/4-A	Lab Control Sample Dup	82.1	68.0	92.5	83.6	82.1	87.9	81.2	77.1
LLCS 320-843241/2-A	Lab Control Sample	85.1	70.9	83.3	83.5	84.3	87.7	82.6	79.5
MB 320-843241/1-A	Method Blank	66.7	60.5	83.8	86.1	85.6	75.2	75.1	68.9

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118511-6	FIT-002-N-S015-01212025	59.9	59.2	62.4	98.6	40.4	40.5	38.9	36.6
320-118511-35	SRA-003-N-S012-01212025	60.6	56.0	59.5	91.9	55.7	53.7	51.4	47.7
LCS 320-843241/3-A	Lab Control Sample	74.0	68.7	70.9	105	63.7	60.2	56.5	55.6
LCSD 320-843241/4-A	Lab Control Sample Dup	70.8	70.1	76.1	104	69.2	71.3	63.4	57.4
LLCS 320-843241/2-A	Lab Control Sample	70.9	65.6	76.9	102	80.0	76.4	58.6	58.0
MB 320-843241/1-A	Method Blank	67.7	68.5	72.0	105	58.4	60.5	54.6	52.0

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118511-4
Project/Site: Spokane International Airport

d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-843241/1-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 843241

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-843241/1-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 843241

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 02:32	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*97.4*		*8 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C5 PFPeA	*75.7*		*35 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C5 PFHxA	*94.0*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C4 PFHpA	*103*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C8 PFOA	*97.1*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C9 PFNA	*94.2*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C6 PFDA	*89.8*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C7 PFUnA	*75.6*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 PFDoA	*66.7*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 PFTeDA	*60.5*		*20 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C3 PFBS	*83.8*		*40 - 135*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C3 PFHxS	*86.1*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C8 PFOS	*85.6*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C8 FOSA	*75.2*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d3-NMeFOSAA	*75.1*		*40 - 135*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d5-NEtFOSAA	*68.9*		*40 - 150*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 4:2 FTS	*67.7*		*40 - 165*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 6:2 FTS	*68.5*		*40 - 215*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 8:2 FTS	*72.0*		*40 - 275*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C3 HFPO-DA	*105*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d7-N-MeFOSE-M	*58.4*		*20 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d9-N-EtFOSE-M	*60.5*		*15 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d5-NEtPFOSA	*54.6*		*10 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d3-NMePFOSA	*52.0*		*10 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*

Lab Sample ID: LCS 320-843241/3-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.68		ug/Kg		94	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.96		ug/Kg		118	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.31		ug/Kg		92	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.48		ug/Kg		99	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.42		ug/Kg		97	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.51		ug/Kg		101	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.51		ug/Kg		101	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-843241/3-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.63		ug/Kg		105	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.51		ug/Kg		100	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.70		ug/Kg		108	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	3.03		ug/Kg		121	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.07		ug/Kg		93	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.17		ug/Kg		92	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.03		ug/Kg		89	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.53		ug/Kg		106	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.17		ug/Kg		93	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.38		ug/Kg		99	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.09		ug/Kg		87	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	1.91		ug/Kg		79	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.09		ug/Kg		87	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.54		ug/Kg		95	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.57		ug/Kg		95	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.39		ug/Kg		96	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.45		ug/Kg		98	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.26		ug/Kg		90	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.19		ug/Kg		88	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.21		ug/Kg		88	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.1		ug/Kg		97	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.5		ug/Kg		100	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.66		ug/Kg		89	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	1.87		ug/Kg		79	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.57		ug/Kg		103	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.96		ug/Kg		118	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.17		ug/Kg		87	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-843241/3-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.07		ug/Kg		89	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.70		ug/Kg		72	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.99		ug/Kg		89	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.25		ug/Kg		105	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.8		ug/Kg		86	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.4		ug/Kg		91	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*94.9*		*8 - 130*
13C5 PFPeA	*76.7*		*35 - 130*
13C5 PFHxA	*95.7*		*40 - 130*
13C4 PFHpA	*99.1*		*40 - 130*
13C8 PFOA	*98.9*		*40 - 130*
13C9 PFNA	*95.6*		*40 - 130*
13C6 PFDA	*92.6*		*40 - 130*
13C7 PFUnA	*83.3*		*40 - 130*
13C2 PFDoA	*75.0*		*40 - 130*
13C2 PFTeDA	*62.2*		*20 - 130*
13C3 PFBS	*87.1*		*40 - 135*
13C3 PFHxS	*87.5*		*40 - 130*
13C8 PFOS	*84.3*		*40 - 130*
13C8 FOSA	*78.1*		*40 - 130*
d3-NMeFOSAA	*78.6*		*40 - 135*
d5-NEtFOSAA	*72.3*		*40 - 150*
13C2 4:2 FTS	*74.0*		*40 - 165*
13C2 6:2 FTS	*68.7*		*40 - 215*
13C2 8:2 FTS	*70.9*		*40 - 275*
13C3 HFPO-DA	*105*		*40 - 130*
d7-N-MeFOSE-M	*63.7*		*20 - 130*
d9-N-EtFOSE-M	*60.2*		*15 - 130*
d5-NEtPFOSA	*56.5*		*10 - 130*
d3-NMePFOSA	*55.6*		*10 - 130*

Lab Sample ID: LCSD 320-843241/4-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.58		ug/Kg		92	70 - 140	2	30
Perfluoropentanoic acid (PFPeA)			2.50	2.90		ug/Kg		116	60 - 150	2	30
Perfluorohexanoic acid (PFHxA)			2.50	2.30		ug/Kg		92	65 - 140	0	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.49		ug/Kg		100	65 - 145	0	30
Perfluorooctanoic acid (PFOA)			2.50	2.49		ug/Kg		99	70 - 150	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-843241/4-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.57		ug/Kg		103	70 - 155	2	30
Perfluorodecanoic acid (PFDA)	2.50	2.67		ug/Kg		107	70 - 155	6	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.64		ug/Kg		105	70 - 155	0	30
Perfluorododecanoic acid (PFDoA)	2.50	2.49		ug/Kg		100	70 - 150	1	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.57		ug/Kg		103	65 - 150	5	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.95		ug/Kg		118	65 - 150	3	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.01		ug/Kg		90	65 - 145	3	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.20		ug/Kg		94	55 - 160	1	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.11		ug/Kg		93	60 - 150	4	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.62		ug/Kg		110	65 - 155	4	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.29		ug/Kg		98	65 - 160	6	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.48		ug/Kg		103	55 - 140	4	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.24		ug/Kg		93	40 - 155	7	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.09		ug/Kg		86	25 - 160	9	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.52		ug/Kg		96	60 - 150	10	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.39		ug/Kg		92	55 - 200	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.48		ug/Kg		93	70 - 150	2	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.45		ug/Kg		98	70 - 140	2	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.54		ug/Kg		101	70 - 155	3	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.18		ug/Kg		87	70 - 140	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.28		ug/Kg		91	65 - 155	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.22		ug/Kg		89	65 - 165	0	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.6		ug/Kg		101	70 - 140	4	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	11.5		ug/Kg		92	70 - 135	8	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.63		ug/Kg		87	70 - 145	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	1.84		ug/Kg		78	70 - 160	1	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.44		ug/Kg		98	30 - 140	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.77		ug/Kg		111	60 - 150	6	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-843241/4-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.22		ug/Kg		89	60 - 155	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	1.94		ug/Kg		83	70 - 150	7	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.61		ug/Kg		68	45 - 160	5	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.97		ug/Kg		88	70 - 140	1	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.17		ug/Kg		103	45 - 130	2	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.8		ug/Kg		87	60 - 130	0	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 150	1	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*93.8*		*8 - 130*
13C5 PFPeA	*75.6*		*35 - 130*
13C5 PFHxA	*94.6*		*40 - 130*
13C4 PFHpA	*96.3*		*40 - 130*
13C8 PFOA	*93.0*		*40 - 130*
13C9 PFNA	*91.9*		*40 - 130*
13C6 PFDA	*92.5*		*40 - 130*
13C7 PFUnA	*85.1*		*40 - 130*
13C2 PFDoA	*82.1*		*40 - 130*
13C2 PFTeDA	*68.0*		*20 - 130*
13C3 PFBS	*92.5*		*40 - 135*
13C3 PFHxS	*83.6*		*40 - 130*
13C8 PFOS	*82.1*		*40 - 130*
13C8 FOSA	*87.9*		*40 - 130*
d3-NMeFOSAA	*81.2*		*40 - 135*
d5-NEtFOSAA	*77.1*		*40 - 150*
13C2 4:2 FTS	*70.8*		*40 - 165*
13C2 6:2 FTS	*70.1*		*40 - 215*
13C2 8:2 FTS	*76.1*		*40 - 275*
13C3 HFPO-DA	*104*		*40 - 130*
d7-N-MeFOSE-M	*69.2*		*20 - 130*
d9-N-EtFOSE-M	*71.3*		*15 - 130*
d5-NEtPFOSA	*63.4*		*10 - 130*
d3-NMePFOSA	*57.4*		*10 - 130*

Lab Sample ID: LLCS 320-843241/2-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.807		ug/Kg		101	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.501		ug/Kg		125	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.408		ug/Kg		102	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-843241/2-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.419		ug/Kg		105	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.447		ug/Kg		112	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.441		ug/Kg		110	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.438		ug/Kg		110	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.437		ug/Kg		109	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.423		ug/Kg		106	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.473		ug/Kg		118	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.545		ug/Kg		136	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.336		ug/Kg		94	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.372		ug/Kg		99	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.349		ug/Kg		96	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.438		ug/Kg		115	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.373		ug/Kg		100	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.414		ug/Kg		107	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.379		ug/Kg		98	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.409		ug/Kg		105	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.754		ug/Kg		101	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.726		ug/Kg		95	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.738		ug/Kg		96	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.404		ug/Kg		101	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.403		ug/Kg		101	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.394		ug/Kg		98	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.399		ug/Kg		100	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.357		ug/Kg		89	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	2.01		ug/Kg		100	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.15		ug/Kg		107	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.291		ug/Kg		97	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.334		ug/Kg		88	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.436		ug/Kg		109	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-843241/2-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.484		ug/Kg		121	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.350		ug/Kg		87	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.364		ug/Kg		97	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.338		ug/Kg		90	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.319		ug/Kg		89	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.848		ug/Kg		106	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	1.81		ug/Kg		91	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	1.99		ug/Kg		100	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*97.8*		*8 - 130*
13C5 PFPeA	*76.3*		*35 - 130*
13C5 PFHxA	*96.9*		*40 - 130*
13C4 PFHpA	*99.5*		*40 - 130*
13C8 PFOA	*92.7*		*40 - 130*
13C9 PFNA	*95.3*		*40 - 130*
13C6 PFDA	*89.7*		*40 - 130*
13C7 PFUnA	*81.2*		*40 - 130*
13C2 PFDoA	*85.1*		*40 - 130*
13C2 PFTeDA	*70.9*		*20 - 130*
13C3 PFBS	*83.3*		*40 - 135*
13C3 PFHxS	*83.5*		*40 - 130*
13C8 PFOS	*84.3*		*40 - 130*
13C8 FOSA	*87.7*		*40 - 130*
d3-NMeFOSAA	*82.6*		*40 - 135*
d5-NEtFOSAA	*79.5*		*40 - 150*
13C2 4:2 FTS	*70.9*		*40 - 165*
13C2 6:2 FTS	*65.6*		*40 - 215*
13C2 8:2 FTS	*76.9*		*40 - 275*
13C3 HFPO-DA	*102*		*40 - 130*
d7-N-MeFOSE-M	*80.0*		*20 - 130*
d9-N-EtFOSE-M	*76.4*		*15 - 130*
d5-NEtPFOSA	*58.6*		*10 - 130*
d3-NMePFOSA	*58.0*		*10 - 130*

QC Association Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-4

LCMS

Prep Batch: 843241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-6	FIT-002-N-S015-01212025	Total/NA	Solid	1633 Shake	
320-118511-35	SRA-003-N-S012-01212025	Total/NA	Solid	1633 Shake	
MB 320-843241/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-843241/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-843241/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-843241/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 843420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-6	FIT-002-N-S015-01212025	Total/NA	Solid	1633	843241
320-118511-35	SRA-003-N-S012-01212025	Total/NA	Solid	1633	843241
MB 320-843241/1-A	Method Blank	Total/NA	Solid	1633	843241
LCS 320-843241/3-A	Lab Control Sample	Total/NA	Solid	1633	843241
LCSD 320-843241/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	843241
LLCS 320-843241/2-A	Lab Control Sample	Total/NA	Solid	1633	843241

General Chemistry

Analysis Batch: 841927

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-6	FIT-002-N-S015-01212025	Total/NA	Solid	1633	
320-118511-35	SRA-003-N-S012-01212025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-4

Client Sample ID: FIT-002-N-S015-01212025
Lab Sample ID: 320-118511-6
Date Collected: 01/21/25 07:50
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			841927	03/24/25 14:34	CFR	EET SAC

Client Sample ID: FIT-002-N-S015-01212025
Lab Sample ID: 320-118511-6
Date Collected: 01/21/25 07:50
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 87.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.31 g	5.0 mL	843241	03/31/25 07:16	CGL	EET SAC
Total/NA	Analysis	1633		1			843420	04/01/25 05:49	N1K	EET SAC

Client Sample ID: SRA-003-N-S012-01212025
Lab Sample ID: 320-118511-35
Date Collected: 01/21/25 13:25
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			841927	03/24/25 14:34	CFR	EET SAC

Client Sample ID: SRA-003-N-S012-01212025
Lab Sample ID: 320-118511-35
Date Collected: 01/21/25 13:25
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 91.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.24 g	5.0 mL	843241	03/31/25 07:16	CGL	EET SAC
Total/NA	Analysis	1633		1			843420	04/01/25 06:05	N1K	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118511-4
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-4

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-4

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118511-6	FIT-002-N-S015-01212025	Solid	01/21/25 07:50	01/23/25 09:55
320-118511-35	SRA-003-N-S012-01212025	Solid	01/21/25 13:25	01/23/25 09:55

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
FIT-002-N-S000-01212025	1/21/2025	0725	Soil		1
FIT-002-N-S001-01212025	1/21/2025	0730	Soil	X	1
FIT-002-N-S003-01212025	1/21/2025	0735	Soil	X	1
FIT-002-N-S006-01212025	1/21/2025	0740	Soil		1
FIT-002-N-S010-01212025	1/21/2025	0745	Soil		1
FIT-002-N-S015-01212025	1/21/2025	0750	Soil		1
FIT-001-N-S000-01212025	1/21/2025	0840	Soil		1
FIT-001-N-S001-01212025	1/21/2025	0845	Soil	X	1
FIT-001-N-S003-01212025	1/21/2025	4850	Soil	X	1
FIT-001-FD-S003-01212025	1/21/2025	0920	Soil	X	1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118511 Chain of Custody

5.2, 5.6 cor 1/20/26

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo de Silva	Print Macky Morris
Firm HA	Firm ELT SAC
Date 01/22/25 Time 1700	Date 1/22/25 1200
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print
Firm ELT SAC	Firm
Date 1/22/25 Time 1517	Date
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections.

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

5.9/08

Form 3003 WHITE Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory November 2024

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
FIT-001-N-S005-01212025	1/21/2025	0855	Soil		1
FIT-003-N-S000-01212025	1/21/2025	0935	Soil		1
FIT-003-N-S001-01212025	1/21/2025	0940	Soil	X	1
FIT-003-N-S003-01212025	1/21/2025	0945	Soil	X	1
FIT-003-N-S006-01212025	1/21/2025	0950	Soil		1
FIT-003-N-S010-01212025	1/21/2025	0955	Soil		1
FIT-003-N-S011-01212025	1/21/2025	1000	Soil		1
FIT-007-N-S000-01212025	1/21/2025	1010	Soil		1
FIT-008-N-S000-01212025	1/21/2025	1030	Soil		1
FIT-006-N-S000-01212025	1/21/2025	1111	Soil		1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

5.2, 5.6 (or 1 RC06

Sampled and Relinquished by	Received by
Sign	Sign
Print Jack Castillo de Solis	Print Macky Mora
Firm HA	Firm EECS PO
Date 01/22/25 Time 1200	Date 1/22/25 1200
Relinquished by	**Received by**
Sign	Sign
Print Macky Mora	Print
Firm EECS PO	Firm
Date 1/22/25 Time 1517	Date 1.23.25 955
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ RC-S2 ☐ RC-GW1 ☐ RC-GW2 ☐ S1 ☐ S2 ☐ S3 ☐ GW1 ☐ GW2 ☐ GW3

WHITE - Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory

November 2024

Form 3003

HALEY ALDRICH

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	**LABORATORY**	Eurofins Environmental Testing	**DELIVERY DATE**	
PROJECT NAME	Geiger Field PFAS Support	**ADDRESS**	11922 E 1st Ave, Spokane Valley, WA 99206	**TURNAROUND TIME**	STD
H&A CONTACT	Breeyn Greer	**CONTACT**	Randee Arrington	**PROJECT MANAGER**	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
FIT-005-N-S000-01212025	1/21/2025	1106	Soil		1
FIT-004-N-S000-01212024	1/21/2025	1100	Soil		1
FIT-004-N-S001-01212024	1/21/2025	1105	Soil	x	1
FIT-004-N-S003-01212024	1/21/2025	1110	Soil	x	1
FIT-004-FD-S003-01212024	1/21/2025	1140	Soil	x	1
FIT-004-N-S006-01212024	1/21/2025	1115	Soil		1
FIT-004-N-S010-01212024	1/21/2025	1120	Soil		1
FIT-004-N-S015-01212024	1/21/2025	1125	Soil		1
FIT-004-N-S016-01212024	1/21/2025	1130	Soil		1
SRA-003-N-S000-01212025	1/21/2025	1300	Soil		1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

5.2.5. Lower Woody

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo de Sila	Print Macky Morris
Firm HA	Firm ECT SPO
Date 01/22/25 Time 1200	Date 1/22/25 1200
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print
Firm ECT SPO	Firm
Date 1/22/25 Time 1517	Date 1.23.25 700
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

PRESERVATION KEY

A	Sample chilled	**C**	NaOH	**E**	H_2SO_4	**G**	Methanol
B	Sample filtered	**D**	HNO_3	**F**	HCL	**H**	Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory

November 2024

Form 3003

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave. Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington

DELIVERY DATE
TURNAROUND TIME
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
SRA-003-N-S001-01212025	1/21/2025	1305	Soil	X	1
SRA-003-N-S003-01212025	1/21/2025	1310	Soil	X	1
SRA-003-N-S006-01212025	1/21/2025	1315	Soil		1
SRA-003-N-S010-01212025	1/21/2025	1320	Soil		1
SRA-003-N-S012-01212025	1/21/2025	1325	Soil		1
SRA-004A-N-S000-01212025	1/21/2025	1400	Soil		1
SRA-004A-N-S001-01212025	1/21/2025	1405	Soil	X	1
SRA-004A-FD-S001-01212025	1/21/2025	1435	Soil	X	1
SRA-004A-N-S003-01212025	1/21/2025	1410	Soil	X	1
SRA-004A-N-S006-01212025	1/21/2025	1415	Soil		1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

$2,540 (R006

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo dasth	Print Madey Morris
Firm HA	Firm EECSPO
Date 01/22/25 Time 1200	Date 1/22/25 1200
Relinquished by	**Received by**
Sign	Sign
Print Madey Morris	Print
Firm EECSPO	Firm
Date 1/22/25 Time 1517	Date
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
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_____
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory

November 2024

Form 3003

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
SRA-004B-N-S000-01212025	1/21/2025	1450	Soil		1
SRA-007A-N-S006-01212025	1/21/2025	1505	Soil		1
SRA-007B-N-S000-01212025	1/21/2025	1515	Soil		1
SRA-006-N-S000-01212025	1/21/2025	1540	Soil		1
SRA-006-N-S001-01212025	1/21/2025	1545	Soil	X	1
SRA-006-N-S006-01212025	1/21/2025	1550	Soil		1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

5.2, 5.5 con 1Pro Lo

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo-LaSala	Print Mackey Morris
Firm H A	Firm EET Sac
Date 01/22/25 Time 1200	Date 1/22/25 1200
Relinquished by	**Received by**
Sign	Sign
Print Mackey Morris	Print
Firm EET Sac	Firm
Date 1/22/25 Time 1517	Date
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.
_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory

HALEY ALDRICH

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

Page 1 of 1

H&A FILE NO.	0209800-001	**LABORATORY**	Eurofins Environmental Testing	**DELIVERY DATE**	
PROJECT NAME	Geiger Field PFAS Support	**ADDRESS**	11922 E 1st Ave, Spokane Valley, WA 99206	**TURNAROUND TIME**	
H&A CONTACT	Breeyn Greer	**CONTACT**	Randee Arrington	**PROJECT MANAGER**	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
EB-01212025	1/21/2025	0715	H20		3
FB-01212025	1/21/2025	All Day	H20		2

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

5.2, 9.6 cor IR 2026

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo 1st	Print Macky Morris
Firm H&A	Firm EES&P
Date 01/22/25 Time 1200	Date 1/22/25 1200
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Tyson Kinard
Firm EES&P	Firm EES&P
Date 1/22/25 Time 1517	Date 1/22/25 1517
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments: EB taken from deconned shovel

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE Laboratory **CANARY** Project Manager **PINK** - Haley & Aldrich Laboratory

November 2024

Form 3003

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118511

Tracking # 4242 5693 0438

Job _____ _____

SO / (PO) / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm. ID LOY Corr Factor (+ / -) 0.0 °C

Ice_____ Wet_____ Gel _____ Other _____

Cooler Custody Seal. 2691567 +SO1123125

Cooler ID 2of2

Temp Observed 5.9 °C Corrected 5.9 °C

From Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials SO Date 1/23/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☑	☐	☐
Samples w/o discrepancies?	☐	☑	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials SO Date 1/23/25

Notes: NO COC (in the other cooler.)

(17) Rec 2 containers

(17) Rec NO containers

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials SO Date 1/23/25

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Tracking # 420256930457

Job _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID T-11 Corr Factor (+/-) _____ °C

Ice 1 Wet 1 Gel _____ Other _____

Cooler Custody Seal: 2284986

Cooler ID: 1 of 2

Temp Observed: 0.8 °C Corrected 0.8 °C

From: Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials [illegible] Date 1.23.25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☑	☐	☑ SO 1/23/25
Samples w/o discrepancies?	☑ SO 1/23/25	☐	☐
Zero headspace?*	☐ SO	☐	☑
Alkalinity has no headspace?	1/23/25 ☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials [illegible] Date 1.23.25

Notes:_____

Trizma Lot #(s). _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑ SO 1/23/25
Samples received within hold time?	☑	☐	☑ SO 1/23/25
Log Release checked in TALS?	☑	☐	☑ SO 1/23/25

Initials [illegible] Date 1.23.25

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 3/14/2025 12:20:59 PM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118511-3

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

myEOL

Job Notes

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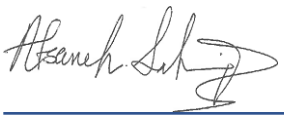
The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118511-3
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118511-3 — Eurofins Sacramento

Job Narrative
320-118511-3

Receipt
The samples were received on 1/23/2025 9:55 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.8º C and 5.9º C.

LCMS
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 28 days. The request for the analysis of the following samples in analytical batch 320-838822 occurred outside of this time period : FIT-002-N-S010-01212025 (320-118511-5), SRA-003-N-S010-01212025 (320-118511-34) and SRA-006-N-S006-01212025 (320-118511-46).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-3

Client Sample ID: FIT-002-N-S010-01212025 — Lab Sample ID: 320-118511-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.098	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-003-N-S010-01212025 — Lab Sample ID: 320-118511-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.053	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-006-N-S006-01212025 — Lab Sample ID: 320-118511-46

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.071	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.063	J	0.20	0.063	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.064	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.17	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.70		0.20	0.051	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-3

Client Sample ID: FIT-002-N-S010-01212025
Date Collected: 01/21/25 07:45
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-5
Matrix: Solid
Percent Solids: 89.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.099	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
Perfluorooctanesulfonic acid (PFOS)	**0.098**	**J**	0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.099	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.099	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1

Client Sample ID: FIT-002-N-S010-01212025

Lab Sample ID: 320-118511-5

Date Collected: 01/21/25 07:45
Date Received: 01/23/25 09:55

Matrix: Solid
Percent Solids: 89.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.099	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	03/12/25 12:05	03/13/25 01:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*81.3*		*8 - 130*	*03/12/25 12:05*	*03/13/25 01:52*	*1*
13C5 PFPeA	*98.2*		*35 - 130*	*03/12/25 12:05*	*03/13/25 01:52*	*1*
13C5 PFHxA	*85.8*		*40 - 130*	*03/12/25 12:05*	*03/13/25 01:52*	*1*
13C4 PFHpA	*93.1*		*40 - 130*	*03/12/25 12:05*	*03/13/25 01:52*	*1*
13C8 PFOA	*91.3*		*40 - 130*	*03/12/25 12:05*	*03/13/25 01:52*	*1*
13C9 PFNA	*82.0*		*40 - 130*	*03/12/25 12:05*	*03/13/25 01:52*	*1*
13C6 PFDA	*92.5*		*40 - 130*	*03/12/25 12:05*	*03/13/25 01:52*	*1*
13C7 PFUnA	*87.6*		*40 - 130*	*03/12/25 12:05*	*03/13/25 01:52*	*1*
13C2 PFDoA	*88.1*		*40 - 130*	*03/12/25 12:05*	*03/13/25 01:52*	*1*
13C2 PFTeDA	*78.3*		*20 - 130*	*03/12/25 12:05*	*03/13/25 01:52*	*1*
13C3 PFBS	*73.5*		*40 - 135*	*03/12/25 12:05*	*03/13/25 01:52*	*1*
13C3 PFHxS	*81.7*		*40 - 130*	*03/12/25 12:05*	*03/13/25 01:52*	*1*
13C8 PFOS	*83.9*		*40 - 130*	*03/12/25 12:05*	*03/13/25 01:52*	*1*
13C8 FOSA	*80.7*		*40 - 130*	*03/12/25 12:05*	*03/13/25 01:52*	*1*
d3-NMeFOSAA	*95.3*		*40 - 135*	*03/12/25 12:05*	*03/13/25 01:52*	*1*
d5-NEtFOSAA	*86.4*		*40 - 150*	*03/12/25 12:05*	*03/13/25 01:52*	*1*
13C2 4:2 FTS	*77.2*		*40 - 165*	*03/12/25 12:05*	*03/13/25 01:52*	*1*
13C2 6:2 FTS	*85.6*		*40 - 215*	*03/12/25 12:05*	*03/13/25 01:52*	*1*
13C2 8:2 FTS	*80.2*		*40 - 275*	*03/12/25 12:05*	*03/13/25 01:52*	*1*
13C3 HFPO-DA	*91.1*		*40 - 130*	*03/12/25 12:05*	*03/13/25 01:52*	*1*
d7-N-MeFOSE-M	*81.0*		*20 - 130*	*03/12/25 12:05*	*03/13/25 01:52*	*1*
d9-N-EtFOSE-M	*66.6*		*15 - 130*	*03/12/25 12:05*	*03/13/25 01:52*	*1*
d5-NEtPFOSA	*76.2*		*10 - 130*	*03/12/25 12:05*	*03/13/25 01:52*	*1*
d3-NMePFOSA	*76.3*		*10 - 130*	*03/12/25 12:05*	*03/13/25 01:52*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	11	H	0.10	0.10	%			03/10/25 15:22	1

Client Sample ID: SRA-003-N-S010-01212025

Lab Sample ID: 320-118511-34

Date Collected: 01/21/25 13:20
Date Received: 01/23/25 09:55

Matrix: Solid
Percent Solids: 92.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.097	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.060	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-3

Client Sample ID: SRA-003-N-S010-01212025
Date Collected: 01/21/25 13:20
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-34
Matrix: Solid
Percent Solids: 92.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
Perfluorooctanesulfonic acid (PFOS)	**0.053**	**J**	0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.097	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.097	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.073	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1

Client Sample ID: SRA-003-N-S010-01212025

Lab Sample ID: 320-118511-34
Date Collected: 01/21/25 13:20
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 92.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	03/12/25 12:05	03/13/25 02:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*67.4*		*8 - 130*	*03/12/25 12:05*	*03/13/25 02:08*	*1*
13C5 PFPeA	*93.3*		*35 - 130*	*03/12/25 12:05*	*03/13/25 02:08*	*1*
13C5 PFHxA	*87.2*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:08*	*1*
13C4 PFHpA	*85.4*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:08*	*1*
13C8 PFOA	*90.5*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:08*	*1*
13C9 PFNA	*85.8*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:08*	*1*
13C6 PFDA	*93.5*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:08*	*1*
13C7 PFUnA	*89.7*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:08*	*1*
13C2 PFDoA	*87.9*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:08*	*1*
13C2 PFTeDA	*68.0*		*20 - 130*	*03/12/25 12:05*	*03/13/25 02:08*	*1*
13C3 PFBS	*81.5*		*40 - 135*	*03/12/25 12:05*	*03/13/25 02:08*	*1*
13C3 PFHxS	*85.1*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:08*	*1*
13C8 PFOS	*89.3*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:08*	*1*
13C8 FOSA	*88.2*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:08*	*1*
d3-NMeFOSAA	*91.4*		*40 - 135*	*03/12/25 12:05*	*03/13/25 02:08*	*1*
d5-NEtFOSAA	*84.6*		*40 - 150*	*03/12/25 12:05*	*03/13/25 02:08*	*1*
13C2 4:2 FTS	*76.1*		*40 - 165*	*03/12/25 12:05*	*03/13/25 02:08*	*1*
13C2 6:2 FTS	*90.6*		*40 - 215*	*03/12/25 12:05*	*03/13/25 02:08*	*1*
13C2 8:2 FTS	*80.7*		*40 - 275*	*03/12/25 12:05*	*03/13/25 02:08*	*1*
13C3 HFPO-DA	*86.2*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:08*	*1*
d7-N-MeFOSE-M	*65.4*		*20 - 130*	*03/12/25 12:05*	*03/13/25 02:08*	*1*
d9-N-EtFOSE-M	*57.0*		*15 - 130*	*03/12/25 12:05*	*03/13/25 02:08*	*1*
d5-NEtPFOSA	*81.0*		*10 - 130*	*03/12/25 12:05*	*03/13/25 02:08*	*1*
d3-NMePFOSA	*83.6*		*10 - 130*	*03/12/25 12:05*	*03/13/25 02:08*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**7.9**	**H**	0.10	0.10	%			03/10/25 15:22	1

Client Sample ID: SRA-006-N-S006-01212025

Lab Sample ID: 320-118511-46
Date Collected: 01/21/25 15:50
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 85.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.41	0.10	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
Perfluorohexanoic acid (PFHxA)	**0.071**	**J**	0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
Perfluorooctanoic acid (PFOA)	**0.063**	**J**	0.20	0.063	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
Perfluorodecanoic acid (PFDA)	**0.064**	**J**	0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-3

Client Sample ID: SRA-006-N-S006-01212025
Date Collected: 01/21/25 15:50
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-46
Matrix: Solid
Percent Solids: 85.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
Perfluorohexanesulfonic acid (PFHxS)	**0.17**	**J**	0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
Perfluorooctanesulfonic acid (PFOS)	**0.70**		0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.41	0.10	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.41	0.10	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.41	0.10	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.064	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.41	0.10	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	03/12/25 12:05	03/13/25 02:25	1

Client Sample ID: SRA-006-N-S006-01212025

Date Collected: 01/21/25 15:50
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-46

Matrix: Solid
Percent Solids: 85.4

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	80.2		8 - 130	03/12/25 12:05	03/13/25 02:25	1
13C5 PFPeA	100		35 - 130	03/12/25 12:05	03/13/25 02:25	1
13C5 PFHxA	90.3		40 - 130	03/12/25 12:05	03/13/25 02:25	1
13C4 PFHpA	107		40 - 130	03/12/25 12:05	03/13/25 02:25	1
13C8 PFOA	90.3		40 - 130	03/12/25 12:05	03/13/25 02:25	1
13C9 PFNA	85.2		40 - 130	03/12/25 12:05	03/13/25 02:25	1
13C6 PFDA	99.3		40 - 130	03/12/25 12:05	03/13/25 02:25	1
13C7 PFUnA	95.9		40 - 130	03/12/25 12:05	03/13/25 02:25	1
13C2 PFDoA	99.4		40 - 130	03/12/25 12:05	03/13/25 02:25	1
13C2 PFTeDA	76.7		20 - 130	03/12/25 12:05	03/13/25 02:25	1
13C3 PFBS	86.4		40 - 135	03/12/25 12:05	03/13/25 02:25	1
13C3 PFHxS	85.6		40 - 130	03/12/25 12:05	03/13/25 02:25	1
13C8 PFOS	88.7		40 - 130	03/12/25 12:05	03/13/25 02:25	1
13C8 FOSA	83.5		40 - 130	03/12/25 12:05	03/13/25 02:25	1
d3-NMeFOSAA	101		40 - 135	03/12/25 12:05	03/13/25 02:25	1
d5-NEtFOSAA	92.4		40 - 150	03/12/25 12:05	03/13/25 02:25	1
13C2 4:2 FTS	98.3		40 - 165	03/12/25 12:05	03/13/25 02:25	1
13C2 6:2 FTS	107		40 - 215	03/12/25 12:05	03/13/25 02:25	1
13C2 8:2 FTS	89.2		40 - 275	03/12/25 12:05	03/13/25 02:25	1
13C3 HFPO-DA	95.8		40 - 130	03/12/25 12:05	03/13/25 02:25	1
d7-N-MeFOSE-M	78.0		20 - 130	03/12/25 12:05	03/13/25 02:25	1
d9-N-EtFOSE-M	65.5		15 - 130	03/12/25 12:05	03/13/25 02:25	1
d5-NEtPFOSA	78.5		10 - 130	03/12/25 12:05	03/13/25 02:25	1
d3-NMePFOSA	81.0		10 - 130	03/12/25 12:05	03/13/25 02:25	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	15	H	0.10	0.10	%			03/10/25 15:22	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-3

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(8-130)	(35-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)
320-118511-5	FIT-002-N-S010-01212025	81.3	98.2	85.8	93.1	91.3	82.0	92.5	87.6
320-118511-34	SRA-003-N-S010-01212025	67.4	93.3	87.2	85.4	90.5	85.8	93.5	89.7
320-118511-46	SRA-006-N-S006-01212025	80.2	100	90.3	107	90.3	85.2	99.3	95.9
LCS 320-839244/3-A	Lab Control Sample	69.6	104	90.6	99.9	93.4	84.3	99.9	97.1
LCSD 320-839244/4-A	Lab Control Sample Dup	88.0	101	89.0	98.5	100	83.1	100	97.9
LLCS 320-839244/2-A	Lab Control Sample	76.1	92.5	90.1	92.4	89.4	83.5	102	99.6
MB 320-839244/1-A	Method Blank	71.9	89.5	86.1	88.7	85.9	82.8	97.5	94.6

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(40-130)	(20-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-135)	(40-150)
320-118511-5	FIT-002-N-S010-01212025	88.1	78.3	73.5	81.7	83.9	80.7	95.3	86.4
320-118511-34	SRA-003-N-S010-01212025	87.9	68.0	81.5	85.1	89.3	88.2	91.4	84.6
320-118511-46	SRA-006-N-S006-01212025	99.4	76.7	86.4	85.6	88.7	83.5	101	92.4
LCS 320-839244/3-A	Lab Control Sample	97.6	82.8	80.1	87.1	95.7	92.7	109	104
LCSD 320-839244/4-A	Lab Control Sample Dup	98.9	81.8	85.7	89.9	88.1	85.9	104	90.3
LLCS 320-839244/2-A	Lab Control Sample	97.6	88.4	87.2	89.8	87.4	87.6	103	95.4
MB 320-839244/1-A	Method Blank	96.7	83.5	82.0	84.5	87.9	84.7	99.8	90.9

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-165)	(40-215)	(40-275)	(40-130)	(20-130)	(15-130)	(10-130)	(10-130)
320-118511-5	FIT-002-N-S010-01212025	77.2	85.6	80.2	91.1	81.0	66.6	76.2	76.3
320-118511-34	SRA-003-N-S010-01212025	76.1	90.6	80.7	86.2	65.4	57.0	81.0	83.6
320-118511-46	SRA-006-N-S006-01212025	98.3	107	89.2	95.8	78.0	65.5	78.5	81.0
LCS 320-839244/3-A	Lab Control Sample	88.2	94.7	91.1	99.9	84.1	73.4	88.6	87.9
LCSD 320-839244/4-A	Lab Control Sample Dup	92.6	98.7	91.8	94.7	72.6	61.2	81.0	80.5
LLCS 320-839244/2-A	Lab Control Sample	88.6	102	92.9	93.6	78.8	68.0	82.3	82.4
MB 320-839244/1-A	Method Blank	87.7	96.2	87.3	92.3	78.7	67.6	81.6	83.2

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118511-3
Project/Site: Spokane International Airport

NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-839244/1-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 839244

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-839244/1-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 839244

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		03/12/25 12:05	03/12/25 21:45	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*71.9*		*8 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C5 PFPeA	*89.5*		*35 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C5 PFHxA	*86.1*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C4 PFHpA	*88.7*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C8 PFOA	*85.9*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C9 PFNA	*82.8*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C6 PFDA	*97.5*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C7 PFUnA	*94.6*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 PFDoA	*96.7*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 PFTeDA	*83.5*		*20 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C3 PFBS	*82.0*		*40 - 135*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C3 PFHxS	*84.5*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C8 PFOS	*87.9*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C8 FOSA	*84.7*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d3-NMeFOSAA	*99.8*		*40 - 135*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d5-NEtFOSAA	*90.9*		*40 - 150*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 4:2 FTS	*87.7*		*40 - 165*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 6:2 FTS	*96.2*		*40 - 215*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 8:2 FTS	*87.3*		*40 - 275*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C3 HFPO-DA	*92.3*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d7-N-MeFOSE-M	*78.7*		*20 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d9-N-EtFOSE-M	*67.6*		*15 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d5-NEtPFOSA	*81.6*		*10 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d3-NMePFOSA	*83.2*		*10 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*

Lab Sample ID: LCS 320-839244/3-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.84		ug/Kg		97	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.13		ug/Kg		85	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.31		ug/Kg		92	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.53		ug/Kg		101	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.21		ug/Kg		88	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.48		ug/Kg		99	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.29		ug/Kg		91	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-839244/3-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.60		ug/Kg		104	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.49		ug/Kg		100	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.62		ug/Kg		105	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.68		ug/Kg		107	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	1.75		ug/Kg		79	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.05		ug/Kg		87	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.89		ug/Kg		83	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.42		ug/Kg		102	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.28		ug/Kg		98	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.36		ug/Kg		98	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.35		ug/Kg		98	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.30		ug/Kg		95	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.87		ug/Kg		104	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.83		ug/Kg		101	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.87		ug/Kg		102	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.36		ug/Kg		94	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.49		ug/Kg		100	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.47		ug/Kg		99	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.21		ug/Kg		89	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.32		ug/Kg		93	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.9		ug/Kg		95	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	13.0		ug/Kg		104	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.90		ug/Kg		102	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.17		ug/Kg		92	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	1.95		ug/Kg		78	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.15		ug/Kg		86	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.09		ug/Kg		84	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-839244/3-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.29		ug/Kg		98	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.21		ug/Kg		94	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.14		ug/Kg		96	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	2.99		ug/Kg		60	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.6		ug/Kg		93	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*69.6*		*8 - 130*
13C5 PFPeA	*104*		*35 - 130*
13C5 PFHxA	*90.6*		*40 - 130*
13C4 PFHpA	*99.9*		*40 - 130*
13C8 PFOA	*93.4*		*40 - 130*
13C9 PFNA	*84.3*		*40 - 130*
13C6 PFDA	*99.9*		*40 - 130*
13C7 PFUnA	*97.1*		*40 - 130*
13C2 PFDoA	*97.6*		*40 - 130*
13C2 PFTeDA	*82.8*		*20 - 130*
13C3 PFBS	*80.1*		*40 - 135*
13C3 PFHxS	*87.1*		*40 - 130*
13C8 PFOS	*95.7*		*40 - 130*
13C8 FOSA	*92.7*		*40 - 130*
d3-NMeFOSAA	*109*		*40 - 135*
d5-NEtFOSAA	*104*		*40 - 150*
13C2 4:2 FTS	*88.2*		*40 - 165*
13C2 6:2 FTS	*94.7*		*40 - 215*
13C2 8:2 FTS	*91.1*		*40 - 275*
13C3 HFPO-DA	*99.9*		*40 - 130*
d7-N-MeFOSE-M	*84.1*		*20 - 130*
d9-N-EtFOSE-M	*73.4*		*15 - 130*
d5-NEtPFOSA	*88.6*		*10 - 130*
d3-NMePFOSA	*87.9*		*10 - 130*

Lab Sample ID: LCSD 320-839244/4-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.82		ug/Kg		96	70 - 140	0	30
Perfluoropentanoic acid (PFPeA)			2.50	2.14		ug/Kg		86	60 - 150	0	30
Perfluorohexanoic acid (PFHxA)			2.50	2.38		ug/Kg		95	65 - 140	3	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.35		ug/Kg		94	65 - 145	7	30
Perfluorooctanoic acid (PFOA)			2.50	2.14		ug/Kg		86	70 - 150	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-839244/4-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 839244

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.33		ug/Kg		93	70 - 155	6	30
Perfluorodecanoic acid (PFDA)	2.50	2.27		ug/Kg		91	70 - 155	1	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.59		ug/Kg		104	70 - 155	0	30
Perfluorododecanoic acid (PFDoA)	2.50	2.39		ug/Kg		96	70 - 150	4	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.53		ug/Kg		101	65 - 150	3	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.57		ug/Kg		103	65 - 150	4	30
Perfluorobutanesulfonic acid (PFBS)	2.22	1.61		ug/Kg		73	65 - 145	8	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.01		ug/Kg		86	55 - 160	2	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.88		ug/Kg		83	60 - 150	1	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.39		ug/Kg		100	65 - 155	2	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.24		ug/Kg		96	65 - 160	2	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.33		ug/Kg		97	55 - 140	1	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.36		ug/Kg		98	40 - 155	0	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.10		ug/Kg		87	25 - 160	9	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	5.00		ug/Kg		107	60 - 150	3	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.84		ug/Kg		102	55 - 200	0	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.88		ug/Kg		102	70 - 150	0	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.34		ug/Kg		94	70 - 140	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.44		ug/Kg		97	70 - 155	2	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.39		ug/Kg		95	70 - 140	3	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.14		ug/Kg		85	65 - 155	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.50		ug/Kg		100	65 - 165	7	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.6		ug/Kg		93	70 - 140	3	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.6		ug/Kg		101	70 - 135	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.83		ug/Kg		97	70 - 145	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.12		ug/Kg		89	70 - 160	3	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	1.98		ug/Kg		79	30 - 140	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.04		ug/Kg		82	60 - 150	5	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-839244/4-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	1.69		ug/Kg		67	60 - 155	22	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.26		ug/Kg		97	70 - 150	1	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.11		ug/Kg		90	45 - 160	4	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.27		ug/Kg		102	70 - 140	6	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.04		ug/Kg		81	45 - 130	30	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 130	0	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 150	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*88.0*		*8 - 130*
13C5 PFPeA	*101*		*35 - 130*
13C5 PFHxA	*89.0*		*40 - 130*
13C4 PFHpA	*98.5*		*40 - 130*
13C8 PFOA	*100*		*40 - 130*
13C9 PFNA	*83.1*		*40 - 130*
13C6 PFDA	*100*		*40 - 130*
13C7 PFUnA	*97.9*		*40 - 130*
13C2 PFDoA	*98.9*		*40 - 130*
13C2 PFTeDA	*81.8*		*20 - 130*
13C3 PFBS	*85.7*		*40 - 135*
13C3 PFHxS	*89.9*		*40 - 130*
13C8 PFOS	*88.1*		*40 - 130*
13C8 FOSA	*85.9*		*40 - 130*
d3-NMeFOSAA	*104*		*40 - 135*
d5-NEtFOSAA	*90.3*		*40 - 150*
13C2 4:2 FTS	*92.6*		*40 - 165*
13C2 6:2 FTS	*98.7*		*40 - 215*
13C2 8:2 FTS	*91.8*		*40 - 275*
13C3 HFPO-DA	*94.7*		*40 - 130*
d7-N-MeFOSE-M	*72.6*		*20 - 130*
d9-N-EtFOSE-M	*61.2*		*15 - 130*
d5-NEtPFOSA	*81.0*		*10 - 130*
d3-NMePFOSA	*80.5*		*10 - 130*

Lab Sample ID: LLCS 320-839244/2-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.786		ug/Kg		98	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.364		ug/Kg		91	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.407		ug/Kg		102	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-839244/2-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.433		ug/Kg		108	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.411		ug/Kg		103	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.396		ug/Kg		99	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.394		ug/Kg		99	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.431		ug/Kg		108	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.421		ug/Kg		105	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.450		ug/Kg		113	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.439		ug/Kg		110	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.283		ug/Kg		80	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.341		ug/Kg		91	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.302		ug/Kg		83	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.392		ug/Kg		103	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.378		ug/Kg		101	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.400		ug/Kg		104	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.398		ug/Kg		103	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.340		ug/Kg		88	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.807		ug/Kg		108	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.803		ug/Kg		105	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.747		ug/Kg		97	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.396		ug/Kg		99	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.381		ug/Kg		95	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.387		ug/Kg		97	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.348		ug/Kg		87	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.364		ug/Kg		91	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.88		ug/Kg		94	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.06		ug/Kg		103	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.278		ug/Kg		93	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.361		ug/Kg		95	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.352		ug/Kg		88	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-839244/2-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.368		ug/Kg		92	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.367		ug/Kg		92	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.377		ug/Kg		101	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.365		ug/Kg		97	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.337		ug/Kg		95	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.587		ug/Kg		73	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	1.78		ug/Kg		89	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	1.83		ug/Kg		91	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*76.1*		*8 - 130*
13C5 PFPeA	*92.5*		*35 - 130*
13C5 PFHxA	*90.1*		*40 - 130*
13C4 PFHpA	*92.4*		*40 - 130*
13C8 PFOA	*89.4*		*40 - 130*
13C9 PFNA	*83.5*		*40 - 130*
13C6 PFDA	*102*		*40 - 130*
13C7 PFUnA	*99.6*		*40 - 130*
13C2 PFDoA	*97.6*		*40 - 130*
13C2 PFTeDA	*88.4*		*20 - 130*
13C3 PFBS	*87.2*		*40 - 135*
13C3 PFHxS	*89.8*		*40 - 130*
13C8 PFOS	*87.4*		*40 - 130*
13C8 FOSA	*87.6*		*40 - 130*
d3-NMeFOSAA	*103*		*40 - 135*
d5-NEtFOSAA	*95.4*		*40 - 150*
13C2 4:2 FTS	*88.6*		*40 - 165*
13C2 6:2 FTS	*102*		*40 - 215*
13C2 8:2 FTS	*92.9*		*40 - 275*
13C3 HFPO-DA	*93.6*		*40 - 130*
d7-N-MeFOSE-M	*78.8*		*20 - 130*
d9-N-EtFOSE-M	*68.0*		*15 - 130*
d5-NEtPFOSA	*82.3*		*10 - 130*
d3-NMePFOSA	*82.4*		*10 - 130*

QC Association Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-3

LCMS

Prep Batch: 839244

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-5	FIT-002-N-S010-01212025	Total/NA	Solid	1633 Shake	
320-118511-34	SRA-003-N-S010-01212025	Total/NA	Solid	1633 Shake	
320-118511-46	SRA-006-N-S006-01212025	Total/NA	Solid	1633 Shake	
MB 320-839244/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-839244/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-839244/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-839244/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 839392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-5	FIT-002-N-S010-01212025	Total/NA	Solid	1633	839244
320-118511-34	SRA-003-N-S010-01212025	Total/NA	Solid	1633	839244
320-118511-46	SRA-006-N-S006-01212025	Total/NA	Solid	1633	839244
MB 320-839244/1-A	Method Blank	Total/NA	Solid	1633	839244
LCS 320-839244/3-A	Lab Control Sample	Total/NA	Solid	1633	839244
LCSD 320-839244/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	839244
LLCS 320-839244/2-A	Lab Control Sample	Total/NA	Solid	1633	839244

General Chemistry

Analysis Batch: 838822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-5	FIT-002-N-S010-01212025	Total/NA	Solid	1633	
320-118511-34	SRA-003-N-S010-01212025	Total/NA	Solid	1633	
320-118511-46	SRA-006-N-S006-01212025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118511-3
Project/Site: Spokane International Airport

Client Sample ID: FIT-002-N-S010-01212025
Lab Sample ID: 320-118511-5
Date Collected: 01/21/25 07:45
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			838822	03/10/25 15:22	CFR	EET SAC

Client Sample ID: FIT-002-N-S010-01212025
Lab Sample ID: 320-118511-5
Date Collected: 01/21/25 07:45
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 89.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.25 g	5.0 mL	839244	03/12/25 12:05	MKC	EET SAC
Total/NA	Analysis	1633		1			839392	03/13/25 01:52	C1P	EET SAC

Client Sample ID: SRA-003-N-S010-01212025
Lab Sample ID: 320-118511-34
Date Collected: 01/21/25 13:20
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			838822	03/10/25 15:22	CFR	EET SAC

Client Sample ID: SRA-003-N-S010-01212025
Lab Sample ID: 320-118511-34
Date Collected: 01/21/25 13:20
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 92.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.23 g	5.0 mL	839244	03/12/25 12:05	MKC	EET SAC
Total/NA	Analysis	1633		1			839392	03/13/25 02:08	C1P	EET SAC

Client Sample ID: SRA-006-N-S006-01212025
Lab Sample ID: 320-118511-46
Date Collected: 01/21/25 15:50
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			838822	03/10/25 15:22	CFR	EET SAC

Client Sample ID: SRA-006-N-S006-01212025
Lab Sample ID: 320-118511-46
Date Collected: 01/21/25 15:50
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 85.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.30 g	5.0 mL	839244	03/12/25 12:05	MKC	EET SAC
Total/NA	Analysis	1633		1			839392	03/13/25 02:25	C1P	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118511-3
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-3

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118511-5	FIT-002-N-S010-01212025	Solid	01/21/25 07:45	01/23/25 09:55
320-118511-34	SRA-003-N-S010-01212025	Solid	01/21/25 13:20	01/23/25 09:55
320-118511-46	SRA-006-N-S006-01212025	Solid	01/21/25 15:50	01/23/25 09:55

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
		DELIVERY DATE	
		TURNAROUND TIME	
		PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
FIT-002-N-S000-01212025	1/21/2025	0725	Soil		1
FIT-002-N-S001-01212025	1/21/2025	0730	Soil	X	1
FIT-002-N-S003-01212025	1/21/2025	0735	Soil	X	1
FIT-002-N-S006-01212025	1/21/2025	0740	Soil		1
FIT-002-N-S010-01212025	1/21/2025	0745	Soil		1
FIT-002-N-S015-01212025	1/21/2025	0750	Soil		1
FIT-001-N-S000-01212025	1/21/2025	0840	Soil		1
FIT-001-N-S001-01212025	1/21/2025	0845	Soil	X	1
FIT-001-N-S003-01212025	1/21/2025	4850	Soil	X	1
FIT-001-FD-S003-01212025	1/21/2025	0920	Soil	X	1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118511 Chain of Custody

5.2, 5.6 cor 1R2006

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo de Silva	Print Macky Morris
Firm HA	Firm EET SPO
Date 01/22/25 Time 1700	Date 1/22/25 1200
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print
Firm EET SPO	Firm
Date 1/22/25 Time 1517	Date
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections.

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

5.9/08

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
FIT-001-N-S005-01212025	1/21/2025	0855	Soil		1
FIT-003-N-S000-01212025	1/21/2025	0935	Soil		1
FIT-003-N-S001-01212025	1/21/2025	0940	Soil	X	1
FIT-003-N-S003-01212025	1/21/2025	0945	Soil	X	1
FIT-003-N-S006-01212025	1/21/2025	0950	Soil		1
FIT-003-N-S010-01212025	1/21/2025	0955	Soil		1
FIT-003-N-S011-01212025	1/21/2025	1000	Soil		1
FIT-007-N-S000-01212025	1/21/2025	1010	Soil		1
FIT-008-N-S000-01212025	1/21/2025	1030	Soil		1
FIT-006-N-S000-01212025	1/21/2025	1111	Soil		1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

5.2, 5.6 (or IRC06

Sampled and Relinquished by	Received by
Sign [illegible]	Sign [illegible]
Print Jack Castillo de Solis	Print Macky Mora
Firm HA	Firm EECS PO
Date 01/22/25 Time 1200	Date 1/22/25 1200
Relinquished by	**Received by**
Sign [illegible]	Sign [illegible]
Print Macky Mora	Print [illegible]
Firm EECS PO	Firm [illegible]
Date 1/22/25 Time 1517	Date 1.23.25 955
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ RC-S2 ☐ RC-GW1 ☐ RC-GW2 ☐ S1 ☐ S2 ☐ S3 ☐ GW1 ☐ GW2 ☐ GW3

WHITE - Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	**LABORATORY**	Eurofins Environmental Testing	**DELIVERY DATE**	
PROJECT NAME	Geiger Field PFAS Support	**ADDRESS**	11922 E 1st Ave, Spokane Valley, WA 99206	**TURNAROUND TIME**	STD
H&A CONTACT	Breeyn Greer	**CONTACT**	Randee Arrington	**PROJECT MANAGER**	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
FIT-005-N-S000-01212025	1/21/2025	1106	Soil		1
FIT-004-N-S000-01212024	1/21/2025	1100	Soil		1
FIT-004-N-S001-01212024	1/21/2025	1105	Soil	x	1
FIT-004-N-S003-01212024	1/21/2025	1110	Soil	x	1
FIT-004-FD-S003-01212024	1/21/2025	1140	Soil	x	1
FIT-004-N-S006-01212024	1/21/2025	1115	Soil		1
FIT-004-N-S010-01212024	1/21/2025	1120	Soil		1
FIT-004-N-S015-01212024	1/21/2025	1125	Soil		1
FIT-004-N-S016-01212024	1/21/2025	1130	Soil		1
SRA-003-N-S000-01212025	1/21/2025	1300	Soil		1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

5.2.5. Lower Proof

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo de Sila	Print Macky Morris
Firm HA	Firm ECT SPO
Date 01/22/25 Time 1200	Date 1/22/25 1200
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print
Firm ECT SPO	Firm
Date 1/22/25 Time 1517	Date 1.23.25 700
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory

November 2024

Form 3003

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave. Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington

DELIVERY DATE
TURNAROUND TIME
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
SRA-003-N-S001-01212025	1/21/2025	1305	Soil	X	1
SRA-003-N-S003-01212025	1/21/2025	1310	Soil	X	1
SRA-003-N-S006-01212025	1/21/2025	1315	Soil		1
SRA-003-N-S010-01212025	1/21/2025	1320	Soil		1
SRA-003-N-S012-01212025	1/21/2025	1325	Soil		1
SRA-004A-N-S000-01212025	1/21/2025	1400	Soil		1
SRA-004A-N-S001-01212025	1/21/2025	1405	Soil	X	1
SRA-004A-FD-S001-01212025	1/21/2025	1435	Soil	X	1
SRA-004A-N-S003-01212025	1/21/2025	1410	Soil	X	1
SRA-004A-N-S006-01212025	1/21/2025	1415	Soil		1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

$2,540 (R006

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo dasth	Print Madey Morris
Firm HA	Firm EEC SPO
Date 01/22/25 Time 1200	Date 1/22/25 1200
Relinquished by	**Received by**
Sign	Sign
Print Madey Morris	Print
Firm EEC SPO	Firm
Date 1/22/25 Time 1517	Date
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.
_____
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
SRA-004B-N-S000-01212025	1/21/2025	1450	Soil		1
SRA-007A-N-S006-01212025	1/21/2025	1505	Soil		1
SRA-007B-N-S000-01212025	1/21/2025	1515	Soil		1
SRA-006-N-S000-01212025	1/21/2025	1540	Soil		1
SRA-006-N-S001-01212025	1/21/2025	1545	Soil	X	1
SRA-006-N-S006-01212025	1/21/2025	1550	Soil		1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

5.2, 5.5 con 1Pro Lo

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo-LaSala	Print Mackey Morris
Firm H A	Firm EET Spo
Date 01/22/25 Time 1200	Date 1/22/25 1200
Relinquished by	**Received by**
Sign	Sign
Print Mackey Morris	Print
Firm EET Spo	Firm
Date 1/22/25 Time 1517	Date
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory

Form 3003 November 2024

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE		TURNAROUND TIME	
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	PFAS EPA 1633	Number of Containers
EB-01212025	1/21/2025	0715	H20		3
FB-01212025	1/21/2025	All Day	H20		2

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

5.2, 9.6 can IR2026

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo Jack	Print Macky Morris
Firm H&A	Firm EEC 920
Date 01/22/25 Time 1200	Date 1/22/25 1200
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Tyson Kinard
Firm EEC 920	Firm EEC 920
Date 1/22/25 Time 1517	Date 1.22.25 1517
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

Sampling Comments: EB taken from deconned shovel

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol	
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)	

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

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_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE Laboratory CANARY Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Form 3003

3/14/2025

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118511

Tracking # 4242 5693 0438

Job _____ _____

SO / (PO) / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm. ID LOY Corr Factor (+ / -) -0.1 °C

Ice_____ Wet_____ Gel _____ Other _____

Cooler Custody Seal. 2691567 +SO 1123/25

Cooler ID 2of2

Temp Observed 5.9 °C Corrected 5.9 °C

From Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	**Yes**	**No**	**NA**
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials SO Date 1/23/25

Unpacking/Labeling The Samples	**Yes**	**No**	**NA**
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☐
Samples w/o discrepancies?	☐	☐	☐
Zero headspace?*	☐	☐	☐
Alkalinity has no headspace?	☐	☐	☐
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☐
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials SO Date 1/23/25

Notes: NO COC (in the other way.)

(17) Rec 2 containers

(17) Rec NO containers

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s) _____

Login Completion	**Yes**	**No**	**NA**
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials SO Date 1/23/25

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Tracking # 420256930457

Job _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID IR11 Corr Factor (+/-) _____ °C

Ice 1 Wet 1 Gel _____ Other _____

Cooler Custody Seal: 2284986

Cooler ID: 1 of 2

Temp Observed: 0.8 °C Corrected 0.8 °C

From: Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials [illegible] Date 1.23.25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☑	☐	☑ SO 1/23/25
Samples w/o discrepancies?	☑ SO 1/23/25	☐	☐
Zero headspace?*	☑ SO	☐	☑
Alkalinity has no headspace?	1/23/25 ☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials [illegible] Date 1.23.25

Notes: _____

Trizma Lot #(s). _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☑ SO 1/23/25
Samples received within hold time?	☑	☐	☑ SO 1/23/25
Log Release checked in TALS?	☑	☐	☑ SO 1/23/25

Initials [illegible] Date 1.23.25

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 3/3/2025 1:31:18 PM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118511-2

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Job Notes

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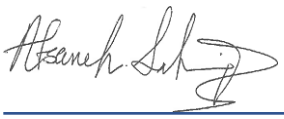
The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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QC Association Summary 73
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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118511-2
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
*3	ISTD response or retention time outside acceptable limits.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118511-2 — Eurofins Sacramento

Job Narrative
320-118511-2

Receipt
The samples were received on 1/23/2025 9:55 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.8º C and 5.9º C.

LCMS
Method 1633: The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. The associated analytes have been flagged: FIT-002-N-S000-01212025 (320-118511-1), FIT-001-N-S005-01212025 (320-118511-11) and SRA-003-N-S000-01212025 (320-118511-30).

Method 1633: Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: FIT-007-N-S000-01212025 (320-118511-18) and SRA-004B-N-S000-01212025 (320-118511-41). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 1633: The continuing calibration verification (CCV) associated with batch 320-835755 recovered above the upper control limit for the isotope dilution compound 13C2 PFTeDA. The associated target analytes Perfluorotridecanoic acid (PFTrDA) and Perfluorotetradecanoic acid (PFTeDA) are within control limits. The samples associated with this CCV were non-detects for the affected target analytes; therefore, the data have been reported. The associated samples are impacted: FIT-007-N-S000-01212025 (320-118511-18), FIT-008-N-S000-01212025 (320-118511-19), FIT-006-N-S000-01212025 (320-118511-20), FIT-005-N-S000-01212025 (320-118511-21), FIT-004-N-S000-01212025 (320-118511-22), SRA-003-N-S000-01212025 (320-118511-30) and (CCV 320-835755/28).

Method 1633: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-835793 and analytical batch 320-836090 recovered outside control limits for the following analytes: Nonafluoro-3,6-dioxaheptanoic acid (NFDHA).

Method 1633: Results for samples SRA-004B-N-S000-01212025 (320-118511-41) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 14 days. The following samples prepared and analyzed outside this time period : FIT-002-N-S000-01212025 (320-118511-1), FIT-002-N-S006-01212025 (320-118511-4), FIT-001-N-S000-01212025 (320-118511-7), FIT-001-N-S005-01212025 (320-118511-11), FIT-003-N-S000-01212025 (320-118511-12), FIT-007-N-S000-01212025 (320-118511-18) and FIT-008-N-S000-01212025 (320-118511-19), FIT-006-N-S000-01212025 (320-118511-20), FIT-005-N-S000-01212025 (320-118511-21), FIT-004-N-S000-01212025 (320-118511-22), SRA-003-N-S000-01212025 (320-118511-30), SRA-003-N-S006-01212025 (320-118511-33), SRA-004A-N-S000-01212025 (320-118511-36), SRA-004A-N-S006-01212025 (320-118511-40), SRA-004B-N-S000-01212025 (320-118511-41), SRA-007A-N-S006-01212025 (320-118511-42), SRA-007B-N-S000-01212025 (320-118511-43) and SRA-006-N-S000-01212025 (320-118511-44).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 1633 Shake: The following sample was yellow in color after extraction/final volume: SRA-004B-N-S000-01212025 (320-118511-41).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-2

Client Sample ID: FIT-002-N-S000-01212025 — Lab Sample ID: 320-118511-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.050	J I	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.057	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.8		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.29	J	0.40	0.099	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.13	J	0.40	0.099	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FIT-002-N-S006-01212025 — Lab Sample ID: 320-118511-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.44		0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FIT-001-N-S000-01212025 — Lab Sample ID: 320-118511-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.11	J	0.40	0.099	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.077	J	0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.057	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FIT-001-N-S005-01212025 — Lab Sample ID: 320-118511-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.060	J I	0.20	0.060	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FIT-003-N-S000-01212025 — Lab Sample ID: 320-118511-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.085	J	0.20	0.063	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.057	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.42		0.20	0.051	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FIT-007-N-S000-01212025 — Lab Sample ID: 320-118511-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorononanoic acid (PFNA)	0.061	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.058	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.1		0.19	0.048	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FIT-008-N-S000-01212025 — Lab Sample ID: 320-118511-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorononanoic acid (PFNA)	0.088	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.076	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.7		0.20	0.051	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FIT-006-N-S000-01212025 — Lab Sample ID: 320-118511-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.13	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FIT-005-N-S000-01212025 — Lab Sample ID: 320-118511-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.14	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-2

Client Sample ID: FIT-004-N-S000-01212025 — Lab Sample ID: 320-118511-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.32		0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-003-N-S000-01212025 — Lab Sample ID: 320-118511-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorononanoic acid (PFNA)	0.053	J I	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.055	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.97		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.10	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-003-N-S006-01212025 — Lab Sample ID: 320-118511-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.056	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-004A-N-S000-01212025 — Lab Sample ID: 320-118511-36

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.064	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.085	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.092	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.37		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.28		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	3.0		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	1.4		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	5.2		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.40		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.86		0.20	0.058	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.072	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.81		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.14	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	1.4		1.0	0.25	ug/Kg	1	☼	1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	2.0		1.0	0.25	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-004A-N-S006-01212025 — Lab Sample ID: 320-118511-40

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.063	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.078	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.075	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.49		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.48		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	3.1		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.27		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.62		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.058	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.19	J	0.20	0.058	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.11	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.3		0.20	0.050	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample ID: SRA-004A-N-S006-01212025 (Continued) — Lab Sample ID: 320-118511-40

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
3-Perfluoropentylpropanoic acid (5:3 FTCA)	0.83	J	1.0	0.25	ug/Kg	1	☼	1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	1.3		1.0	0.25	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-004B-N-S000-01212025 — Lab Sample ID: 320-118511-41

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.16	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.41		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.76		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.82		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	2.3		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.87		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	7.1		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	5.0		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	4.5		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	15		0.20	0.058	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.13	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.5		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.17	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.079	J	0.20	0.063	ug/Kg	1	☼	1633	Total/NA
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.064	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.14	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.93		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	26		1.0	0.25	ug/Kg	1	☼	1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	67		1.0	0.25	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA) - DL	47		2.0	0.50	ug/Kg	10	☼	1633	Total/NA

Client Sample ID: SRA-007A-N-S006-01212025 — Lab Sample ID: 320-118511-42

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorodecanoic acid (PFDA)	0.12	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.11	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.87		0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-007B-N-S000-01212025 — Lab Sample ID: 320-118511-43

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.11	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.15	J	0.19	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.13	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	1.0		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.20		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.25		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.37		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.1		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.074	J	0.19	0.061	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SRA-007B-N-S000-01212025 (Continued) — Lab Sample ID: 320-118511-43

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	0.25	J	0.97	0.24	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-006-N-S000-01212025 — Lab Sample ID: 320-118511-44

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.18	J	0.40	0.099	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.13	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.075	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.061	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	1.2		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.18	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.17	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.42		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.5		0.20	0.050	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-2

Client Sample ID: FIT-002-N-S000-01212025
Date Collected: 01/21/25 07:25
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-1
Matrix: Solid
Percent Solids: 91.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
Perfluorohexanoic acid (PFHxA)	**0.050**	**J I**	0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
Perfluorodecanoic acid (PFDA)	**0.057**	**J**	0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
Perfluorooctanesulfonic acid (PFOS)	**2.8**		0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.29**	**J**	0.40	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**0.13**	**J**	0.40	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1

Client Sample ID: FIT-002-N-S000-01212025
Lab Sample ID: 320-118511-1
Date Collected: 01/21/25 07:25
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 91.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 05:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99.7*		*8 - 130*	*02/25/25 12:35*	*02/26/25 05:09*	*1*
13C5 PFPeA	*109*		*35 - 130*	*02/25/25 12:35*	*02/26/25 05:09*	*1*
13C5 PFHxA	*104*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:09*	*1*
13C4 PFHpA	*88.2*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:09*	*1*
13C8 PFOA	*96.4*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:09*	*1*
13C9 PFNA	*81.7*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:09*	*1*
13C6 PFDA	*81.9*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:09*	*1*
13C7 PFUnA	*86.3*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:09*	*1*
13C2 PFDoA	*90.2*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:09*	*1*
13C2 PFTeDA	*82.3*		*20 - 130*	*02/25/25 12:35*	*02/26/25 05:09*	*1*
13C3 PFBS	*104*		*40 - 135*	*02/25/25 12:35*	*02/26/25 05:09*	*1*
13C3 PFHxS	*117*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:09*	*1*
13C8 PFOS	*95.1*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:09*	*1*
13C8 FOSA	*83.7*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:09*	*1*
d3-NMeFOSAA	*71.1*		*40 - 135*	*02/25/25 12:35*	*02/26/25 05:09*	*1*
d5-NEtFOSAA	*71.9*		*40 - 150*	*02/25/25 12:35*	*02/26/25 05:09*	*1*
13C2 4:2 FTS	*92.6*		*40 - 165*	*02/25/25 12:35*	*02/26/25 05:09*	*1*
13C2 6:2 FTS	*110*		*40 - 215*	*02/25/25 12:35*	*02/26/25 05:09*	*1*
13C2 8:2 FTS	*78.6*		*40 - 275*	*02/25/25 12:35*	*02/26/25 05:09*	*1*
13C3 HFPO-DA	*107*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:09*	*1*
d7-N-MeFOSE-M	*86.6*		*20 - 130*	*02/25/25 12:35*	*02/26/25 05:09*	*1*
d9-N-EtFOSE-M	*76.7*		*15 - 130*	*02/25/25 12:35*	*02/26/25 05:09*	*1*
d5-NEtPFOSA	*76.3*		*10 - 130*	*02/25/25 12:35*	*02/26/25 05:09*	*1*
d3-NMePFOSA	*79.5*		*10 - 130*	*02/25/25 12:35*	*02/26/25 05:09*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**8.4**	**H**	0.10	0.10	%			02/20/25 15:17	1

Client Sample ID: FIT-002-N-S006-01212025
Lab Sample ID: 320-118511-4
Date Collected: 01/21/25 07:40
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 96.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1

Client Sample ID: FIT-002-N-S006-01212025
Date Collected: 01/21/25 07:40
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-4
Matrix: Solid
Percent Solids: 96.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
Perfluorooctanesulfonic acid (PFOS)	**0.44**		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1

Client Sample ID: FIT-002-N-S006-01212025

Lab Sample ID: 320-118511-4

Date Collected: 01/21/25 07:40
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 96.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 05:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99.9*		*8 - 130*	*02/25/25 12:35*	*02/26/25 05:26*	*1*
13C5 PFPeA	*112*		*35 - 130*	*02/25/25 12:35*	*02/26/25 05:26*	*1*
13C5 PFHxA	*99.2*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:26*	*1*
13C4 PFHpA	*96.8*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:26*	*1*
13C8 PFOA	*78.7*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:26*	*1*
13C9 PFNA	*83.9*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:26*	*1*
13C6 PFDA	*84.9*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:26*	*1*
13C7 PFUnA	*77.5*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:26*	*1*
13C2 PFDoA	*102*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:26*	*1*
13C2 PFTeDA	*98.8*		*20 - 130*	*02/25/25 12:35*	*02/26/25 05:26*	*1*
13C3 PFBS	*91.4*		*40 - 135*	*02/25/25 12:35*	*02/26/25 05:26*	*1*
13C3 PFHxS	*109*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:26*	*1*
13C8 PFOS	*85.7*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:26*	*1*
13C8 FOSA	*78.5*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:26*	*1*
d3-NMeFOSAA	*68.0*		*40 - 135*	*02/25/25 12:35*	*02/26/25 05:26*	*1*
d5-NEtFOSAA	*70.3*		*40 - 150*	*02/25/25 12:35*	*02/26/25 05:26*	*1*
13C2 4:2 FTS	*99.1*		*40 - 165*	*02/25/25 12:35*	*02/26/25 05:26*	*1*
13C2 6:2 FTS	*87.4*		*40 - 215*	*02/25/25 12:35*	*02/26/25 05:26*	*1*
13C2 8:2 FTS	*80.8*		*40 - 275*	*02/25/25 12:35*	*02/26/25 05:26*	*1*
13C3 HFPO-DA	*98.2*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:26*	*1*
d7-N-MeFOSE-M	*82.6*		*20 - 130*	*02/25/25 12:35*	*02/26/25 05:26*	*1*
d9-N-EtFOSE-M	*77.9*		*15 - 130*	*02/25/25 12:35*	*02/26/25 05:26*	*1*
d5-NEtPFOSA	*71.4*		*10 - 130*	*02/25/25 12:35*	*02/26/25 05:26*	*1*
d3-NMePFOSA	*71.4*		*10 - 130*	*02/25/25 12:35*	*02/26/25 05:26*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**3.9**	**H**	0.10	0.10	%			02/20/25 15:17	1

Client Sample ID: FIT-001-N-S000-01212025

Lab Sample ID: 320-118511-7

Date Collected: 01/21/25 08:40
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 91.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.11**	**J**	0.40	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
Perfluorooctanoic acid (PFOA)	**0.077**	**J**	0.20	0.061	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
Perfluorononanoic acid (PFNA)	**0.057**	**J**	0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-2

Client Sample ID: FIT-001-N-S000-01212025
Date Collected: 01/21/25 08:40
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-7
Matrix: Solid
Percent Solids: 91.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 05:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*96.1*		*8 - 130*	*02/25/25 12:35*	*02/26/25 05:42*	*1*

Client Sample ID: FIT-001-N-S000-01212025

Lab Sample ID: 320-118511-7

Date Collected: 01/21/25 08:40
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 91.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	118		35 - 130	02/25/25 12:35	02/26/25 05:42	1
13C5 PFHxA	117		40 - 130	02/25/25 12:35	02/26/25 05:42	1
13C4 PFHpA	86.3		40 - 130	02/25/25 12:35	02/26/25 05:42	1
13C8 PFOA	71.2		40 - 130	02/25/25 12:35	02/26/25 05:42	1
13C9 PFNA	71.2		40 - 130	02/25/25 12:35	02/26/25 05:42	1
13C6 PFDA	81.0		40 - 130	02/25/25 12:35	02/26/25 05:42	1
13C7 PFUnA	93.3		40 - 130	02/25/25 12:35	02/26/25 05:42	1
13C2 PFDoA	113		40 - 130	02/25/25 12:35	02/26/25 05:42	1
13C2 PFTeDA	86.1		20 - 130	02/25/25 12:35	02/26/25 05:42	1
13C3 PFBS	80.1		40 - 135	02/25/25 12:35	02/26/25 05:42	1
13C3 PFHxS	97.2		40 - 130	02/25/25 12:35	02/26/25 05:42	1
13C8 PFOS	81.7		40 - 130	02/25/25 12:35	02/26/25 05:42	1
13C8 FOSA	77.9		40 - 130	02/25/25 12:35	02/26/25 05:42	1
d3-NMeFOSAA	63.7		40 - 135	02/25/25 12:35	02/26/25 05:42	1
d5-NEtFOSAA	61.0		40 - 150	02/25/25 12:35	02/26/25 05:42	1
13C2 4:2 FTS	89.3		40 - 165	02/25/25 12:35	02/26/25 05:42	1
13C2 6:2 FTS	92.3		40 - 215	02/25/25 12:35	02/26/25 05:42	1
13C2 8:2 FTS	70.4		40 - 275	02/25/25 12:35	02/26/25 05:42	1
13C3 HFPO-DA	107		40 - 130	02/25/25 12:35	02/26/25 05:42	1
d7-N-MeFOSE-M	83.6		20 - 130	02/25/25 12:35	02/26/25 05:42	1
d9-N-EtFOSE-M	73.9		15 - 130	02/25/25 12:35	02/26/25 05:42	1
d5-NEtPFOSA	82.4		10 - 130	02/25/25 12:35	02/26/25 05:42	1
d3-NMePFOSA	81.5		10 - 130	02/25/25 12:35	02/26/25 05:42	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	8.1	H	0.10	0.10	%			02/20/25 15:17	1

Client Sample ID: FIT-001-N-S005-01212025

Lab Sample ID: 320-118511-11

Date Collected: 01/21/25 08:55
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 95.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
Perfluorooctanoic acid (PFOA)	0.060	J I	0.20	0.060	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-2

Client Sample ID: FIT-001-N-S005-01212025
Date Collected: 01/21/25 08:55
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-11
Matrix: Solid
Percent Solids: 95.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.061	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.24	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.24	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.060	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.073	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	02/25/25 12:35	02/26/25 05:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*79.8*		*8 - 130*	*02/25/25 12:35*	*02/26/25 05:59*	*1*
13C5 PFPeA	*74.3*		*35 - 130*	*02/25/25 12:35*	*02/26/25 05:59*	*1*
13C5 PFHxA	*78.0*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:59*	*1*
13C4 PFHpA	*57.1*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:59*	*1*
13C8 PFOA	*59.3*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:59*	*1*
13C9 PFNA	*67.2*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:59*	*1*
13C6 PFDA	*61.4*		*40 - 130*	*02/25/25 12:35*	*02/26/25 05:59*	*1*

Client Sample ID: FIT-001-N-S005-01212025

Lab Sample ID: 320-118511-11

Date Collected: 01/21/25 08:55
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 95.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C7 PFUnA	66.7		40 - 130	02/25/25 12:35	02/26/25 05:59	1
13C2 PFDoA	92.3		40 - 130	02/25/25 12:35	02/26/25 05:59	1
13C2 PFTeDA	71.9		20 - 130	02/25/25 12:35	02/26/25 05:59	1
13C3 PFBS	75.6		40 - 135	02/25/25 12:35	02/26/25 05:59	1
13C3 PFHxS	88.5		40 - 130	02/25/25 12:35	02/26/25 05:59	1
13C8 PFOS	72.9		40 - 130	02/25/25 12:35	02/26/25 05:59	1
13C8 FOSA	64.5		40 - 130	02/25/25 12:35	02/26/25 05:59	1
d3-NMeFOSAA	52.6		40 - 135	02/25/25 12:35	02/26/25 05:59	1
d5-NEtFOSAA	56.1		40 - 150	02/25/25 12:35	02/26/25 05:59	1
13C2 4:2 FTS	80.9		40 - 165	02/25/25 12:35	02/26/25 05:59	1
13C2 6:2 FTS	74.2		40 - 215	02/25/25 12:35	02/26/25 05:59	1
13C2 8:2 FTS	63.7		40 - 275	02/25/25 12:35	02/26/25 05:59	1
13C3 HFPO-DA	75.7		40 - 130	02/25/25 12:35	02/26/25 05:59	1
d7-N-MeFOSE-M	73.5		20 - 130	02/25/25 12:35	02/26/25 05:59	1
d9-N-EtFOSE-M	69.9		15 - 130	02/25/25 12:35	02/26/25 05:59	1
d5-NEtPFOSA	55.9		10 - 130	02/25/25 12:35	02/26/25 05:59	1
d3-NMePFOSA	57.9		10 - 130	02/25/25 12:35	02/26/25 05:59	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	4.2	H	0.10	0.10	%			02/20/25 15:17	1

Client Sample ID: FIT-003-N-S000-01212025

Lab Sample ID: 320-118511-12

Date Collected: 01/21/25 09:35
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 93.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.41	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
Perfluorooctanoic acid (PFOA)	0.085	J	0.20	0.063	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
Perfluorononanoic acid (PFNA)	0.057	J	0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
Perfluorooctanesulfonic acid (PFOS)	0.42		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1

Client Sample ID: FIT-003-N-S000-01212025
Date Collected: 01/21/25 09:35
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-12
Matrix: Solid
Percent Solids: 93.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.41	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.41	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.41	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.064	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.41	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 06:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*8 - 130*	*02/25/25 12:35*	*02/26/25 06:15*	*1*
13C5 PFPeA	*105*		*35 - 130*	*02/25/25 12:35*	*02/26/25 06:15*	*1*
13C5 PFHxA	*94.8*		*40 - 130*	*02/25/25 12:35*	*02/26/25 06:15*	*1*
13C4 PFHpA	*86.8*		*40 - 130*	*02/25/25 12:35*	*02/26/25 06:15*	*1*
13C8 PFOA	*66.5*		*40 - 130*	*02/25/25 12:35*	*02/26/25 06:15*	*1*
13C9 PFNA	*85.5*		*40 - 130*	*02/25/25 12:35*	*02/26/25 06:15*	*1*
13C6 PFDA	*84.3*		*40 - 130*	*02/25/25 12:35*	*02/26/25 06:15*	*1*
13C7 PFUnA	*84.6*		*40 - 130*	*02/25/25 12:35*	*02/26/25 06:15*	*1*
13C2 PFDoA	*84.6*		*40 - 130*	*02/25/25 12:35*	*02/26/25 06:15*	*1*
13C2 PFTeDA	*93.8*		*20 - 130*	*02/25/25 12:35*	*02/26/25 06:15*	*1*
13C3 PFBS	*77.1*		*40 - 135*	*02/25/25 12:35*	*02/26/25 06:15*	*1*
13C3 PFHxS	*103*		*40 - 130*	*02/25/25 12:35*	*02/26/25 06:15*	*1*

Client Sample ID: FIT-003-N-S000-01212025
Lab Sample ID: 320-118511-12
Date Collected: 01/21/25 09:35
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 93.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	87.1		40 - 130	02/25/25 12:35	02/26/25 06:15	1
13C8 FOSA	84.5		40 - 130	02/25/25 12:35	02/26/25 06:15	1
d3-NMeFOSAA	67.7		40 - 135	02/25/25 12:35	02/26/25 06:15	1
d5-NEtFOSAA	69.2		40 - 150	02/25/25 12:35	02/26/25 06:15	1
13C2 4:2 FTS	64.6		40 - 165	02/25/25 12:35	02/26/25 06:15	1
13C2 6:2 FTS	82.6		40 - 215	02/25/25 12:35	02/26/25 06:15	1
13C2 8:2 FTS	81.3		40 - 275	02/25/25 12:35	02/26/25 06:15	1
13C3 HFPO-DA	96.2		40 - 130	02/25/25 12:35	02/26/25 06:15	1
d7-N-MeFOSE-M	83.2		20 - 130	02/25/25 12:35	02/26/25 06:15	1
d9-N-EtFOSE-M	79.5		15 - 130	02/25/25 12:35	02/26/25 06:15	1
d5-NEtPFOSA	84.1		10 - 130	02/25/25 12:35	02/26/25 06:15	1
d3-NMePFOSA	85.4		10 - 130	02/25/25 12:35	02/26/25 06:15	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	6.6	H	0.10	0.10	%			02/20/25 15:17	1

Client Sample ID: FIT-007-N-S000-01212025
Lab Sample ID: 320-118511-18
Date Collected: 01/21/25 10:10
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 95.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.38	0.096	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.060	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
Perfluorononanoic acid (PFNA)	0.061	J	0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
Perfluorodecanoic acid (PFDA)	0.058	J	0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
Perfluorooctanesulfonic acid (PFOS)	1.1		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.38	0.096	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.38	0.096	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.38	0.096	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1

Client Sample ID: FIT-007-N-S000-01212025
Date Collected: 01/21/25 10:10
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-18
Matrix: Solid
Percent Solids: 95.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.96	0.24	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.96	0.24	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.072	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.38	0.096	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	02/25/25 12:35	02/26/25 07:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*104*		*8 - 130*	*02/25/25 12:35*	*02/26/25 07:04*	*1*
13C5 PFPeA	*138*	*5+	*35 - 130*	*02/25/25 12:35*	*02/26/25 07:04*	*1*
13C5 PFHxA	*116*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:04*	*1*
13C4 PFHpA	*105*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:04*	*1*
13C8 PFOA	*80.0*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:04*	*1*
13C9 PFNA	*89.2*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:04*	*1*
13C6 PFDA	*77.9*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:04*	*1*
13C7 PFUnA	*77.8*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:04*	*1*
13C2 PFDoA	*93.1*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:04*	*1*
13C2 PFTeDA	*78.7*		*20 - 130*	*02/25/25 12:35*	*02/26/25 07:04*	*1*
13C3 PFBS	*109*		*40 - 135*	*02/25/25 12:35*	*02/26/25 07:04*	*1*
13C3 PFHxS	*114*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:04*	*1*
13C8 PFOS	*93.3*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:04*	*1*
13C8 FOSA	*81.5*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:04*	*1*
d3-NMeFOSAA	*66.9*		*40 - 135*	*02/25/25 12:35*	*02/26/25 07:04*	*1*
d5-NEtFOSAA	*70.6*		*40 - 150*	*02/25/25 12:35*	*02/26/25 07:04*	*1*
13C2 4:2 FTS	*117*		*40 - 165*	*02/25/25 12:35*	*02/26/25 07:04*	*1*

Client Sample ID: FIT-007-N-S000-01212025

Lab Sample ID: 320-118511-18

Date Collected: 01/21/25 10:10
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 95.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 6:2 FTS	89.4		40 - 215	02/25/25 12:35	02/26/25 07:04	1
13C2 8:2 FTS	104		40 - 275	02/25/25 12:35	02/26/25 07:04	1
13C3 HFPO-DA	114		40 - 130	02/25/25 12:35	02/26/25 07:04	1
d7-N-MeFOSE-M	84.9		20 - 130	02/25/25 12:35	02/26/25 07:04	1
d9-N-EtFOSE-M	81.8		15 - 130	02/25/25 12:35	02/26/25 07:04	1
d5-NEtPFOSA	72.1		10 - 130	02/25/25 12:35	02/26/25 07:04	1
d3-NMePFOSA	73.5		10 - 130	02/25/25 12:35	02/26/25 07:04	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**4.5**	**H**	0.10	0.10	%			02/20/25 15:17	1

Client Sample ID: FIT-008-N-S000-01212025

Lab Sample ID: 320-118511-19

Date Collected: 01/21/25 10:30
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 89.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.063	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
Perfluorononanoic acid (PFNA)	**0.088**	**J**	0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
Perfluorodecanoic acid (PFDA)	**0.076**	**J**	0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
Perfluorooctanesulfonic acid (PFOS)	**1.7**		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.064	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1

Client Sample ID: FIT-008-N-S000-01212025
Date Collected: 01/21/25 10:30
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-19
Matrix: Solid
Percent Solids: 89.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 07:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*8 - 130*	*02/25/25 12:35*	*02/26/25 07:21*	*1*
13C5 PFPeA	*97.2*		*35 - 130*	*02/25/25 12:35*	*02/26/25 07:21*	*1*
13C5 PFHxA	*112*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:21*	*1*
13C4 PFHpA	*98.3*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:21*	*1*
13C8 PFOA	*81.3*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:21*	*1*
13C9 PFNA	*77.0*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:21*	*1*
13C6 PFDA	*75.6*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:21*	*1*
13C7 PFUnA	*95.6*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:21*	*1*
13C2 PFDoA	*114*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:21*	*1*
13C2 PFTeDA	*91.5*		*20 - 130*	*02/25/25 12:35*	*02/26/25 07:21*	*1*
13C3 PFBS	*83.0*		*40 - 135*	*02/25/25 12:35*	*02/26/25 07:21*	*1*
13C3 PFHxS	*114*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:21*	*1*
13C8 PFOS	*95.1*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:21*	*1*
13C8 FOSA	*84.9*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:21*	*1*
d3-NMeFOSAA	*65.4*		*40 - 135*	*02/25/25 12:35*	*02/26/25 07:21*	*1*
d5-NEtFOSAA	*71.1*		*40 - 150*	*02/25/25 12:35*	*02/26/25 07:21*	*1*
13C2 4:2 FTS	*78.6*		*40 - 165*	*02/25/25 12:35*	*02/26/25 07:21*	*1*
13C2 6:2 FTS	*76.5*		*40 - 215*	*02/25/25 12:35*	*02/26/25 07:21*	*1*
13C2 8:2 FTS	*74.5*		*40 - 275*	*02/25/25 12:35*	*02/26/25 07:21*	*1*
13C3 HFPO-DA	*91.2*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:21*	*1*
d7-N-MeFOSE-M	*89.4*		*20 - 130*	*02/25/25 12:35*	*02/26/25 07:21*	*1*
d9-N-EtFOSE-M	*79.0*		*15 - 130*	*02/25/25 12:35*	*02/26/25 07:21*	*1*

Client Sample ID: FIT-008-N-S000-01212025

Lab Sample ID: 320-118511-19

Date Collected: 01/21/25 10:30
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 89.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtPFOSA	67.0		10 - 130	02/25/25 12:35	02/26/25 07:21	1
d3-NMePFOSA	73.1		10 - 130	02/25/25 12:35	02/26/25 07:21	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	11	H	0.10	0.10	%			02/20/25 15:17	1

Client Sample ID: FIT-006-N-S000-01212025

Lab Sample ID: 320-118511-20

Date Collected: 01/21/25 11:11
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 93.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.063	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
Perfluorooctanesulfonic acid (PFOS)	0.13	J	0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.064	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-2

Client Sample ID: FIT-006-N-S000-01212025
Date Collected: 01/21/25 11:11
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-20
Matrix: Solid
Percent Solids: 93.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 07:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91.0*		*8 - 130*	*02/25/25 12:35*	*02/26/25 07:37*	*1*
13C5 PFPeA	*83.3*		*35 - 130*	*02/25/25 12:35*	*02/26/25 07:37*	*1*
13C5 PFHxA	*84.2*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:37*	*1*
13C4 PFHpA	*81.8*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:37*	*1*
13C8 PFOA	*64.9*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:37*	*1*
13C9 PFNA	*75.8*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:37*	*1*
13C6 PFDA	*67.7*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:37*	*1*
13C7 PFUnA	*76.2*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:37*	*1*
13C2 PFDoA	*78.1*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:37*	*1*
13C2 PFTeDA	*86.9*		*20 - 130*	*02/25/25 12:35*	*02/26/25 07:37*	*1*
13C3 PFBS	*89.4*		*40 - 135*	*02/25/25 12:35*	*02/26/25 07:37*	*1*
13C3 PFHxS	*102*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:37*	*1*
13C8 PFOS	*80.3*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:37*	*1*
13C8 FOSA	*68.3*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:37*	*1*
d3-NMeFOSAA	*54.3*		*40 - 135*	*02/25/25 12:35*	*02/26/25 07:37*	*1*
d5-NEtFOSAA	*61.2*		*40 - 150*	*02/25/25 12:35*	*02/26/25 07:37*	*1*
13C2 4:2 FTS	*72.5*		*40 - 165*	*02/25/25 12:35*	*02/26/25 07:37*	*1*
13C2 6:2 FTS	*75.7*		*40 - 215*	*02/25/25 12:35*	*02/26/25 07:37*	*1*
13C2 8:2 FTS	*77.7*		*40 - 275*	*02/25/25 12:35*	*02/26/25 07:37*	*1*
13C3 HFPO-DA	*68.1*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:37*	*1*
d7-N-MeFOSE-M	*76.3*		*20 - 130*	*02/25/25 12:35*	*02/26/25 07:37*	*1*
d9-N-EtFOSE-M	*70.3*		*15 - 130*	*02/25/25 12:35*	*02/26/25 07:37*	*1*
d5-NEtPFOSA	*59.3*		*10 - 130*	*02/25/25 12:35*	*02/26/25 07:37*	*1*
d3-NMePFOSA	*65.8*		*10 - 130*	*02/25/25 12:35*	*02/26/25 07:37*	*1*

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-2

Client Sample ID: FIT-006-N-S000-01212025

Lab Sample ID: 320-118511-20
Date Collected: 01/21/25 11:11
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 93.2

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	6.8	H	0.10	0.10	%			02/24/25 15:38	1

Client Sample ID: FIT-005-N-S000-01212025

Lab Sample ID: 320-118511-21
Date Collected: 01/21/25 11:06
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 95.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
Perfluorooctanesulfonic acid (PFOS)	0.14	J	0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1

Client Sample ID: FIT-005-N-S000-01212025
Date Collected: 01/21/25 11:06
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-21
Matrix: Solid
Percent Solids: 95.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 07:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*93.6*		*8 - 130*	*02/25/25 12:35*	*02/26/25 07:54*	*1*
13C5 PFPeA	*112*		*35 - 130*	*02/25/25 12:35*	*02/26/25 07:54*	*1*
13C5 PFHxA	*108*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:54*	*1*
13C4 PFHpA	*87.8*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:54*	*1*
13C8 PFOA	*79.8*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:54*	*1*
13C9 PFNA	*80.7*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:54*	*1*
13C6 PFDA	*78.3*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:54*	*1*
13C7 PFUnA	*91.7*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:54*	*1*
13C2 PFDoA	*95.5*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:54*	*1*
13C2 PFTeDA	*93.4*		*20 - 130*	*02/25/25 12:35*	*02/26/25 07:54*	*1*
13C3 PFBS	*91.4*		*40 - 135*	*02/25/25 12:35*	*02/26/25 07:54*	*1*
13C3 PFHxS	*111*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:54*	*1*
13C8 PFOS	*89.6*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:54*	*1*
13C8 FOSA	*82.7*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:54*	*1*
d3-NMeFOSAA	*67.9*		*40 - 135*	*02/25/25 12:35*	*02/26/25 07:54*	*1*
d5-NEtFOSAA	*71.6*		*40 - 150*	*02/25/25 12:35*	*02/26/25 07:54*	*1*
13C2 4:2 FTS	*86.9*		*40 - 165*	*02/25/25 12:35*	*02/26/25 07:54*	*1*
13C2 6:2 FTS	*89.9*		*40 - 215*	*02/25/25 12:35*	*02/26/25 07:54*	*1*
13C2 8:2 FTS	*66.7*		*40 - 275*	*02/25/25 12:35*	*02/26/25 07:54*	*1*
13C3 HFPO-DA	*96.0*		*40 - 130*	*02/25/25 12:35*	*02/26/25 07:54*	*1*
d7-N-MeFOSE-M	*92.8*		*20 - 130*	*02/25/25 12:35*	*02/26/25 07:54*	*1*
d9-N-EtFOSE-M	*88.6*		*15 - 130*	*02/25/25 12:35*	*02/26/25 07:54*	*1*
d5-NEtPFOSA	*86.5*		*10 - 130*	*02/25/25 12:35*	*02/26/25 07:54*	*1*
d3-NMePFOSA	*87.1*		*10 - 130*	*02/25/25 12:35*	*02/26/25 07:54*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**4.7**	**H**	0.10	0.10	%			02/24/25 15:38	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-2

Client Sample ID: FIT-004-N-S000-01212025
Date Collected: 01/21/25 11:00
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-22
Matrix: Solid
Percent Solids: 92.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
Perfluorooctanesulfonic acid (PFOS)	**0.32**		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.24	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.24	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1

Client Sample ID: FIT-004-N-S000-01212025

Lab Sample ID: 320-118511-22
Date Collected: 01/21/25 11:00
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 92.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.073	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	02/25/25 12:35	02/26/25 08:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*90.8*		*8 - 130*	*02/25/25 12:35*	*02/26/25 08:10*	*1*
13C5 PFPeA	*95.5*		*35 - 130*	*02/25/25 12:35*	*02/26/25 08:10*	*1*
13C5 PFHxA	*92.5*		*40 - 130*	*02/25/25 12:35*	*02/26/25 08:10*	*1*
13C4 PFHpA	*73.8*		*40 - 130*	*02/25/25 12:35*	*02/26/25 08:10*	*1*
13C8 PFOA	*79.7*		*40 - 130*	*02/25/25 12:35*	*02/26/25 08:10*	*1*
13C9 PFNA	*77.5*		*40 - 130*	*02/25/25 12:35*	*02/26/25 08:10*	*1*
13C6 PFDA	*70.5*		*40 - 130*	*02/25/25 12:35*	*02/26/25 08:10*	*1*
13C7 PFUnA	*72.5*		*40 - 130*	*02/25/25 12:35*	*02/26/25 08:10*	*1*
13C2 PFDoA	*84.4*		*40 - 130*	*02/25/25 12:35*	*02/26/25 08:10*	*1*
13C2 PFTeDA	*76.9*		*20 - 130*	*02/25/25 12:35*	*02/26/25 08:10*	*1*
13C3 PFBS	*86.2*		*40 - 135*	*02/25/25 12:35*	*02/26/25 08:10*	*1*
13C3 PFHxS	*101*		*40 - 130*	*02/25/25 12:35*	*02/26/25 08:10*	*1*
13C8 PFOS	*87.7*		*40 - 130*	*02/25/25 12:35*	*02/26/25 08:10*	*1*
13C8 FOSA	*78.6*		*40 - 130*	*02/25/25 12:35*	*02/26/25 08:10*	*1*
d3-NMeFOSAA	*63.5*		*40 - 135*	*02/25/25 12:35*	*02/26/25 08:10*	*1*
d5-NEtFOSAA	*63.9*		*40 - 150*	*02/25/25 12:35*	*02/26/25 08:10*	*1*
13C2 4:2 FTS	*89.7*		*40 - 165*	*02/25/25 12:35*	*02/26/25 08:10*	*1*
13C2 6:2 FTS	*71.2*		*40 - 215*	*02/25/25 12:35*	*02/26/25 08:10*	*1*
13C2 8:2 FTS	*72.4*		*40 - 275*	*02/25/25 12:35*	*02/26/25 08:10*	*1*
13C3 HFPO-DA	*82.7*		*40 - 130*	*02/25/25 12:35*	*02/26/25 08:10*	*1*
d7-N-MeFOSE-M	*79.8*		*20 - 130*	*02/25/25 12:35*	*02/26/25 08:10*	*1*
d9-N-EtFOSE-M	*74.6*		*15 - 130*	*02/25/25 12:35*	*02/26/25 08:10*	*1*
d5-NEtPFOSA	*61.8*		*10 - 130*	*02/25/25 12:35*	*02/26/25 08:10*	*1*
d3-NMePFOSA	*64.6*		*10 - 130*	*02/25/25 12:35*	*02/26/25 08:10*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**7.1**	**H**	0.10	0.10	%			02/24/25 15:38	1

Client Sample ID: SRA-003-N-S000-01212025

Lab Sample ID: 320-118511-30
Date Collected: 01/21/25 13:00
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 88.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.063	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-2

Client Sample ID: SRA-003-N-S000-01212025
Date Collected: 01/21/25 13:00
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-30
Matrix: Solid
Percent Solids: 88.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	**0.053**	**J I**	0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
Perfluorodecanoic acid (PFDA)	**0.055**	**J**	0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
Perfluorooctanesulfonic acid (PFOS)	**0.97**		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.10**	**J**	0.40	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.064	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1

Client Sample ID: SRA-003-N-S000-01212025

Lab Sample ID: 320-118511-30

Date Collected: 01/21/25 13:00
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 88.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 08:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*83.2*		*8 - 130*	*02/25/25 12:35*	*02/26/25 08:27*	*1*
13C5 PFPeA	*94.0*		*35 - 130*	*02/25/25 12:35*	*02/26/25 08:27*	*1*
13C5 PFHxA	*85.5*		*40 - 130*	*02/25/25 12:35*	*02/26/25 08:27*	*1*
13C4 PFHpA	*70.2*		*40 - 130*	*02/25/25 12:35*	*02/26/25 08:27*	*1*
13C8 PFOA	*61.9*		*40 - 130*	*02/25/25 12:35*	*02/26/25 08:27*	*1*
13C9 PFNA	*64.5*		*40 - 130*	*02/25/25 12:35*	*02/26/25 08:27*	*1*
13C6 PFDA	*66.3*		*40 - 130*	*02/25/25 12:35*	*02/26/25 08:27*	*1*
13C7 PFUnA	*59.6*		*40 - 130*	*02/25/25 12:35*	*02/26/25 08:27*	*1*
13C2 PFDoA	*75.6*		*40 - 130*	*02/25/25 12:35*	*02/26/25 08:27*	*1*
13C2 PFTeDA	*78.9*		*20 - 130*	*02/25/25 12:35*	*02/26/25 08:27*	*1*
13C3 PFBS	*84.5*		*40 - 135*	*02/25/25 12:35*	*02/26/25 08:27*	*1*
13C3 PFHxS	*100*		*40 - 130*	*02/25/25 12:35*	*02/26/25 08:27*	*1*
13C8 PFOS	*72.9*		*40 - 130*	*02/25/25 12:35*	*02/26/25 08:27*	*1*
13C8 FOSA	*69.5*		*40 - 130*	*02/25/25 12:35*	*02/26/25 08:27*	*1*
d3-NMeFOSAA	*64.7*		*40 - 135*	*02/25/25 12:35*	*02/26/25 08:27*	*1*
d5-NEtFOSAA	*67.4*		*40 - 150*	*02/25/25 12:35*	*02/26/25 08:27*	*1*
13C2 4:2 FTS	*79.6*		*40 - 165*	*02/25/25 12:35*	*02/26/25 08:27*	*1*
13C2 6:2 FTS	*79.1*		*40 - 215*	*02/25/25 12:35*	*02/26/25 08:27*	*1*
13C2 8:2 FTS	*60.2*		*40 - 275*	*02/25/25 12:35*	*02/26/25 08:27*	*1*
13C3 HFPO-DA	*70.1*		*40 - 130*	*02/25/25 12:35*	*02/26/25 08:27*	*1*
d7-N-MeFOSE-M	*81.0*		*20 - 130*	*02/25/25 12:35*	*02/26/25 08:27*	*1*
d9-N-EtFOSE-M	*77.7*		*15 - 130*	*02/25/25 12:35*	*02/26/25 08:27*	*1*
d5-NEtPFOSA	*62.2*		*10 - 130*	*02/25/25 12:35*	*02/26/25 08:27*	*1*
d3-NMePFOSA	*64.6*		*10 - 130*	*02/25/25 12:35*	*02/26/25 08:27*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**11**	**H**	0.10	0.10	%			02/24/25 15:38	1

Client Sample ID: SRA-003-N-S006-01212025

Lab Sample ID: 320-118511-33

Date Collected: 01/21/25 13:15
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 94.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1

Client Sample ID: SRA-003-N-S006-01212025
Lab Sample ID: 320-118511-33
Date Collected: 01/21/25 13:15
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 94.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
Perfluorooctanesulfonic acid (PFOS)	**0.056**	**J**	0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.20	0.061	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 05:58	1

Client Sample ID: SRA-003-N-S006-01212025

Lab Sample ID: 320-118511-33

Date Collected: 01/21/25 13:15
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 94.5

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	97.8		8 - 130	02/26/25 07:12	02/27/25 05:58	1
13C5 PFPeA	77.7		35 - 130	02/26/25 07:12	02/27/25 05:58	1
13C5 PFHxA	93.9		40 - 130	02/26/25 07:12	02/27/25 05:58	1
13C4 PFHpA	87.2		40 - 130	02/26/25 07:12	02/27/25 05:58	1
13C8 PFOA	81.0		40 - 130	02/26/25 07:12	02/27/25 05:58	1
13C9 PFNA	77.2		40 - 130	02/26/25 07:12	02/27/25 05:58	1
13C6 PFDA	82.1		40 - 130	02/26/25 07:12	02/27/25 05:58	1
13C7 PFUnA	84.3		40 - 130	02/26/25 07:12	02/27/25 05:58	1
13C2 PFDoA	85.3		40 - 130	02/26/25 07:12	02/27/25 05:58	1
13C2 PFTeDA	77.8		20 - 130	02/26/25 07:12	02/27/25 05:58	1
13C3 PFBS	70.4		40 - 135	02/26/25 07:12	02/27/25 05:58	1
13C3 PFHxS	95.8		40 - 130	02/26/25 07:12	02/27/25 05:58	1
13C8 PFOS	73.4		40 - 130	02/26/25 07:12	02/27/25 05:58	1
13C8 FOSA	70.7		40 - 130	02/26/25 07:12	02/27/25 05:58	1
d3-NMeFOSAA	81.8		40 - 135	02/26/25 07:12	02/27/25 05:58	1
d5-NEtFOSAA	84.1		40 - 150	02/26/25 07:12	02/27/25 05:58	1
13C2 4:2 FTS	94.9		40 - 165	02/26/25 07:12	02/27/25 05:58	1
13C2 6:2 FTS	91.7		40 - 215	02/26/25 07:12	02/27/25 05:58	1
13C2 8:2 FTS	87.3		40 - 275	02/26/25 07:12	02/27/25 05:58	1
13C3 HFPO-DA	69.9		40 - 130	02/26/25 07:12	02/27/25 05:58	1
d7-N-MeFOSE-M	70.5		20 - 130	02/26/25 07:12	02/27/25 05:58	1
d9-N-EtFOSE-M	72.8		15 - 130	02/26/25 07:12	02/27/25 05:58	1
d5-NEtPFOSA	74.1		10 - 130	02/26/25 07:12	02/27/25 05:58	1
d3-NMePFOSA	75.1		10 - 130	02/26/25 07:12	02/27/25 05:58	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**5.5**	**H**	0.10	0.10	%			02/24/25 15:38	1

Client Sample ID: SRA-004A-N-S000-01212025

Lab Sample ID: 320-118511-36

Date Collected: 01/21/25 14:00
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 79.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
Perfluoropentanoic acid (PFPeA)	**0.064**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
Perfluorohexanoic acid (PFHxA)	**0.085**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
Perfluoroheptanoic acid (PFHpA)	**0.092**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
Perfluorooctanoic acid (PFOA)	**0.37**		0.20	0.062	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
Perfluorononanoic acid (PFNA)	**0.28**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
Perfluorodecanoic acid (PFDA)	**3.0**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
Perfluoroundecanoic acid (PFUnA)	**1.4**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
Perfluorododecanoic acid (PFDoA)	**5.2**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
Perfluorotridecanoic acid (PFTrDA)	**0.40**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
Perfluorotetradecanoic acid (PFTeDA)	**0.86**		0.20	0.058	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-2

Client Sample ID: SRA-004A-N-S000-01212025
Date Collected: 01/21/25 14:00
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-36
Matrix: Solid
Percent Solids: 79.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
Perfluorohexanesulfonic acid (PFHxS)	**0.072**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
Perfluorooctanesulfonic acid (PFOS)	**0.81**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.20	0.062	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	**0.14**	**J**	0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**1.4**		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	**2.0**		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 06:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*37.2*		*8 - 130*	*02/26/25 07:12*	*02/27/25 06:15*	*1*

Client Sample ID: SRA-004A-N-S000-01212025

Lab Sample ID: 320-118511-36
Date Collected: 01/21/25 14:00
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 79.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	54.0		35 - 130	02/26/25 07:12	02/27/25 06:15	1
13C5 PFHxA	70.4		40 - 130	02/26/25 07:12	02/27/25 06:15	1
13C4 PFHpA	64.6		40 - 130	02/26/25 07:12	02/27/25 06:15	1
13C8 PFOA	60.7		40 - 130	02/26/25 07:12	02/27/25 06:15	1
13C9 PFNA	58.6		40 - 130	02/26/25 07:12	02/27/25 06:15	1
13C6 PFDA	55.9		40 - 130	02/26/25 07:12	02/27/25 06:15	1
13C7 PFUnA	54.0		40 - 130	02/26/25 07:12	02/27/25 06:15	1
13C2 PFDoA	52.7		40 - 130	02/26/25 07:12	02/27/25 06:15	1
13C2 PFTeDA	42.9		20 - 130	02/26/25 07:12	02/27/25 06:15	1
13C3 PFBS	55.5		40 - 135	02/26/25 07:12	02/27/25 06:15	1
13C3 PFHxS	69.4		40 - 130	02/26/25 07:12	02/27/25 06:15	1
13C8 PFOS	55.1		40 - 130	02/26/25 07:12	02/27/25 06:15	1
13C8 FOSA	48.7		40 - 130	02/26/25 07:12	02/27/25 06:15	1
d3-NMeFOSAA	54.4		40 - 135	02/26/25 07:12	02/27/25 06:15	1
d5-NEtFOSAA	54.5		40 - 150	02/26/25 07:12	02/27/25 06:15	1
13C2 4:2 FTS	83.5		40 - 165	02/26/25 07:12	02/27/25 06:15	1
13C2 6:2 FTS	81.4		40 - 215	02/26/25 07:12	02/27/25 06:15	1
13C2 8:2 FTS	64.6		40 - 275	02/26/25 07:12	02/27/25 06:15	1
13C3 HFPO-DA	59.7		40 - 130	02/26/25 07:12	02/27/25 06:15	1
d7-N-MeFOSE-M	33.8		20 - 130	02/26/25 07:12	02/27/25 06:15	1
d9-N-EtFOSE-M	35.4		15 - 130	02/26/25 07:12	02/27/25 06:15	1
d5-NEtPFOSA	47.7		10 - 130	02/26/25 07:12	02/27/25 06:15	1
d3-NMePFOSA	50.4		10 - 130	02/26/25 07:12	02/27/25 06:15	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	20	H	0.10	0.10	%			02/24/25 15:38	1

Client Sample ID: SRA-004A-N-S006-01212025

Lab Sample ID: 320-118511-40
Date Collected: 01/21/25 14:15
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 73.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
Perfluoropentanoic acid (PFPeA)	0.063	J	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
Perfluorohexanoic acid (PFHxA)	0.078	J	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
Perfluoroheptanoic acid (PFHpA)	0.075	J	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
Perfluorooctanoic acid (PFOA)	0.49		0.20	0.062	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
Perfluorononanoic acid (PFNA)	0.48		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
Perfluorodecanoic acid (PFDA)	3.1		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
Perfluoroundecanoic acid (PFUnA)	0.27		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
Perfluorododecanoic acid (PFDoA)	0.62		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
Perfluorotridecanoic acid (PFTrDA)	0.058	J	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
Perfluorotetradecanoic acid (PFTeDA)	0.19	J	0.20	0.058	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1

Client Sample ID: SRA-004A-N-S006-01212025
Date Collected: 01/21/25 14:15
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-40
Matrix: Solid
Percent Solids: 73.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
Perfluorohexanesulfonic acid (PFHxS)	**0.11**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
Perfluorooctanesulfonic acid (PFOS)	**1.3**		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**0.83**	**J**	1.0	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	**1.3**		1.0	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 16:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91.7*		*8 - 130*	*02/27/25 04:51*	*02/27/25 16:56*	*1*

Client Sample ID: SRA-004A-N-S006-01212025

Lab Sample ID: 320-118511-40

Date Collected: 01/21/25 14:15
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 73.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	97.4		35 - 130	02/27/25 04:51	02/27/25 16:56	1
13C5 PFHxA	85.8		40 - 130	02/27/25 04:51	02/27/25 16:56	1
13C4 PFHpA	98.5		40 - 130	02/27/25 04:51	02/27/25 16:56	1
13C8 PFOA	89.0		40 - 130	02/27/25 04:51	02/27/25 16:56	1
13C9 PFNA	84.0		40 - 130	02/27/25 04:51	02/27/25 16:56	1
13C6 PFDA	81.3		40 - 130	02/27/25 04:51	02/27/25 16:56	1
13C7 PFUnA	93.1		40 - 130	02/27/25 04:51	02/27/25 16:56	1
13C2 PFDoA	94.3		40 - 130	02/27/25 04:51	02/27/25 16:56	1
13C2 PFTeDA	86.6		20 - 130	02/27/25 04:51	02/27/25 16:56	1
13C3 PFBS	80.9		40 - 135	02/27/25 04:51	02/27/25 16:56	1
13C3 PFHxS	88.6		40 - 130	02/27/25 04:51	02/27/25 16:56	1
13C8 PFOS	89.9		40 - 130	02/27/25 04:51	02/27/25 16:56	1
13C8 FOSA	80.9		40 - 130	02/27/25 04:51	02/27/25 16:56	1
d3-NMeFOSAA	89.3		40 - 135	02/27/25 04:51	02/27/25 16:56	1
d5-NEtFOSAA	95.8		40 - 150	02/27/25 04:51	02/27/25 16:56	1
13C2 4:2 FTS	111		40 - 165	02/27/25 04:51	02/27/25 16:56	1
13C2 6:2 FTS	109		40 - 215	02/27/25 04:51	02/27/25 16:56	1
13C2 8:2 FTS	106		40 - 275	02/27/25 04:51	02/27/25 16:56	1
13C3 HFPO-DA	88.4		40 - 130	02/27/25 04:51	02/27/25 16:56	1
d7-N-MeFOSE-M	79.7		20 - 130	02/27/25 04:51	02/27/25 16:56	1
d9-N-EtFOSE-M	50.6		15 - 130	02/27/25 04:51	02/27/25 16:56	1
d5-NEtPFOSA	76.4		10 - 130	02/27/25 04:51	02/27/25 16:56	1
d3-NMePFOSA	84.5		10 - 130	02/27/25 04:51	02/27/25 16:56	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	27	H	0.10	0.10	%			02/24/25 15:38	1

Client Sample ID: SRA-004B-N-S000-01212025

Lab Sample ID: 320-118511-41

Date Collected: 01/21/25 14:50
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 53.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.16	J	0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
Perfluoropentanoic acid (PFPeA)	0.41		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
Perfluorohexanoic acid (PFHxA)	0.76		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
Perfluoroheptanoic acid (PFHpA)	0.82		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
Perfluorooctanoic acid (PFOA)	2.3		0.20	0.062	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
Perfluorononanoic acid (PFNA)	0.87		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
Perfluorodecanoic acid (PFDA)	7.1		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
Perfluoroundecanoic acid (PFUnA)	5.0		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
Perfluorotridecanoic acid (PFTrDA)	4.5		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
Perfluorotetradecanoic acid (PFTeDA)	15		0.20	0.058	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1

Client Sample ID: SRA-004B-N-S000-01212025
Date Collected: 01/21/25 14:50
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-41
Matrix: Solid
Percent Solids: 53.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**0.13**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
Perfluorooctanesulfonic acid (PFOS)	**1.5**		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
Perfluorodecanesulfonic acid (PFDS)	**0.17**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
Perfluorooctanesulfonamide (PFOSA)	**0.079**	**J**	0.20	0.063	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	**0.064**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**0.14**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	**0.93**		0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**26**		1.0	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	**67**		1.0	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 17:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*71.1*		*8 - 130*	*02/27/25 04:51*	*02/27/25 17:12*	*1*
13C5 PFPeA	*78.2*		*35 - 130*	*02/27/25 04:51*	*02/27/25 17:12*	*1*

Client Sample ID: SRA-004B-N-S000-01212025

Lab Sample ID: 320-118511-41

Date Collected: 01/21/25 14:50
Date Received: 01/23/25 09:55

Matrix: Solid
Percent Solids: 53.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFHxA	88.6		40 - 130	02/27/25 04:51	02/27/25 17:12	1
13C4 PFHpA	95.0		40 - 130	02/27/25 04:51	02/27/25 17:12	1
13C8 PFOA	84.0		40 - 130	02/27/25 04:51	02/27/25 17:12	1
13C9 PFNA	80.4		40 - 130	02/27/25 04:51	02/27/25 17:12	1
13C6 PFDA	71.3		40 - 130	02/27/25 04:51	02/27/25 17:12	1
13C7 PFUnA	82.7		40 - 130	02/27/25 04:51	02/27/25 17:12	1
13C2 PFDoA	79.2		40 - 130	02/27/25 04:51	02/27/25 17:12	1
13C2 PFTeDA	85.0		20 - 130	02/27/25 04:51	02/27/25 17:12	1
13C3 PFBS	77.8		40 - 135	02/27/25 04:51	02/27/25 17:12	1
13C3 PFHxS	80.7		40 - 130	02/27/25 04:51	02/27/25 17:12	1
13C8 PFOS	89.7		40 - 130	02/27/25 04:51	02/27/25 17:12	1
13C8 FOSA	86.5		40 - 130	02/27/25 04:51	02/27/25 17:12	1
d3-NMeFOSAA	68.5		40 - 135	02/27/25 04:51	02/27/25 17:12	1
d5-NEtFOSAA	82.3		40 - 150	02/27/25 04:51	02/27/25 17:12	1
13C2 4:2 FTS	185	*5+	40 - 165	02/27/25 04:51	02/27/25 17:12	1
13C2 6:2 FTS	195		40 - 215	02/27/25 04:51	02/27/25 17:12	1
13C2 8:2 FTS	202		40 - 275	02/27/25 04:51	02/27/25 17:12	1
13C3 HFPO-DA	105		40 - 130	02/27/25 04:51	02/27/25 17:12	1
d7-N-MeFOSE-M	77.6		20 - 130	02/27/25 04:51	02/27/25 17:12	1
d9-N-EtFOSE-M	43.1		15 - 130	02/27/25 04:51	02/27/25 17:12	1
d5-NEtPFOSA	68.0		10 - 130	02/27/25 04:51	02/27/25 17:12	1
d3-NMePFOSA	77.5		10 - 130	02/27/25 04:51	02/27/25 17:12	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	47		2.0	0.50	ug/Kg	☼	02/27/25 04:51	02/28/25 15:29	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDoA	78.1	*3	40 - 130	02/27/25 04:51	02/28/25 15:29	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	46	H	0.10	0.10	%			02/24/25 15:38	1

Client Sample ID: SRA-007A-N-S006-01212025

Lab Sample ID: 320-118511-42

Date Collected: 01/21/25 15:05
Date Received: 01/23/25 09:55

Matrix: Solid
Percent Solids: 84.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
Perfluorodecanoic acid (PFDA)	0.12	J	0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1

Client Sample ID: SRA-007A-N-S006-01212025
Date Collected: 01/21/25 15:05
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-42
Matrix: Solid
Percent Solids: 84.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
Perfluorohexanesulfonic acid (PFHxS)	**0.11**	**J**	0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
Perfluorooctanesulfonic acid (PFOS)	**0.87**		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 17:29	1

Client Sample ID: SRA-007A-N-S006-01212025

Lab Sample ID: 320-118511-42

Date Collected: 01/21/25 15:05
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 84.9

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	81.6		8 - 130	02/27/25 04:51	02/27/25 17:29	1
13C5 PFPeA	96.9		35 - 130	02/27/25 04:51	02/27/25 17:29	1
13C5 PFHxA	90.0		40 - 130	02/27/25 04:51	02/27/25 17:29	1
13C4 PFHpA	99.2		40 - 130	02/27/25 04:51	02/27/25 17:29	1
13C8 PFOA	94.0		40 - 130	02/27/25 04:51	02/27/25 17:29	1
13C9 PFNA	87.0		40 - 130	02/27/25 04:51	02/27/25 17:29	1
13C6 PFDA	81.8		40 - 130	02/27/25 04:51	02/27/25 17:29	1
13C7 PFUnA	82.8		40 - 130	02/27/25 04:51	02/27/25 17:29	1
13C2 PFDoA	89.3		40 - 130	02/27/25 04:51	02/27/25 17:29	1
13C2 PFTeDA	83.4		20 - 130	02/27/25 04:51	02/27/25 17:29	1
13C3 PFBS	89.0		40 - 135	02/27/25 04:51	02/27/25 17:29	1
13C3 PFHxS	89.8		40 - 130	02/27/25 04:51	02/27/25 17:29	1
13C8 PFOS	94.5		40 - 130	02/27/25 04:51	02/27/25 17:29	1
13C8 FOSA	83.3		40 - 130	02/27/25 04:51	02/27/25 17:29	1
d3-NMeFOSAA	93.7		40 - 135	02/27/25 04:51	02/27/25 17:29	1
d5-NEtFOSAA	104		40 - 150	02/27/25 04:51	02/27/25 17:29	1
13C2 4:2 FTS	116		40 - 165	02/27/25 04:51	02/27/25 17:29	1
13C2 6:2 FTS	110		40 - 215	02/27/25 04:51	02/27/25 17:29	1
13C2 8:2 FTS	96.5		40 - 275	02/27/25 04:51	02/27/25 17:29	1
13C3 HFPO-DA	88.5		40 - 130	02/27/25 04:51	02/27/25 17:29	1
d7-N-MeFOSE-M	83.5		20 - 130	02/27/25 04:51	02/27/25 17:29	1
d9-N-EtFOSE-M	51.9		15 - 130	02/27/25 04:51	02/27/25 17:29	1
d5-NEtPFOSA	80.1		10 - 130	02/27/25 04:51	02/27/25 17:29	1
d3-NMePFOSA	87.3		10 - 130	02/27/25 04:51	02/27/25 17:29	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**15**	**H**	0.10	0.10	%			02/24/25 15:38	1

Client Sample ID: SRA-007B-N-S000-01212025

Lab Sample ID: 320-118511-43

Date Collected: 01/21/25 15:15
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 71.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
Perfluorohexanoic acid (PFHxA)	**0.11**	**J**	0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
Perfluorooctanoic acid (PFOA)	**0.15**	**J**	0.19	0.060	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
Perfluorononanoic acid (PFNA)	**0.13**	**J**	0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
Perfluorodecanoic acid (PFDA)	**1.0**		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
Perfluoroundecanoic acid (PFUnA)	**0.20**		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
Perfluorododecanoic acid (PFDoA)	**0.25**		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1

Client Sample ID: SRA-007B-N-S000-01212025
Date Collected: 01/21/25 15:15
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-43
Matrix: Solid
Percent Solids: 71.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**0.37**		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
Perfluorooctanesulfonic acid (PFOS)	**3.1**		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
Perfluorooctanesulfonamide (PFOSA)	**0.074**	**J**	0.19	0.061	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.073	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	**0.25**	**J**	0.97	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 17:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*87.0*		*8 - 130*	*02/27/25 04:51*	*02/27/25 17:45*	*1*
13C5 PFPeA	*85.1*		*35 - 130*	*02/27/25 04:51*	*02/27/25 17:45*	*1*

Client Sample ID: SRA-007B-N-S000-01212025

Lab Sample ID: 320-118511-43

Date Collected: 01/21/25 15:15
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 71.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFHxA	87.1		40 - 130	02/27/25 04:51	02/27/25 17:45	1
13C4 PFHpA	92.7		40 - 130	02/27/25 04:51	02/27/25 17:45	1
13C8 PFOA	87.1		40 - 130	02/27/25 04:51	02/27/25 17:45	1
13C9 PFNA	90.2		40 - 130	02/27/25 04:51	02/27/25 17:45	1
13C6 PFDA	79.8		40 - 130	02/27/25 04:51	02/27/25 17:45	1
13C7 PFUnA	84.4		40 - 130	02/27/25 04:51	02/27/25 17:45	1
13C2 PFDoA	78.3		40 - 130	02/27/25 04:51	02/27/25 17:45	1
13C2 PFTeDA	89.8		20 - 130	02/27/25 04:51	02/27/25 17:45	1
13C3 PFBS	83.1		40 - 135	02/27/25 04:51	02/27/25 17:45	1
13C3 PFHxS	85.4		40 - 130	02/27/25 04:51	02/27/25 17:45	1
13C8 PFOS	92.1		40 - 130	02/27/25 04:51	02/27/25 17:45	1
13C8 FOSA	78.7		40 - 130	02/27/25 04:51	02/27/25 17:45	1
d3-NMeFOSAA	83.4		40 - 135	02/27/25 04:51	02/27/25 17:45	1
d5-NEtFOSAA	78.8		40 - 150	02/27/25 04:51	02/27/25 17:45	1
13C2 4:2 FTS	153		40 - 165	02/27/25 04:51	02/27/25 17:45	1
13C2 6:2 FTS	132		40 - 215	02/27/25 04:51	02/27/25 17:45	1
13C2 8:2 FTS	134		40 - 275	02/27/25 04:51	02/27/25 17:45	1
13C3 HFPO-DA	93.3		40 - 130	02/27/25 04:51	02/27/25 17:45	1
d7-N-MeFOSE-M	54.5		20 - 130	02/27/25 04:51	02/27/25 17:45	1
d9-N-EtFOSE-M	49.4		15 - 130	02/27/25 04:51	02/27/25 17:45	1
d5-NEtPFOSA	76.8		10 - 130	02/27/25 04:51	02/27/25 17:45	1
d3-NMePFOSA	86.4		10 - 130	02/27/25 04:51	02/27/25 17:45	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**28**	**H**	0.10	0.10	%			02/24/25 15:38	1

Client Sample ID: SRA-006-N-S000-01212025

Lab Sample ID: 320-118511-44

Date Collected: 01/21/25 15:40
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 70.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.18**	**J**	0.40	0.099	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
Perfluoropentanoic acid (PFPeA)	**0.13**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
Perfluorohexanoic acid (PFHxA)	**0.075**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
Perfluoroheptanoic acid (PFHpA)	**0.061**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
Perfluorooctanoic acid (PFOA)	**1.2**		0.20	0.062	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
Perfluorononanoic acid (PFNA)	**0.18**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
Perfluorodecanoic acid (PFDA)	**0.17**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
Perfluorohexanesulfonic acid (PFHxS)	**0.42**		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1

Client Sample ID: SRA-006-N-S000-01212025
Date Collected: 01/21/25 15:40
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-44
Matrix: Solid
Percent Solids: 70.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**1.5**		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.099	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 18:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*89.1*		*8 - 130*	*02/27/25 04:51*	*02/27/25 18:02*	*1*
13C5 PFPeA	*81.5*		*35 - 130*	*02/27/25 04:51*	*02/27/25 18:02*	*1*
13C5 PFHxA	*85.4*		*40 - 130*	*02/27/25 04:51*	*02/27/25 18:02*	*1*
13C4 PFHpA	*89.6*		*40 - 130*	*02/27/25 04:51*	*02/27/25 18:02*	*1*
13C8 PFOA	*88.0*		*40 - 130*	*02/27/25 04:51*	*02/27/25 18:02*	*1*
13C9 PFNA	*80.1*		*40 - 130*	*02/27/25 04:51*	*02/27/25 18:02*	*1*
13C6 PFDA	*71.0*		*40 - 130*	*02/27/25 04:51*	*02/27/25 18:02*	*1*

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-2

Client Sample ID: SRA-006-N-S000-01212025
Date Collected: 01/21/25 15:40
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-44
Matrix: Solid
Percent Solids: 70.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C7 PFUnA	77.3		40 - 130	02/27/25 04:51	02/27/25 18:02	1
13C2 PFDoA	81.9		40 - 130	02/27/25 04:51	02/27/25 18:02	1
13C2 PFTeDA	89.3		20 - 130	02/27/25 04:51	02/27/25 18:02	1
13C3 PFBS	84.5		40 - 135	02/27/25 04:51	02/27/25 18:02	1
13C3 PFHxS	79.6		40 - 130	02/27/25 04:51	02/27/25 18:02	1
13C8 PFOS	81.4		40 - 130	02/27/25 04:51	02/27/25 18:02	1
13C8 FOSA	74.3		40 - 130	02/27/25 04:51	02/27/25 18:02	1
d3-NMeFOSAA	75.8		40 - 135	02/27/25 04:51	02/27/25 18:02	1
d5-NEtFOSAA	90.0		40 - 150	02/27/25 04:51	02/27/25 18:02	1
13C2 4:2 FTS	152		40 - 165	02/27/25 04:51	02/27/25 18:02	1
13C2 6:2 FTS	148		40 - 215	02/27/25 04:51	02/27/25 18:02	1
13C2 8:2 FTS	115		40 - 275	02/27/25 04:51	02/27/25 18:02	1
13C3 HFPO-DA	85.6		40 - 130	02/27/25 04:51	02/27/25 18:02	1
d7-N-MeFOSE-M	74.7		20 - 130	02/27/25 04:51	02/27/25 18:02	1
d9-N-EtFOSE-M	48.7		15 - 130	02/27/25 04:51	02/27/25 18:02	1
d5-NEtPFOSA	66.2		10 - 130	02/27/25 04:51	02/27/25 18:02	1
d3-NMePFOSA	69.3		10 - 130	02/27/25 04:51	02/27/25 18:02	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	29	H	0.10	0.10	%			02/24/25 15:38	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118511-2
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(8-130)	(35-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)
320-118511-1	FIT-002-N-S000-01212025	99.7	109	104	88.2	96.4	81.7	81.9	86.3
320-118511-4	FIT-002-N-S006-01212025	99.9	112	99.2	96.8	78.7	83.9	84.9	77.5
320-118511-7	FIT-001-N-S000-01212025	96.1	118	117	86.3	71.2	71.2	81.0	93.3
320-118511-11	FIT-001-N-S005-01212025	79.8	74.3	78.0	57.1	59.3	67.2	61.4	66.7
320-118511-12	FIT-003-N-S000-01212025	101	105	94.8	86.8	66.5	85.5	84.3	84.6
320-118511-18	FIT-007-N-S000-01212025	104	138 *5+	116	105	80.0	89.2	77.9	77.8
320-118511-19	FIT-008-N-S000-01212025	101	97.2	112	98.3	81.3	77.0	75.6	95.6
320-118511-20	FIT-006-N-S000-01212025	91.0	83.3	84.2	81.8	64.9	75.8	67.7	76.2
320-118511-21	FIT-005-N-S000-01212025	93.6	112	108	87.8	79.8	80.7	78.3	91.7
320-118511-22	FIT-004-N-S000-01212025	90.8	95.5	92.5	73.8	79.7	77.5	70.5	72.5
320-118511-30	SRA-003-N-S000-01212025	83.2	94.0	85.5	70.2	61.9	64.5	66.3	59.6
320-118511-33	SRA-003-N-S006-01212025	97.8	77.7	93.9	87.2	81.0	77.2	82.1	84.3
320-118511-36	SRA-004A-N-S000-01212025	37.2	54.0	70.4	64.6	60.7	58.6	55.9	54.0
320-118511-40	SRA-004A-N-S006-01212025	91.7	97.4	85.8	98.5	89.0	84.0	81.3	93.1
320-118511-41	SRA-004B-N-S000-01212025	71.1	78.2	88.6	95.0	84.0	80.4	71.3	82.7
320-118511-41 - DL	SRA-004B-N-S000-01212025								
320-118511-42	SRA-007A-N-S006-01212025	81.6	96.9	90.0	99.2	94.0	87.0	81.8	82.8
320-118511-43	SRA-007B-N-S000-01212025	87.0	85.1	87.1	92.7	87.1	90.2	79.8	84.4
320-118511-44	SRA-006-N-S000-01212025	89.1	81.5	85.4	89.6	88.0	80.1	71.0	77.3
LCS 320-835593/3-A	Lab Control Sample	87.4	63.8	80.0	73.0	67.2	64.6	75.5	72.7
LCS 320-835793/3-A	Lab Control Sample	101	84.7	97.9	92.1	88.8	80.6	86.9	91.2
LCS 320-836121/3-A	Lab Control Sample	102	85.3	89.8	94.7	91.0	93.2	80.5	90.0
LCSD 320-835593/4-A	Lab Control Sample Dup	114	90.3	105	104	90.9	81.9	92.3	91.4
LCSD 320-835793/4-A	Lab Control Sample Dup	113	82.9	107	90.8	91.1	85.1	87.8	92.1
LCSD 320-836121/4-A	Lab Control Sample Dup	98.8	99.6	94.1	97.4	92.0	91.3	83.9	88.5
LLCS 320-835593/2-A	Lab Control Sample	111	79.2	107	96.9	87.9	78.7	90.2	86.5
LLCS 320-835793/2-A	Lab Control Sample	83.9	82.5	107	93.9	89.5	89.4	87.4	87.9
LLCS 320-836121/2-A	Lab Control Sample	73.9	96.8	86.1	91.9	87.8	93.5	88.2	102
MB 320-835593/1-A	Method Blank	115	81.7	104	91.9	88.5	86.2	90.2	87.2
MB 320-835793/1-A	Method Blank	106	84.8	108	87.9	87.0	84.8	88.1	87.2
MB 320-836121/1-A	Method Blank	99.9	96.6	93.2	89.5	91.2	91.5	87.4	90.4

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(40-130)	(20-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-135)	(40-150)
320-118511-1	FIT-002-N-S000-01212025	90.2	82.3	104	117	95.1	83.7	71.1	71.9
320-118511-4	FIT-002-N-S006-01212025	102	98.8	91.4	109	85.7	78.5	68.0	70.3
320-118511-7	FIT-001-N-S000-01212025	113	86.1	80.1	97.2	81.7	77.9	63.7	61.0
320-118511-11	FIT-001-N-S005-01212025	92.3	71.9	75.6	88.5	72.9	64.5	52.6	56.1
320-118511-12	FIT-003-N-S000-01212025	84.6	93.8	77.1	103	87.1	84.5	67.7	69.2
320-118511-18	FIT-007-N-S000-01212025	93.1	78.7	109	114	93.3	81.5	66.9	70.6
320-118511-19	FIT-008-N-S000-01212025	114	91.5	83.0	114	95.1	84.9	65.4	71.1
320-118511-20	FIT-006-N-S000-01212025	78.1	86.9	89.4	102	80.3	68.3	54.3	61.2
320-118511-21	FIT-005-N-S000-01212025	95.5	93.4	91.4	111	89.6	82.7	67.9	71.6
320-118511-22	FIT-004-N-S000-01212025	84.4	76.9	86.2	101	87.7	78.6	63.5	63.9
320-118511-30	SRA-003-N-S000-01212025	75.6	78.9	84.5	100	72.9	69.5	64.7	67.4
320-118511-33	SRA-003-N-S006-01212025	85.3	77.8	70.4	95.8	73.4	70.7	81.8	84.1
320-118511-36	SRA-004A-N-S000-01212025	52.7	42.9	55.5	69.4	55.1	48.7	54.4	54.5
320-118511-40	SRA-004A-N-S006-01212025	94.3	86.6	80.9	88.6	89.9	80.9	89.3	95.8
320-118511-41	SRA-004B-N-S000-01212025	79.2	85.0	77.8	80.7	89.7	86.5	68.5	82.3

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(40-130)	(20-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-135)	(40-150)
320-118511-41 - DL	SRA-004B-N-S000-01212025	78.1 *3							
320-118511-42	SRA-007A-N-S006-01212025	89.3	83.4	89.0	89.8	94.5	83.3	93.7	104
320-118511-43	SRA-007B-N-S000-01212025	78.3	89.8	83.1	85.4	92.1	78.7	83.4	78.8
320-118511-44	SRA-006-N-S000-01212025	81.9	89.3	84.5	79.6	81.4	74.3	75.8	90.0
LCS 320-835593/3-A	Lab Control Sample	81.2	73.7	68.8	79.7	61.4	60.8	68.3	73.6
LCS 320-835793/3-A	Lab Control Sample	92.6	85.4	83.0	101	86.2	80.3	94.2	98.2
LCS 320-836121/3-A	Lab Control Sample	92.2	92.3	93.3	93.4	92.7	77.9	87.3	99.3
LCSD 320-835593/4-A	Lab Control Sample Dup	92.9	80.9	78.4	102	85.9	84.8	94.8	94.1
LCSD 320-835793/4-A	Lab Control Sample Dup	92.8	92.4	86.3	106	81.6	76.8	87.8	90.5
LCSD 320-836121/4-A	Lab Control Sample Dup	93.1	88.9	81.3	90.4	87.7	80.8	94.4	95.4
LLCS 320-835593/2-A	Lab Control Sample	85.9	76.2	82.8	98.6	77.2	76.1	88.1	87.1
LLCS 320-835793/2-A	Lab Control Sample	95.5	93.1	80.8	105	82.6	79.1	88.2	91.0
LLCS 320-836121/2-A	Lab Control Sample	98.1	99.3	87.5	93.6	94.9	81.3	92.6	97.8
MB 320-835593/1-A	Method Blank	88.8	84.7	82.0	100	78.0	78.0	84.9	85.8
MB 320-835793/1-A	Method Blank	92.5	92.3	84.8	104	86.1	77.9	88.3	95.1
MB 320-836121/1-A	Method Blank	90.9	94.4	79.0	91.1	100	78.8	98.8	102

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-165)	(40-215)	(40-275)	(40-130)	(20-130)	(15-130)	(10-130)	(10-130)
320-118511-1	FIT-002-N-S000-01212025	92.6	110	78.6	107	86.6	76.7	76.3	79.5
320-118511-4	FIT-002-N-S006-01212025	99.1	87.4	80.8	98.2	82.6	77.9	71.4	71.4
320-118511-7	FIT-001-N-S000-01212025	89.3	92.3	70.4	107	83.6	73.9	82.4	81.5
320-118511-11	FIT-001-N-S005-01212025	80.9	74.2	63.7	75.7	73.5	69.9	55.9	57.9
320-118511-12	FIT-003-N-S000-01212025	64.6	82.6	81.3	96.2	83.2	79.5	84.1	85.4
320-118511-18	FIT-007-N-S000-01212025	117	89.4	104	114	84.9	81.8	72.1	73.5
320-118511-19	FIT-008-N-S000-01212025	78.6	76.5	74.5	91.2	89.4	79.0	67.0	73.1
320-118511-20	FIT-006-N-S000-01212025	72.5	75.7	77.7	68.1	76.3	70.3	59.3	65.8
320-118511-21	FIT-005-N-S000-01212025	86.9	89.9	66.7	96.0	92.8	88.6	86.5	87.1
320-118511-22	FIT-004-N-S000-01212025	89.7	71.2	72.4	82.7	79.8	74.6	61.8	64.6
320-118511-30	SRA-003-N-S000-01212025	79.6	79.1	60.2	70.1	81.0	77.7	62.2	64.6
320-118511-33	SRA-003-N-S006-01212025	94.9	91.7	87.3	69.9	70.5	72.8	74.1	75.1
320-118511-36	SRA-004A-N-S000-01212025	83.5	81.4	64.6	59.7	33.8	35.4	47.7	50.4
320-118511-40	SRA-004A-N-S006-01212025	111	109	106	88.4	79.7	50.6	76.4	84.5
320-118511-41	SRA-004B-N-S000-01212025	185 *5+	195	202	105	77.6	43.1	68.0	77.5
320-118511-41 - DL	SRA-004B-N-S000-01212025								
320-118511-42	SRA-007A-N-S006-01212025	116	110	96.5	88.5	83.5	51.9	80.1	87.3
320-118511-43	SRA-007B-N-S000-01212025	153	132	134	93.3	54.5	49.4	76.8	86.4
320-118511-44	SRA-006-N-S000-01212025	152	148	115	85.6	74.7	48.7	66.2	69.3
LCS 320-835593/3-A	Lab Control Sample	79.5	73.4	70.6	71.7	60.1	55.9	47.9	40.5
LCS 320-835793/3-A	Lab Control Sample	94.4	92.4	86.7	80.6	79.9	78.2	80.9	83.7
LCS 320-836121/3-A	Lab Control Sample	113	95.1	110	89.1	87.0	59.5	58.8	60.5
LCSD 320-835593/4-A	Lab Control Sample Dup	96.3	83.1	88.1	105	78.6	70.6	60.9	56.9
LCSD 320-835793/4-A	Lab Control Sample Dup	92.8	103	89.2	82.0	82.3	75.3	79.3	81.1
LCSD 320-836121/4-A	Lab Control Sample Dup	95.6	99.7	96.7	93.8	77.7	54.6	58.1	59.0
LLCS 320-835593/2-A	Lab Control Sample	89.8	86.7	86.3	94.4	69.5	64.7	57.2	51.8
LLCS 320-835793/2-A	Lab Control Sample	103	96.9	85.8	84.1	77.2	79.5	86.8	83.9
LLCS 320-836121/2-A	Lab Control Sample	113	100	101	85.5	89.4	62.8	81.7	82.9
MB 320-835593/1-A	Method Blank	89.0	95.3	87.7	97.7	76.6	67.4	55.3	52.6
MB 320-835793/1-A	Method Blank	91.8	93.7	94.1	82.4	78.7	75.9	80.9	85.5
MB 320-836121/1-A	Method Blank	112	91.5	101	88.4	85.3	60.8	55.7	56.2

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-2

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-835593/1-A
Matrix: Solid
Analysis Batch: 836020

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 835593

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-835593/1-A
Matrix: Solid
Analysis Batch: 836020

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 835593

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		02/25/25 12:35	02/26/25 13:55	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*115*		*8 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C5 PFPeA	*81.7*		*35 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C5 PFHxA	*104*		*40 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C4 PFHpA	*91.9*		*40 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C8 PFOA	*88.5*		*40 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C9 PFNA	*86.2*		*40 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C6 PFDA	*90.2*		*40 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C7 PFUnA	*87.2*		*40 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C2 PFDoA	*88.8*		*40 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C2 PFTeDA	*84.7*		*20 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C3 PFBS	*82.0*		*40 - 135*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C3 PFHxS	*100*		*40 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C8 PFOS	*78.0*		*40 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C8 FOSA	*78.0*		*40 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
d3-NMeFOSAA	*84.9*		*40 - 135*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
d5-NEtFOSAA	*85.8*		*40 - 150*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C2 4:2 FTS	*89.0*		*40 - 165*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C2 6:2 FTS	*95.3*		*40 - 215*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C2 8:2 FTS	*87.7*		*40 - 275*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C3 HFPO-DA	*97.7*		*40 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
d7-N-MeFOSE-M	*76.6*		*20 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
d9-N-EtFOSE-M	*67.4*		*15 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
d5-NEtPFOSA	*55.3*		*10 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
d3-NMePFOSA	*52.6*		*10 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*

Lab Sample ID: LCS 320-835593/3-A
Matrix: Solid
Analysis Batch: 836020

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835593

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.21		ug/Kg		84	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.54		ug/Kg		101	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.10		ug/Kg		84	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.37		ug/Kg		95	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.56		ug/Kg		103	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.53		ug/Kg		101	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.75		ug/Kg		110	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-835593/3-A
Matrix: Solid
Analysis Batch: 836020

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835593

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.69		ug/Kg		108	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.39		ug/Kg		96	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.66		ug/Kg		106	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.74		ug/Kg		110	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.20		ug/Kg		99	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.04		ug/Kg		87	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.99		ug/Kg		87	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.50		ug/Kg		105	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.28		ug/Kg		98	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.57		ug/Kg		107	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.35		ug/Kg		98	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.44		ug/Kg		101	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.38		ug/Kg		93	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.76		ug/Kg		100	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.72		ug/Kg		98	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.61		ug/Kg		105	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	3.05		ug/Kg		122	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.43		ug/Kg		97	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.44		ug/Kg		98	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.19		ug/Kg		88	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.4		ug/Kg		99	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	13.3		ug/Kg		106	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.85		ug/Kg		99	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.08		ug/Kg		88	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.30		ug/Kg		92	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.74		ug/Kg		110	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	1.89		ug/Kg		75	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-835593/3-A
Matrix: Solid
Analysis Batch: 836020

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835593

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.06		ug/Kg		88	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.09		ug/Kg		89	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.84		ug/Kg		82	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.04		ug/Kg		101	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	9.45		ug/Kg		76	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	9.79		ug/Kg		78	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*87.4*		*8 - 130*
13C5 PFPeA	*63.8*		*35 - 130*
13C5 PFHxA	*80.0*		*40 - 130*
13C4 PFHpA	*73.0*		*40 - 130*
13C8 PFOA	*67.2*		*40 - 130*
13C9 PFNA	*64.6*		*40 - 130*
13C6 PFDA	*75.5*		*40 - 130*
13C7 PFUnA	*72.7*		*40 - 130*
13C2 PFDoA	*81.2*		*40 - 130*
13C2 PFTeDA	*73.7*		*20 - 130*
13C3 PFBS	*68.8*		*40 - 135*
13C3 PFHxS	*79.7*		*40 - 130*
13C8 PFOS	*61.4*		*40 - 130*
13C8 FOSA	*60.8*		*40 - 130*
d3-NMeFOSAA	*68.3*		*40 - 135*
d5-NEtFOSAA	*73.6*		*40 - 150*
13C2 4:2 FTS	*79.5*		*40 - 165*
13C2 6:2 FTS	*73.4*		*40 - 215*
13C2 8:2 FTS	*70.6*		*40 - 275*
13C3 HFPO-DA	*71.7*		*40 - 130*
d7-N-MeFOSE-M	*60.1*		*20 - 130*
d9-N-EtFOSE-M	*55.9*		*15 - 130*
d5-NEtPFOSA	*47.9*		*10 - 130*
d3-NMePFOSA	*40.5*		*10 - 130*

Lab Sample ID: LCSD 320-835593/4-A
Matrix: Solid
Analysis Batch: 836020

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 835593

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.13		ug/Kg		83	70 - 140	2	30
Perfluoropentanoic acid (PFPeA)			2.50	2.69		ug/Kg		108	60 - 150	6	30
Perfluorohexanoic acid (PFHxA)			2.50	2.17		ug/Kg		87	65 - 140	4	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.35		ug/Kg		94	65 - 145	1	30
Perfluorooctanoic acid (PFOA)			2.50	2.69		ug/Kg		107	70 - 150	5	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-835593/4-A
Matrix: Solid
Analysis Batch: 836020

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 835593

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.72		ug/Kg		109	70 - 155	7	30
Perfluorodecanoic acid (PFDA)	2.50	2.67		ug/Kg		107	70 - 155	3	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.49		ug/Kg		99	70 - 155	8	30
Perfluorododecanoic acid (PFDoA)	2.50	2.59		ug/Kg		104	70 - 150	8	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.70		ug/Kg		108	65 - 150	1	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.88		ug/Kg		115	65 - 150	5	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.28		ug/Kg		103	65 - 145	4	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	1.96		ug/Kg		83	55 - 160	4	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.88		ug/Kg		82	60 - 150	6	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.40		ug/Kg		101	65 - 155	4	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.17		ug/Kg		93	65 - 160	5	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.53		ug/Kg		105	55 - 140	2	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.23		ug/Kg		93	40 - 155	5	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.29		ug/Kg		94	25 - 160	6	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.59		ug/Kg		98	60 - 150	5	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.92		ug/Kg		103	55 - 200	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.71		ug/Kg		98	70 - 150	0	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.58		ug/Kg		103	70 - 140	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.98		ug/Kg		119	70 - 155	2	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.53		ug/Kg		101	70 - 140	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.37		ug/Kg		95	65 - 155	3	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.33		ug/Kg		93	65 - 165	6	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.0		ug/Kg		96	70 - 140	3	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	13.3		ug/Kg		107	70 - 135	0	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.78		ug/Kg		95	70 - 145	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.14		ug/Kg		90	70 - 160	3	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.30		ug/Kg		92	30 - 140	0	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.85		ug/Kg		114	60 - 150	4	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-835593/4-A
Matrix: Solid
Analysis Batch: 836020

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 835593

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.32		ug/Kg		93	60 - 155	21	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.04		ug/Kg		87	70 - 150	1	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.02		ug/Kg		86	45 - 160	4	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.91		ug/Kg		86	70 - 140	4	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.19		ug/Kg		104	45 - 130	3	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.3		ug/Kg		82	60 - 130	8	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	10.4		ug/Kg		83	60 - 150	6	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*114*		*8 - 130*
13C5 PFPeA	*90.3*		*35 - 130*
13C5 PFHxA	*105*		*40 - 130*
13C4 PFHpA	*104*		*40 - 130*
13C8 PFOA	*90.9*		*40 - 130*
13C9 PFNA	*81.9*		*40 - 130*
13C6 PFDA	*92.3*		*40 - 130*
13C7 PFUnA	*91.4*		*40 - 130*
13C2 PFDoA	*92.9*		*40 - 130*
13C2 PFTeDA	*80.9*		*20 - 130*
13C3 PFBS	*78.4*		*40 - 135*
13C3 PFHxS	*102*		*40 - 130*
13C8 PFOS	*85.9*		*40 - 130*
13C8 FOSA	*84.8*		*40 - 130*
d3-NMeFOSAA	*94.8*		*40 - 135*
d5-NEtFOSAA	*94.1*		*40 - 150*
13C2 4:2 FTS	*96.3*		*40 - 165*
13C2 6:2 FTS	*83.1*		*40 - 215*
13C2 8:2 FTS	*88.1*		*40 - 275*
13C3 HFPO-DA	*105*		*40 - 130*
d7-N-MeFOSE-M	*78.6*		*20 - 130*
d9-N-EtFOSE-M	*70.6*		*15 - 130*
d5-NEtPFOSA	*60.9*		*10 - 130*
d3-NMePFOSA	*56.9*		*10 - 130*

Lab Sample ID: LLCS 320-835593/2-A
Matrix: Solid
Analysis Batch: 836020

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835593

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.714		ug/Kg		89	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.397		ug/Kg		99	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.316		ug/Kg		79	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-835593/2-A
Matrix: Solid
Analysis Batch: 836020

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835593

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.369		ug/Kg		92	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.393		ug/Kg		98	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.423		ug/Kg		106	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.423		ug/Kg		106	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.403		ug/Kg		101	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.384		ug/Kg		96	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.402		ug/Kg		101	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.414		ug/Kg		103	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.404		ug/Kg		114	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.302		ug/Kg		80	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.333		ug/Kg		91	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.397		ug/Kg		104	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.357		ug/Kg		96	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.389		ug/Kg		101	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.332		ug/Kg		86	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.329		ug/Kg		85	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.721		ug/Kg		96	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.726		ug/Kg		95	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.791		ug/Kg		103	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.413		ug/Kg		103	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.459		ug/Kg		115	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.396		ug/Kg		99	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.362		ug/Kg		90	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.386		ug/Kg		97	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.88		ug/Kg		94	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.01		ug/Kg		100	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.296		ug/Kg		99	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.305		ug/Kg		80	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.402		ug/Kg		101	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-835593/2-A
Matrix: Solid
Analysis Batch: 836020

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835593

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.400	0.456		ug/Kg		114	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.400	0.340		ug/Kg		85	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	0.374	0.325		ug/Kg		87	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	0.378	0.295		ug/Kg		78	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.357	0.290		ug/Kg		81	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.800	0.877		ug/Kg		110	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	2.00	1.53		ug/Kg		76	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	2.00	1.57		ug/Kg		78	60 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*111*		*8 - 130*
13C5 PFPeA	*79.2*		*35 - 130*
13C5 PFHxA	*107*		*40 - 130*
13C4 PFHpA	*96.9*		*40 - 130*
13C8 PFOA	*87.9*		*40 - 130*
13C9 PFNA	*78.7*		*40 - 130*
13C6 PFDA	*90.2*		*40 - 130*
13C7 PFUnA	*86.5*		*40 - 130*
13C2 PFDoA	*85.9*		*40 - 130*
13C2 PFTeDA	*76.2*		*20 - 130*
13C3 PFBS	*82.8*		*40 - 135*
13C3 PFHxS	*98.6*		*40 - 130*
13C8 PFOS	*77.2*		*40 - 130*
13C8 FOSA	*76.1*		*40 - 130*
d3-NMeFOSAA	*88.1*		*40 - 135*
d5-NEtFOSAA	*87.1*		*40 - 150*
13C2 4:2 FTS	*89.8*		*40 - 165*
13C2 6:2 FTS	*86.7*		*40 - 215*
13C2 8:2 FTS	*86.3*		*40 - 275*
13C3 HFPO-DA	*94.4*		*40 - 130*
d7-N-MeFOSE-M	*69.5*		*20 - 130*
d9-N-EtFOSE-M	*64.7*		*15 - 130*
d5-NEtPFOSA	*57.2*		*10 - 130*
d3-NMePFOSA	*51.8*		*10 - 130*

Lab Sample ID: MB 320-835793/1-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 835793

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		02/26/25 07:12	02/27/25 00:45	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-835793/1-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 835793

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-835793/1-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 835793

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		02/26/25 07:12	02/27/25 00:45	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*106*		*8 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C5 PFPeA	*84.8*		*35 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C5 PFHxA	*108*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C4 PFHpA	*87.9*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C8 PFOA	*87.0*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C9 PFNA	*84.8*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C6 PFDA	*88.1*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C7 PFUnA	*87.2*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C2 PFDoA	*92.5*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C2 PFTeDA	*92.3*		*20 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C3 PFBS	*84.8*		*40 - 135*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C3 PFHxS	*104*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C8 PFOS	*86.1*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C8 FOSA	*77.9*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
d3-NMeFOSAA	*88.3*		*40 - 135*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
d5-NEtFOSAA	*95.1*		*40 - 150*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C2 4:2 FTS	*91.8*		*40 - 165*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C2 6:2 FTS	*93.7*		*40 - 215*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C2 8:2 FTS	*94.1*		*40 - 275*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C3 HFPO-DA	*82.4*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
d7-N-MeFOSE-M	*78.7*		*20 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
d9-N-EtFOSE-M	*75.9*		*15 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
d5-NEtPFOSA	*80.9*		*10 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
d3-NMePFOSA	*85.5*		*10 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*

Lab Sample ID: LCS 320-835793/3-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835793

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.10		ug/Kg		82	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.46		ug/Kg		98	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.01		ug/Kg		81	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.36		ug/Kg		94	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.48		ug/Kg		99	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.54		ug/Kg		102	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.47		ug/Kg		99	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-835793/3-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835793

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.49		ug/Kg		100	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.33		ug/Kg		93	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.32		ug/Kg		93	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.63		ug/Kg		105	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.21		ug/Kg		100	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	1.98		ug/Kg		84	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.79		ug/Kg		79	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.17		ug/Kg		91	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.27		ug/Kg		98	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.25		ug/Kg		93	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.32		ug/Kg		96	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.23		ug/Kg		92	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.32		ug/Kg		92	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.44		ug/Kg		93	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.77		ug/Kg		99	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.40		ug/Kg		96	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.55		ug/Kg		102	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.41		ug/Kg		96	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.48		ug/Kg		99	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.34		ug/Kg		93	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.2		ug/Kg		90	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	10.7		ug/Kg		86	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.79		ug/Kg		95	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.34		ug/Kg		99	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.51		ug/Kg		100	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.54		ug/Kg		102	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.83		ug/Kg		113	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-835793/3-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835793

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.35		ug/Kg		101	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.28		ug/Kg		97	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.67		ug/Kg		75	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.61		ug/Kg		92	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	9.95		ug/Kg		80	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	8.87		ug/Kg		71	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*101*		*8 - 130*
13C5 PFPeA	*84.7*		*35 - 130*
13C5 PFHxA	*97.9*		*40 - 130*
13C4 PFHpA	*92.1*		*40 - 130*
13C8 PFOA	*88.8*		*40 - 130*
13C9 PFNA	*80.6*		*40 - 130*
13C6 PFDA	*86.9*		*40 - 130*
13C7 PFUnA	*91.2*		*40 - 130*
13C2 PFDoA	*92.6*		*40 - 130*
13C2 PFTeDA	*85.4*		*20 - 130*
13C3 PFBS	*83.0*		*40 - 135*
13C3 PFHxS	*101*		*40 - 130*
13C8 PFOS	*86.2*		*40 - 130*
13C8 FOSA	*80.3*		*40 - 130*
d3-NMeFOSAA	*94.2*		*40 - 135*
d5-NEtFOSAA	*98.2*		*40 - 150*
13C2 4:2 FTS	*94.4*		*40 - 165*
13C2 6:2 FTS	*92.4*		*40 - 215*
13C2 8:2 FTS	*86.7*		*40 - 275*
13C3 HFPO-DA	*80.6*		*40 - 130*
d7-N-MeFOSE-M	*79.9*		*20 - 130*
d9-N-EtFOSE-M	*78.2*		*15 - 130*
d5-NEtPFOSA	*80.9*		*10 - 130*
d3-NMePFOSA	*83.7*		*10 - 130*

Lab Sample ID: LCSD 320-835793/4-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 835793

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.17		ug/Kg		83	70 - 140	2	30
Perfluoropentanoic acid (PFPeA)			2.50	2.57		ug/Kg		103	60 - 150	4	30
Perfluorohexanoic acid (PFHxA)			2.50	2.17		ug/Kg		87	65 - 140	7	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.35		ug/Kg		94	65 - 145	0	30
Perfluorooctanoic acid (PFOA)			2.50	2.58		ug/Kg		103	70 - 150	4	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-835793/4-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 835793

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.75		ug/Kg		110	70 - 155	8	30
Perfluorodecanoic acid (PFDA)	2.50	2.45		ug/Kg		98	70 - 155	1	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.41		ug/Kg		96	70 - 155	3	30
Perfluorododecanoic acid (PFDoA)	2.50	2.32		ug/Kg		93	70 - 150	0	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.27		ug/Kg		91	65 - 150	3	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.56		ug/Kg		102	65 - 150	3	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.23		ug/Kg		100	65 - 145	1	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.01		ug/Kg		86	55 - 160	2	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.90		ug/Kg		83	60 - 150	6	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.34		ug/Kg		98	65 - 155	8	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.32		ug/Kg		100	65 - 160	2	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.35		ug/Kg		98	55 - 140	4	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.27		ug/Kg		94	40 - 155	2	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.34		ug/Kg		97	25 - 160	5	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	5.20		ug/Kg		111	60 - 150	18	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.46		ug/Kg		94	55 - 200	0	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.79		ug/Kg		100	70 - 150	0	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.49		ug/Kg		100	70 - 140	4	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.70		ug/Kg		108	70 - 155	6	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.37		ug/Kg		95	70 - 140	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.62		ug/Kg		105	65 - 155	6	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.32		ug/Kg		93	65 - 165	1	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.6		ug/Kg		93	70 - 140	4	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	11.5		ug/Kg		92	70 - 135	7	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.91		ug/Kg		102	70 - 145	7	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.33		ug/Kg		98	70 - 160	0	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.61		ug/Kg		104	30 - 140	4	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.46		ug/Kg		98	60 - 150	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-835793/4-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 835793

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	1.61	*1	ug/Kg		64	60 - 155	55	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.33		ug/Kg		100	70 - 150	1	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.26		ug/Kg		96	45 - 160	1	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.67		ug/Kg		75	70 - 140	0	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.09		ug/Kg		102	45 - 130	10	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	8.88		ug/Kg		71	60 - 130	11	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	8.20		ug/Kg		66	60 - 150	8	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*113*		*8 - 130*
13C5 PFPeA	*82.9*		*35 - 130*
13C5 PFHxA	*107*		*40 - 130*
13C4 PFHpA	*90.8*		*40 - 130*
13C8 PFOA	*91.1*		*40 - 130*
13C9 PFNA	*85.1*		*40 - 130*
13C6 PFDA	*87.8*		*40 - 130*
13C7 PFUnA	*92.1*		*40 - 130*
13C2 PFDoA	*92.8*		*40 - 130*
13C2 PFTeDA	*92.4*		*20 - 130*
13C3 PFBS	*86.3*		*40 - 135*
13C3 PFHxS	*106*		*40 - 130*
13C8 PFOS	*81.6*		*40 - 130*
13C8 FOSA	*76.8*		*40 - 130*
d3-NMeFOSAA	*87.8*		*40 - 135*
d5-NEtFOSAA	*90.5*		*40 - 150*
13C2 4:2 FTS	*92.8*		*40 - 165*
13C2 6:2 FTS	*103*		*40 - 215*
13C2 8:2 FTS	*89.2*		*40 - 275*
13C3 HFPO-DA	*82.0*		*40 - 130*
d7-N-MeFOSE-M	*82.3*		*20 - 130*
d9-N-EtFOSE-M	*75.3*		*15 - 130*
d5-NEtPFOSA	*79.3*		*10 - 130*
d3-NMePFOSA	*81.1*		*10 - 130*

Lab Sample ID: LLCS 320-835793/2-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835793

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.781		ug/Kg		98	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.466		ug/Kg		116	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.346		ug/Kg		86	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-835793/2-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835793

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.405		ug/Kg		101	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.389		ug/Kg		97	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.404		ug/Kg		101	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.432		ug/Kg		108	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.429		ug/Kg		107	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.354		ug/Kg		88	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.399		ug/Kg		100	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.404		ug/Kg		101	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.368		ug/Kg		104	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.344		ug/Kg		91	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.328		ug/Kg		90	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.375		ug/Kg		98	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.381		ug/Kg		102	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.371		ug/Kg		96	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.374		ug/Kg		97	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.346		ug/Kg		89	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.730		ug/Kg		97	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.774		ug/Kg		102	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.786		ug/Kg		102	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.399		ug/Kg		100	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.429		ug/Kg		107	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.385		ug/Kg		96	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.420		ug/Kg		105	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.398		ug/Kg		100	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.87		ug/Kg		93	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	1.69		ug/Kg		85	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.328		ug/Kg		109	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.400		ug/Kg		106	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.404		ug/Kg		101	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-835793/2-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835793

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.468		ug/Kg		117	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.326		ug/Kg		81	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.387		ug/Kg		104	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.384		ug/Kg		102	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.268		ug/Kg		75	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.644		ug/Kg		81	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	1.58		ug/Kg		79	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	1.48		ug/Kg		74	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*83.9*		*8 - 130*
13C5 PFPeA	*82.5*		*35 - 130*
13C5 PFHxA	*107*		*40 - 130*
13C4 PFHpA	*93.9*		*40 - 130*
13C8 PFOA	*89.5*		*40 - 130*
13C9 PFNA	*89.4*		*40 - 130*
13C6 PFDA	*87.4*		*40 - 130*
13C7 PFUnA	*87.9*		*40 - 130*
13C2 PFDoA	*95.5*		*40 - 130*
13C2 PFTeDA	*93.1*		*20 - 130*
13C3 PFBS	*80.8*		*40 - 135*
13C3 PFHxS	*105*		*40 - 130*
13C8 PFOS	*82.6*		*40 - 130*
13C8 FOSA	*79.1*		*40 - 130*
d3-NMeFOSAA	*88.2*		*40 - 135*
d5-NEtFOSAA	*91.0*		*40 - 150*
13C2 4:2 FTS	*103*		*40 - 165*
13C2 6:2 FTS	*96.9*		*40 - 215*
13C2 8:2 FTS	*85.8*		*40 - 275*
13C3 HFPO-DA	*84.1*		*40 - 130*
d7-N-MeFOSE-M	*77.2*		*20 - 130*
d9-N-EtFOSE-M	*79.5*		*15 - 130*
d5-NEtPFOSA	*86.8*		*10 - 130*
d3-NMePFOSA	*83.9*		*10 - 130*

Lab Sample ID: MB 320-836121/1-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 836121

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		02/27/25 04:51	02/27/25 15:50	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-836121/1-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 836121

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-836121/1-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 836121

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		02/27/25 04:51	02/27/25 15:50	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99.9*		*8 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C5 PFPeA	*96.6*		*35 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C5 PFHxA	*93.2*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C4 PFHpA	*89.5*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C8 PFOA	*91.2*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C9 PFNA	*91.5*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C6 PFDA	*87.4*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C7 PFUnA	*90.4*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C2 PFDoA	*90.9*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C2 PFTeDA	*94.4*		*20 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C3 PFBS	*79.0*		*40 - 135*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C3 PFHxS	*91.1*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C8 PFOS	*100*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C8 FOSA	*78.8*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
d3-NMeFOSAA	*98.8*		*40 - 135*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
d5-NEtFOSAA	*102*		*40 - 150*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C2 4:2 FTS	*112*		*40 - 165*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C2 6:2 FTS	*91.5*		*40 - 215*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C2 8:2 FTS	*101*		*40 - 275*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C3 HFPO-DA	*88.4*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
d7-N-MeFOSE-M	*85.3*		*20 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
d9-N-EtFOSE-M	*60.8*		*15 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
d5-NEtPFOSA	*55.7*		*10 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
d3-NMePFOSA	*56.2*		*10 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*

Lab Sample ID: LCS 320-836121/3-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836121

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	5.18		ug/Kg		104	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.78		ug/Kg		111	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.78		ug/Kg		111	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.82		ug/Kg		113	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.70		ug/Kg		108	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.61		ug/Kg		104	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	3.06		ug/Kg		122	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-836121/3-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836121

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.75		ug/Kg		110	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.67		ug/Kg		107	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.57		ug/Kg		103	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.56		ug/Kg		102	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.10		ug/Kg		95	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.61		ug/Kg		111	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.52		ug/Kg		110	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.25		ug/Kg		94	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.26		ug/Kg		97	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.27		ug/Kg		94	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.38		ug/Kg		99	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.29		ug/Kg		95	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.00		ug/Kg		85	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	5.09		ug/Kg		107	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.65		ug/Kg		97	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.61		ug/Kg		104	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.85		ug/Kg		114	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.71		ug/Kg		108	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.88		ug/Kg		115	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.58		ug/Kg		103	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.2		ug/Kg		90	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	14.3		ug/Kg		114	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.91		ug/Kg		102	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.63		ug/Kg		111	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.72		ug/Kg		109	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.91		ug/Kg		116	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.38		ug/Kg		95	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-836121/3-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836121

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.56		ug/Kg		110	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.46		ug/Kg		104	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.20		ug/Kg		99	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.21		ug/Kg		104	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.7		ug/Kg		93	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*102*		*8 - 130*
13C5 PFPeA	*85.3*		*35 - 130*
13C5 PFHxA	*89.8*		*40 - 130*
13C4 PFHpA	*94.7*		*40 - 130*
13C8 PFOA	*91.0*		*40 - 130*
13C9 PFNA	*93.2*		*40 - 130*
13C6 PFDA	*80.5*		*40 - 130*
13C7 PFUnA	*90.0*		*40 - 130*
13C2 PFDoA	*92.2*		*40 - 130*
13C2 PFTeDA	*92.3*		*20 - 130*
13C3 PFBS	*93.3*		*40 - 135*
13C3 PFHxS	*93.4*		*40 - 130*
13C8 PFOS	*92.7*		*40 - 130*
13C8 FOSA	*77.9*		*40 - 130*
d3-NMeFOSAA	*87.3*		*40 - 135*
d5-NEtFOSAA	*99.3*		*40 - 150*
13C2 4:2 FTS	*113*		*40 - 165*
13C2 6:2 FTS	*95.1*		*40 - 215*
13C2 8:2 FTS	*110*		*40 - 275*
13C3 HFPO-DA	*89.1*		*40 - 130*
d7-N-MeFOSE-M	*87.0*		*20 - 130*
d9-N-EtFOSE-M	*59.5*		*15 - 130*
d5-NEtPFOSA	*58.8*		*10 - 130*
d3-NMePFOSA	*60.5*		*10 - 130*

Lab Sample ID: LCSD 320-836121/4-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 836121

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	5.25		ug/Kg		105	70 - 140	1	30
Perfluoropentanoic acid (PFPeA)			2.50	2.86		ug/Kg		115	60 - 150	3	30
Perfluorohexanoic acid (PFHxA)			2.50	2.93		ug/Kg		117	65 - 140	5	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.87		ug/Kg		115	65 - 145	2	30
Perfluorooctanoic acid (PFOA)			2.50	2.57		ug/Kg		103	70 - 150	5	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-836121/4-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 836121

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.62		ug/Kg		105	70 - 155	0	30
Perfluorodecanoic acid (PFDA)	2.50	2.86		ug/Kg		115	70 - 155	7	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.74		ug/Kg		110	70 - 155	0	30
Perfluorododecanoic acid (PFDoA)	2.50	2.55		ug/Kg		102	70 - 150	4	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.59		ug/Kg		103	65 - 150	1	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.70		ug/Kg		108	65 - 150	5	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.36		ug/Kg		107	65 - 145	12	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.56		ug/Kg		109	55 - 160	2	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.38		ug/Kg		104	60 - 150	6	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.35		ug/Kg		99	65 - 155	5	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.35		ug/Kg		101	65 - 160	4	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.25		ug/Kg		94	55 - 140	0	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.49		ug/Kg		103	40 - 155	5	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.44		ug/Kg		101	25 - 160	6	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	5.21		ug/Kg		111	60 - 150	26	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.91		ug/Kg		103	55 - 200	4	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.64		ug/Kg		97	70 - 150	0	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.45		ug/Kg		98	70 - 140	6	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.72		ug/Kg		109	70 - 155	5	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.59		ug/Kg		104	70 - 140	5	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.69		ug/Kg		108	65 - 155	7	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.55		ug/Kg		102	65 - 165	1	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.6		ug/Kg		93	70 - 140	3	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	14.8		ug/Kg		119	70 - 135	4	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	2.04		ug/Kg		109	70 - 145	7	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.46		ug/Kg		104	70 - 160	7	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.59		ug/Kg		103	30 - 140	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.64		ug/Kg		105	60 - 150	10	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-836121/4-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 836121

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.94		ug/Kg		117	60 - 155	21	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.51		ug/Kg		108	70 - 150	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.40		ug/Kg		102	45 - 160	3	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.06		ug/Kg		92	70 - 140	7	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.62		ug/Kg		92	45 - 130	12	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	12.0		ug/Kg		96	60 - 130	3	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 150	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*98.8*		*8 - 130*
13C5 PFPeA	*99.6*		*35 - 130*
13C5 PFHxA	*94.1*		*40 - 130*
13C4 PFHpA	*97.4*		*40 - 130*
13C8 PFOA	*92.0*		*40 - 130*
13C9 PFNA	*91.3*		*40 - 130*
13C6 PFDA	*83.9*		*40 - 130*
13C7 PFUnA	*88.5*		*40 - 130*
13C2 PFDoA	*93.1*		*40 - 130*
13C2 PFTeDA	*88.9*		*20 - 130*
13C3 PFBS	*81.3*		*40 - 135*
13C3 PFHxS	*90.4*		*40 - 130*
13C8 PFOS	*87.7*		*40 - 130*
13C8 FOSA	*80.8*		*40 - 130*
d3-NMeFOSAA	*94.4*		*40 - 135*
d5-NEtFOSAA	*95.4*		*40 - 150*
13C2 4:2 FTS	*95.6*		*40 - 165*
13C2 6:2 FTS	*99.7*		*40 - 215*
13C2 8:2 FTS	*96.7*		*40 - 275*
13C3 HFPO-DA	*93.8*		*40 - 130*
d7-N-MeFOSE-M	*77.7*		*20 - 130*
d9-N-EtFOSE-M	*54.6*		*15 - 130*
d5-NEtPFOSA	*58.1*		*10 - 130*
d3-NMePFOSA	*59.0*		*10 - 130*

Lab Sample ID: LLCS 320-836121/2-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836121

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.882		ug/Kg		110	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.390		ug/Kg		97	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.486		ug/Kg		121	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-836121/2-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836121

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.426		ug/Kg		107	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.445		ug/Kg		111	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.390		ug/Kg		97	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.514		ug/Kg		128	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.455		ug/Kg		114	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.470		ug/Kg		117	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.460		ug/Kg		115	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.446		ug/Kg		112	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.336		ug/Kg		95	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.388		ug/Kg		103	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.399		ug/Kg		109	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.367		ug/Kg		96	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.384		ug/Kg		103	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.373		ug/Kg		97	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.376		ug/Kg		97	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.356		ug/Kg		92	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.580		ug/Kg		77	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.907		ug/Kg		119	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.801		ug/Kg		104	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.423		ug/Kg		106	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.442		ug/Kg		111	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.420		ug/Kg		105	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.438		ug/Kg		110	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.422		ug/Kg		106	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.78		ug/Kg		89	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.33		ug/Kg		116	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.343		ug/Kg		114	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.416		ug/Kg		110	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.356		ug/Kg		89	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-836121/2-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836121

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.400	0.376		ug/Kg		94	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.400	0.436		ug/Kg		109	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	0.374	0.413		ug/Kg		111	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	0.378	0.430		ug/Kg		114	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.357	0.382		ug/Kg		107	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.800	0.504		ug/Kg		63	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	2.00	2.01		ug/Kg		101	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	2.00	1.97		ug/Kg		98	60 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*73.9*		*8 - 130*
13C5 PFPeA	*96.8*		*35 - 130*
13C5 PFHxA	*86.1*		*40 - 130*
13C4 PFHpA	*91.9*		*40 - 130*
13C8 PFOA	*87.8*		*40 - 130*
13C9 PFNA	*93.5*		*40 - 130*
13C6 PFDA	*88.2*		*40 - 130*
13C7 PFUnA	*102*		*40 - 130*
13C2 PFDoA	*98.1*		*40 - 130*
13C2 PFTeDA	*99.3*		*20 - 130*
13C3 PFBS	*87.5*		*40 - 135*
13C3 PFHxS	*93.6*		*40 - 130*
13C8 PFOS	*94.9*		*40 - 130*
13C8 FOSA	*81.3*		*40 - 130*
d3-NMeFOSAA	*92.6*		*40 - 135*
d5-NEtFOSAA	*97.8*		*40 - 150*
13C2 4:2 FTS	*113*		*40 - 165*
13C2 6:2 FTS	*100*		*40 - 215*
13C2 8:2 FTS	*101*		*40 - 275*
13C3 HFPO-DA	*85.5*		*40 - 130*
d7-N-MeFOSE-M	*89.4*		*20 - 130*
d9-N-EtFOSE-M	*62.8*		*15 - 130*
d5-NEtPFOSA	*81.7*		*10 - 130*
d3-NMePFOSA	*82.9*		*10 - 130*

Client: GSI Environmental Inc
Job ID: 320-118511-2
Project/Site: Spokane International Airport

Method: 1633 - Percent Moisture

Lab Sample ID: 320-118511-4 DU
Client Sample ID: FIT-002-N-S006-01212025
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 834698

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	3.9	H		3.6		%				8	20

Lab Sample ID: 320-118511-33 DU
Client Sample ID: SRA-003-N-S006-01212025
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 835381

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	5.5	H		5.3		%				2	20

LCMS

Prep Batch: 835593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-1	FIT-002-N-S000-01212025	Total/NA	Solid	1633 Shake	
320-118511-4	FIT-002-N-S006-01212025	Total/NA	Solid	1633 Shake	
320-118511-7	FIT-001-N-S000-01212025	Total/NA	Solid	1633 Shake	
320-118511-11	FIT-001-N-S005-01212025	Total/NA	Solid	1633 Shake	
320-118511-12	FIT-003-N-S000-01212025	Total/NA	Solid	1633 Shake	
320-118511-18	FIT-007-N-S000-01212025	Total/NA	Solid	1633 Shake	
320-118511-19	FIT-008-N-S000-01212025	Total/NA	Solid	1633 Shake	
320-118511-20	FIT-006-N-S000-01212025	Total/NA	Solid	1633 Shake	
320-118511-21	FIT-005-N-S000-01212025	Total/NA	Solid	1633 Shake	
320-118511-22	FIT-004-N-S000-01212025	Total/NA	Solid	1633 Shake	
320-118511-30	SRA-003-N-S000-01212025	Total/NA	Solid	1633 Shake	
MB 320-835593/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-835593/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-835593/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-835593/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 835755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-1	FIT-002-N-S000-01212025	Total/NA	Solid	1633	835593
320-118511-4	FIT-002-N-S006-01212025	Total/NA	Solid	1633	835593
320-118511-7	FIT-001-N-S000-01212025	Total/NA	Solid	1633	835593
320-118511-11	FIT-001-N-S005-01212025	Total/NA	Solid	1633	835593
320-118511-12	FIT-003-N-S000-01212025	Total/NA	Solid	1633	835593
320-118511-18	FIT-007-N-S000-01212025	Total/NA	Solid	1633	835593
320-118511-19	FIT-008-N-S000-01212025	Total/NA	Solid	1633	835593
320-118511-20	FIT-006-N-S000-01212025	Total/NA	Solid	1633	835593
320-118511-21	FIT-005-N-S000-01212025	Total/NA	Solid	1633	835593
320-118511-22	FIT-004-N-S000-01212025	Total/NA	Solid	1633	835593
320-118511-30	SRA-003-N-S000-01212025	Total/NA	Solid	1633	835593

Prep Batch: 835793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-33	SRA-003-N-S006-01212025	Total/NA	Solid	1633 Shake	
320-118511-36	SRA-004A-N-S000-01212025	Total/NA	Solid	1633 Shake	
MB 320-835793/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-835793/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-835793/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-835793/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 836020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-835593/1-A	Method Blank	Total/NA	Solid	1633	835593
LCS 320-835593/3-A	Lab Control Sample	Total/NA	Solid	1633	835593
LCSD 320-835593/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	835593
LLCS 320-835593/2-A	Lab Control Sample	Total/NA	Solid	1633	835593

Analysis Batch: 836090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-33	SRA-003-N-S006-01212025	Total/NA	Solid	1633	835793
320-118511-36	SRA-004A-N-S000-01212025	Total/NA	Solid	1633	835793
MB 320-835793/1-A	Method Blank	Total/NA	Solid	1633	835793

LCMS (Continued)

Analysis Batch: 836090 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 320-835793/3-A	Lab Control Sample	Total/NA	Solid	1633	835793
LCSD 320-835793/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	835793
LLCS 320-835793/2-A	Lab Control Sample	Total/NA	Solid	1633	835793

Prep Batch: 836121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-40	SRA-004A-N-S006-01212025	Total/NA	Solid	1633 Shake	
320-118511-41	SRA-004B-N-S000-01212025	Total/NA	Solid	1633 Shake	
320-118511-41 - DL	SRA-004B-N-S000-01212025	Total/NA	Solid	1633 Shake	
320-118511-42	SRA-007A-N-S006-01212025	Total/NA	Solid	1633 Shake	
320-118511-43	SRA-007B-N-S000-01212025	Total/NA	Solid	1633 Shake	
320-118511-44	SRA-006-N-S000-01212025	Total/NA	Solid	1633 Shake	
MB 320-836121/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-836121/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-836121/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-836121/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 836290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-40	SRA-004A-N-S006-01212025	Total/NA	Solid	1633	836121
320-118511-41	SRA-004B-N-S000-01212025	Total/NA	Solid	1633	836121
320-118511-42	SRA-007A-N-S006-01212025	Total/NA	Solid	1633	836121
320-118511-43	SRA-007B-N-S000-01212025	Total/NA	Solid	1633	836121
320-118511-44	SRA-006-N-S000-01212025	Total/NA	Solid	1633	836121
MB 320-836121/1-A	Method Blank	Total/NA	Solid	1633	836121
LCS 320-836121/3-A	Lab Control Sample	Total/NA	Solid	1633	836121
LCSD 320-836121/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	836121
LLCS 320-836121/2-A	Lab Control Sample	Total/NA	Solid	1633	836121

Analysis Batch: 836607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-41 - DL	SRA-004B-N-S000-01212025	Total/NA	Solid	1633	836121

General Chemistry

Analysis Batch: 834698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-1	FIT-002-N-S000-01212025	Total/NA	Solid	1633	
320-118511-4	FIT-002-N-S006-01212025	Total/NA	Solid	1633	
320-118511-7	FIT-001-N-S000-01212025	Total/NA	Solid	1633	
320-118511-11	FIT-001-N-S005-01212025	Total/NA	Solid	1633	
320-118511-12	FIT-003-N-S000-01212025	Total/NA	Solid	1633	
320-118511-18	FIT-007-N-S000-01212025	Total/NA	Solid	1633	
320-118511-19	FIT-008-N-S000-01212025	Total/NA	Solid	1633	
320-118511-4 DU	FIT-002-N-S006-01212025	Total/NA	Solid	1633	

Analysis Batch: 835381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-20	FIT-006-N-S000-01212025	Total/NA	Solid	1633	
320-118511-21	FIT-005-N-S000-01212025	Total/NA	Solid	1633	
320-118511-22	FIT-004-N-S000-01212025	Total/NA	Solid	1633	

General Chemistry (Continued)

Analysis Batch: 835381 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-30	SRA-003-N-S000-01212025	Total/NA	Solid	1633	
320-118511-33	SRA-003-N-S006-01212025	Total/NA	Solid	1633	
320-118511-36	SRA-004A-N-S000-01212025	Total/NA	Solid	1633	
320-118511-40	SRA-004A-N-S006-01212025	Total/NA	Solid	1633	
320-118511-41	SRA-004B-N-S000-01212025	Total/NA	Solid	1633	
320-118511-42	SRA-007A-N-S006-01212025	Total/NA	Solid	1633	
320-118511-43	SRA-007B-N-S000-01212025	Total/NA	Solid	1633	
320-118511-44	SRA-006-N-S000-01212025	Total/NA	Solid	1633	
320-118511-33 DU	SRA-003-N-S006-01212025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-2

Client Sample ID: FIT-002-N-S000-01212025
Lab Sample ID: 320-118511-1
Date Collected: 01/21/25 07:25
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834698	02/20/25 15:17	CFR	EET SAC

Client Sample ID: FIT-002-N-S000-01212025
Lab Sample ID: 320-118511-1
Date Collected: 01/21/25 07:25
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 91.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.20 g	5.0 mL	835593	02/25/25 12:35	WVD	EET SAC
Total/NA	Analysis	1633		1			835755	02/26/25 05:09	AJM	EET SAC

Client Sample ID: FIT-002-N-S006-01212025
Lab Sample ID: 320-118511-4
Date Collected: 01/21/25 07:40
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834698	02/20/25 15:17	CFR	EET SAC

Client Sample ID: FIT-002-N-S006-01212025
Lab Sample ID: 320-118511-4
Date Collected: 01/21/25 07:40
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 96.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.11 g	5.0 mL	835593	02/25/25 12:35	WVD	EET SAC
Total/NA	Analysis	1633		1			835755	02/26/25 05:26	AJM	EET SAC

Client Sample ID: FIT-001-N-S000-01212025
Lab Sample ID: 320-118511-7
Date Collected: 01/21/25 08:40
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834698	02/20/25 15:17	CFR	EET SAC

Client Sample ID: FIT-001-N-S000-01212025
Lab Sample ID: 320-118511-7
Date Collected: 01/21/25 08:40
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 91.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.20 g	5.0 mL	835593	02/25/25 12:35	WVD	EET SAC
Total/NA	Analysis	1633		1			835755	02/26/25 05:42	AJM	EET SAC

Client Sample ID: FIT-001-N-S005-01212025
Lab Sample ID: 320-118511-11
Date Collected: 01/21/25 08:55
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834698	02/20/25 15:17	CFR	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-2

Client Sample ID: FIT-001-N-S005-01212025
Lab Sample ID: 320-118511-11
Date Collected: 01/21/25 08:55
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 95.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.14 g	5.0 mL	835593	02/25/25 12:35	WVD	EET SAC
Total/NA	Analysis	1633		1			835755	02/26/25 05:59	AJM	EET SAC

Client Sample ID: FIT-003-N-S000-01212025
Lab Sample ID: 320-118511-12
Date Collected: 01/21/25 09:35
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834698	02/20/25 15:17	CFR	EET SAC

Client Sample ID: FIT-003-N-S000-01212025
Lab Sample ID: 320-118511-12
Date Collected: 01/21/25 09:35
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 93.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.11 g	5.0 mL	835593	02/25/25 12:35	WVD	EET SAC
Total/NA	Analysis	1633		1			835755	02/26/25 06:15	AJM	EET SAC

Client Sample ID: FIT-007-N-S000-01212025
Lab Sample ID: 320-118511-18
Date Collected: 01/21/25 10:10
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834698	02/20/25 15:17	CFR	EET SAC

Client Sample ID: FIT-007-N-S000-01212025
Lab Sample ID: 320-118511-18
Date Collected: 01/21/25 10:10
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 95.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.18 g	5.0 mL	835593	02/25/25 12:35	WVD	EET SAC
Total/NA	Analysis	1633		1			835755	02/26/25 07:04	AJM	EET SAC

Client Sample ID: FIT-008-N-S000-01212025
Lab Sample ID: 320-118511-19
Date Collected: 01/21/25 10:30
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834698	02/20/25 15:17	CFR	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-2

Client Sample ID: FIT-008-N-S000-01212025
Lab Sample ID: 320-118511-19
Date Collected: 01/21/25 10:30
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 89.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.21 g	5.0 mL	835593	02/25/25 12:35	WVD	EET SAC
Total/NA	Analysis	1633		1			835755	02/26/25 07:21	AJM	EET SAC

Client Sample ID: FIT-006-N-S000-01212025
Lab Sample ID: 320-118511-20
Date Collected: 01/21/25 11:11
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			835381	02/24/25 15:38	CFR	EET SAC

Client Sample ID: FIT-006-N-S000-01212025
Lab Sample ID: 320-118511-20
Date Collected: 01/21/25 11:11
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 93.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.12 g	5.0 mL	835593	02/25/25 12:35	WVD	EET SAC
Total/NA	Analysis	1633		1			835755	02/26/25 07:37	AJM	EET SAC

Client Sample ID: FIT-005-N-S000-01212025
Lab Sample ID: 320-118511-21
Date Collected: 01/21/25 11:06
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			835381	02/24/25 15:38	CFR	EET SAC

Client Sample ID: FIT-005-N-S000-01212025
Lab Sample ID: 320-118511-21
Date Collected: 01/21/25 11:06
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 95.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.14 g	5.0 mL	835593	02/25/25 12:35	WVD	EET SAC
Total/NA	Analysis	1633		1			835755	02/26/25 07:54	AJM	EET SAC

Client Sample ID: FIT-004-N-S000-01212025
Lab Sample ID: 320-118511-22
Date Collected: 01/21/25 11:00
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			835381	02/24/25 15:38	CFR	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-2

Client Sample ID: FIT-004-N-S000-01212025
Lab Sample ID: 320-118511-22
Date Collected: 01/21/25 11:00
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 92.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.20 g	5.0 mL	835593	02/25/25 12:35	WVD	EET SAC
Total/NA	Analysis	1633		1			835755	02/26/25 08:10	AJM	EET SAC

Client Sample ID: SRA-003-N-S000-01212025
Lab Sample ID: 320-118511-30
Date Collected: 01/21/25 13:00
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			835381	02/24/25 15:38	CFR	EET SAC

Client Sample ID: SRA-003-N-S000-01212025
Lab Sample ID: 320-118511-30
Date Collected: 01/21/25 13:00
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 88.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.23 g	5.0 mL	835593	02/25/25 12:35	WVD	EET SAC
Total/NA	Analysis	1633		1			835755	02/26/25 08:27	AJM	EET SAC

Client Sample ID: SRA-003-N-S006-01212025
Lab Sample ID: 320-118511-33
Date Collected: 01/21/25 13:15
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			835381	02/24/25 15:38	CFR	EET SAC

Client Sample ID: SRA-003-N-S006-01212025
Lab Sample ID: 320-118511-33
Date Collected: 01/21/25 13:15
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 94.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.15 g	5.0 mL	835793	02/26/25 07:12	BMS	EET SAC
Total/NA	Analysis	1633		1			836090	02/27/25 05:58	K1D	EET SAC

Client Sample ID: SRA-004A-N-S000-01212025
Lab Sample ID: 320-118511-36
Date Collected: 01/21/25 14:00
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			835381	02/24/25 15:38	CFR	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-2

Client Sample ID: SRA-004A-N-S000-01212025
Lab Sample ID: 320-118511-36
Date Collected: 01/21/25 14:00
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 79.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.51 g	5.0 mL	835793	02/26/25 07:12	BMS	EET SAC
Total/NA	Analysis	1633		1			836090	02/27/25 06:15	K1D	EET SAC

Client Sample ID: SRA-004A-N-S006-01212025
Lab Sample ID: 320-118511-40
Date Collected: 01/21/25 14:15
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			835381	02/24/25 15:38	CFR	EET SAC

Client Sample ID: SRA-004A-N-S006-01212025
Lab Sample ID: 320-118511-40
Date Collected: 01/21/25 14:15
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 73.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.72 g	5.0 mL	836121	02/27/25 04:51	SJ	EET SAC
Total/NA	Analysis	1633		1			836290	02/27/25 16:56	C1P	EET SAC

Client Sample ID: SRA-004B-N-S000-01212025
Lab Sample ID: 320-118511-41
Date Collected: 01/21/25 14:50
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			835381	02/24/25 15:38	CFR	EET SAC

Client Sample ID: SRA-004B-N-S000-01212025
Lab Sample ID: 320-118511-41
Date Collected: 01/21/25 14:50
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 53.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			3.73 g	5.0 mL	836121	02/27/25 04:51	SJ	EET SAC
Total/NA	Analysis	1633		1			836290	02/27/25 17:12	C1P	EET SAC
Total/NA	Prep	1633 Shake	DL		3.73 g	5.0 mL	836121	02/27/25 04:51	SJ	EET SAC
Total/NA	Analysis	1633	DL	10			836607	02/28/25 15:29	K1S	EET SAC

Client Sample ID: SRA-007A-N-S006-01212025
Lab Sample ID: 320-118511-42
Date Collected: 01/21/25 15:05
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			835381	02/24/25 15:38	CFR	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-2

Client Sample ID: SRA-007A-N-S006-01212025
Lab Sample ID: 320-118511-42
Date Collected: 01/21/25 15:05
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 84.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.40 g	5.0 mL	836121	02/27/25 04:51	SJ	EET SAC
Total/NA	Analysis	1633		1			836290	02/27/25 17:29	C1P	EET SAC

Client Sample ID: SRA-007B-N-S000-01212025
Lab Sample ID: 320-118511-43
Date Collected: 01/21/25 15:15
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			835381	02/24/25 15:38	CFR	EET SAC

Client Sample ID: SRA-007B-N-S000-01212025
Lab Sample ID: 320-118511-43
Date Collected: 01/21/25 15:15
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 71.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.88 g	5.0 mL	836121	02/27/25 04:51	SJ	EET SAC
Total/NA	Analysis	1633		1			836290	02/27/25 17:45	C1P	EET SAC

Client Sample ID: SRA-006-N-S000-01212025
Lab Sample ID: 320-118511-44
Date Collected: 01/21/25 15:40
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			835381	02/24/25 15:38	CFR	EET SAC

Client Sample ID: SRA-006-N-S000-01212025
Lab Sample ID: 320-118511-44
Date Collected: 01/21/25 15:40
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 70.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.84 g	5.0 mL	836121	02/27/25 04:51	SJ	EET SAC
Total/NA	Analysis	1633		1			836290	02/27/25 18:02	C1P	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118511-2
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-2

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118511-1	FIT-002-N-S000-01212025	Solid	01/21/25 07:25	01/23/25 09:55
320-118511-4	FIT-002-N-S006-01212025	Solid	01/21/25 07:40	01/23/25 09:55
320-118511-7	FIT-001-N-S000-01212025	Solid	01/21/25 08:40	01/23/25 09:55
320-118511-11	FIT-001-N-S005-01212025	Solid	01/21/25 08:55	01/23/25 09:55
320-118511-12	FIT-003-N-S000-01212025	Solid	01/21/25 09:35	01/23/25 09:55
320-118511-18	FIT-007-N-S000-01212025	Solid	01/21/25 10:10	01/23/25 09:55
320-118511-19	FIT-008-N-S000-01212025	Solid	01/21/25 10:30	01/23/25 09:55
320-118511-20	FIT-006-N-S000-01212025	Solid	01/21/25 11:11	01/23/25 09:55
320-118511-21	FIT-005-N-S000-01212025	Solid	01/21/25 11:06	01/23/25 09:55
320-118511-22	FIT-004-N-S000-01212025	Solid	01/21/25 11:00	01/23/25 09:55
320-118511-30	SRA-003-N-S000-01212025	Solid	01/21/25 13:00	01/23/25 09:55
320-118511-33	SRA-003-N-S006-01212025	Solid	01/21/25 13:15	01/23/25 09:55
320-118511-36	SRA-004A-N-S000-01212025	Solid	01/21/25 14:00	01/23/25 09:55
320-118511-40	SRA-004A-N-S006-01212025	Solid	01/21/25 14:15	01/23/25 09:55
320-118511-41	SRA-004B-N-S000-01212025	Solid	01/21/25 14:50	01/23/25 09:55
320-118511-42	SRA-007A-N-S006-01212025	Solid	01/21/25 15:05	01/23/25 09:55
320-118511-43	SRA-007B-N-S000-01212025	Solid	01/21/25 15:15	01/23/25 09:55
320-118511-44	SRA-006-N-S000-01212025	Solid	01/21/25 15:40	01/23/25 09:55

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
FIT-002-N-S000-01212025	1/21/2025	0725	Soil		1
FIT-002-N-S001-01212025	1/21/2025	0730	Soil	X	1
FIT-002-N-S003-01212025	1/21/2025	0735	Soil	X	1
FIT-002-N-S006-01212025	1/21/2025	0740	Soil		1
FIT-002-N-S010-01212025	1/21/2025	0745	Soil		1
FIT-002-N-S015-01212025	1/21/2025	0750	Soil		1
FIT-001-N-S000-01212025	1/21/2025	0840	Soil		1
FIT-001-N-S001-01212025	1/21/2025	0845	Soil	X	1
FIT-001-N-S003-01212025	1/21/2025	4850	Soil	X	1
FIT-001-FD-S003-01212025	1/21/2025	0920	Soil	X	1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118511 Chain of Custody

5.2, 5.6 cor 1/20/26

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo de Silva	Print Macky Morris
Firm HA	Firm ECTSPO
Date 01/22/25 Time 1700	Date 1/22/25 1200
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print
Firm ECTSPO	Firm
Date 1/22/25 Time 1517	Date
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections.

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

Form 3003

5.9/08

WHITE Laboratory **CANARY** Project Manager **PINK** Haley & Aldrich Laboratory

November 2024

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
FIT-001-N-S005-01212025	1/21/2025	0855	Soil		1
FIT-003-N-S000-01212025	1/21/2025	0935	Soil		1
FIT-003-N-S001-01212025	1/21/2025	0940	Soil	X	1
FIT-003-N-S003-01212025	1/21/2025	0945	Soil	X	1
FIT-003-N-S006-01212025	1/21/2025	0950	Soil		1
FIT-003-N-S010-01212025	1/21/2025	0955	Soil		1
FIT-003-N-S011-01212025	1/21/2025	1000	Soil		1
FIT-007-N-S000-01212025	1/21/2025	1010	Soil		1
FIT-008-N-S000-01212025	1/21/2025	1030	Soil		1
FIT-006-N-S000-01212025	1/21/2025	1111	Soil		1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

5.2, 5.6 (or IRC06

Sampled and Relinquished by	Received by
Sign [illegible]	Sign [illegible]
Print Jack Castillo de Solis	Print Macky Mora
Firm HA	Firm EFES PO
Date 01/22/25 Time 1200	Date 1/22/25 1200
Relinquished by	**Received by**
Sign [illegible]	Sign [illegible]
Print Macky Mora	Print [illegible]
Firm EFES PO	Firm [illegible]
Date 1/22/25 Time 1517	Date 1.23.25 955
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

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_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ RC-S2 ☐ RC-GW1 ☐ RC-GW2 ☐ S1 ☐ S2 ☐ S3 ☐ GW1 ☐ GW2 ☐ GW3

WHITE - Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	STD
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
FIT-005-N-S000-01212025	1/21/2025	1106	Soil		1
FIT-004-N-S000-01212024	1/21/2025	1100	Soil		1
FIT-004-N-S001-01212024	1/21/2025	1105	Soil	x	1
FIT-004-N-S003-01212024	1/21/2025	1110	Soil	x	1
FIT-004-FD-S003-01212024	1/21/2025	1140	Soil	x	1
FIT-004-N-S006-01212024	1/21/2025	1115	Soil		1
FIT-004-N-S010-01212024	1/21/2025	1120	Soil		1
FIT-004-N-S015-01212024	1/21/2025	1125	Soil		1
FIT-004-N-S016-01212024	1/21/2025	1130	Soil		1
SRA-003-N-S000-01212025	1/21/2025	1300	Soil		1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

5.2.5. Lower Woody

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo de Silva	Print Macky Morris
Firm HA	Firm ECS
Date 01/22/25 Time 1200	Date 1/22/25 1200
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print
Firm ECS	Firm
Date 1/22/25 Time 1517	Date 1.23.25 700
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

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_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory

November 2024

Form 3003

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave. Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE		TURNAROUND TIME	
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
SRA-003-N-S001-01212025	1/21/2025	1305	Soil	X	1
SRA-003-N-S003-01212025	1/21/2025	1310	Soil	X	1
SRA-003-N-S006-01212025	1/21/2025	1315	Soil		1
SRA-003-N-S010-01212025	1/21/2025	1320	Soil		1
SRA-003-N-S012-01212025	1/21/2025	1325	Soil		1
SRA-004A-N-S000-01212025	1/21/2025	1400	Soil		1
SRA-004A-N-S001-01212025	1/21/2025	1405	Soil	X	1
SRA-004A-FD-S001-01212025	1/21/2025	1435	Soil	X	1
SRA-004A-N-S003-01212025	1/21/2025	1410	Soil	X	1
SRA-004A-N-S006-01212025	1/21/2025	1415	Soil		1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

$2,540 (R006

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo dasth	Print Madey Morris
Firm HA	Firm EECSPO
Date 01/22/25 Time 1200	Date 1/22/25 1200
Relinquished by	**Received by**
Sign	Sign
Print Madey Morris	Print
Firm EECSPO	Firm
Date 1/22/25 Time 1517	Date
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.
_____
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
SRA-004B-N-S000-01212025	1/21/2025	1450	Soil		1
SRA-007A-N-S006-01212025	1/21/2025	1505	Soil		1
SRA-007B-N-S000-01212025	1/21/2025	1515	Soil		1
SRA-006-N-S000-01212025	1/21/2025	1540	Soil		1
SRA-006-N-S001-01212025	1/21/2025	1545	Soil	X	1
SRA-006-N-S006-01212025	1/21/2025	1550	Soil		1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

5.2, 5.5 con 1Pro Lo

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo-LaSala	Print Mackey Morris
Firm H A	Firm EET Spo
Date 01/22/25 Time 1200	Date 1/22/25 1200
Relinquished by	**Received by**
Sign	Sign
Print Mackey Morris	Print
Firm EET Spo	Firm
Date 1/22/25 Time 1517	Date
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ RC-S2 ☐ RC-GW1 ☐ RC-GW2

☐ S1 ☐ S2 ☐ S3

☐ GW1 ☐ GW2 ☐ GW3

WHITE Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory

HALEY ALDRICH

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

Page 1 of 1

H&A FILE NO.	0209800-001	**LABORATORY**	Eurofins Environmental Testing	**DELIVERY DATE**	
PROJECT NAME	Geiger Field PFAS Support	**ADDRESS**	11922 E 1st Ave, Spokane Valley, WA 99206	**TURNAROUND TIME**	
H&A CONTACT	Breeyn Greer	**CONTACT**	Randee Arrington	**PROJECT MANAGER**	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
EB-01212025	1/21/2025	0715	H20		3
FB-01212025	1/21/2025	All Day	H20		2

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

5.2, 9.6 cm IR 2026

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo Jack	Print Macky Morris
Firm H&A	Firm EES&P
Date 01/22/25 Time 1200	Date 1/22/25 1200
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Tyson Kinard
Firm EES&P	Firm EES&P
Date 1/22/25 Time 1517	Date 1.22.25 1517
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments: EB taken from deconned shovel

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE Laboratory **CANARY** Project Manager **PINK** - Haley & Aldrich Laboratory

November 2024

Form 3003

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118511

Tracking # 4242 5693 0438

Job _____ _____

SO / (PO) / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm. ID LOY Corr Factor (+ / -) -0.1 °C

Ice_____ Wet_____ Gel _____ Other _____

Cooler Custody Seal. 2691567 +SO1123125

Cooler ID 2of2

Temp Observed 5.9 °C Corrected 5.9 °C

From Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials SO Date 1/23/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☐
Samples w/o discrepancies?	☐	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials SO Date 1/23/25

Notes: NO COC (in the other cooler)

(17) Rec 2 containers

(17) Rec NO containers

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials SO Date 1/23/25

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Tracking # 420256930457

Job _____

SO / PO / RO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID IR-11 Corr Factor (+/-) _____ °C

Ice 1 Wet 1 Gel _____ Other _____

Cooler Custody Seal: 2284986

Cooler ID: 1 of 2

Temp Observed: 0.8 °C Corrected 0.8 °C

From: Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials [illegible] Date 1.23.25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☑	☐	☑ SO 1/23/25
Samples w/o discrepancies?	☑ SO 1/23/25	☐	☐
Zero headspace?*	☐ SO	☐	☑
Alkalinity has no headspace?	1/23/25 ☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials [illegible] Date 1.23.25

Notes:_____

Trizma Lot #(s). _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☑ SO 1/23/25
Samples received within hold time?	☑	☐	☑ SO 1/23/25
Log Release checked in TALS?	☑	☐	☑ SO 1/23/25

Initials [illegible] Date 1.23.25

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 2/20/2025 9:05:10 AM Revision 1

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118511-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Job Notes

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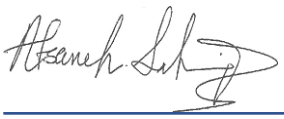
Authorization



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Revision 1

Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118511-1
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-118511-1

Revised report on 2-20-2025 for sample Id's.

Receipt

The samples were received on 1/23/2025 9:55 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.8º C and 5.9º C.

Receipt Exceptions

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): FIT-003-N-S003-01212025 (320-118511-14). COC lists 1 container but recieved 2.

The following sample was listed on the Chain of Custody (COC); however, no sample was received: Sample 17. FIT-003-N-S011-01212025 (320-118511-17).

LCMS

Method 1633: The Isotope Dilution Analyte (IDA) recovery associated with the following laboratory control sample (LCS) is below the method recommended limit: (LCS 320-829538/3-A). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the LCS.

Method 1633: The low-level continuing calibration verification (CCVL) associated with batch 320-829903 recovered above the upper control limit for 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) and 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS). The sample(s) associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: EB-01212025 (320-118511-47), FB-01212025 (320-118511-48) and (CCVL 320-829903/2).

Method 1633: The transition mass ratio was outside the established ratio limit for 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) associated to this data set. This is indicated by the "R" flag in the raw data. As the flagged data is in control in the continuing calibration verification (CCV), there is no adverse impact to the data.(CCV 320-830987/1).

Method 1633: The continuing calibration verification low level (CCVL) associated with batch 320-830993 recovered above the upper control limit for Nonafluoro-3,6-dioxaheptanoic acid (NFDHA). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVL 320-830993/4).

Method 1633: The low level continuing calibration verification (CCVL) associated with batch 320-830993 recovered above the upper control limit for Nonafluoro-3,6-dioxaheptanoic acid (NFDHA). The samples associated with this CCV were non-detects for the affected analyte; therefore, the data have been reported.

Method 1633: The transition mass ratio was outside the established ratio limit for 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) associated to this data set. This is indicated by the "R" flag in the raw data. As the flagged data is in control in the CCV, there is no adverse impact to the data.(CCV 320-831414/19)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-1

Client Sample ID: FIT-002-N-S001-01212025 — Lab Sample ID: 320-118511-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	1.4		0.20	0.050	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FIT-002-N-S003-01212025 — Lab Sample ID: 320-118511-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.50		0.20	0.050	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FIT-001-N-S001-01212025 — Lab Sample ID: 320-118511-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.16	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanoic acid (PFBA) - RA	0.11	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FIT-001-N-S003-01212025 — Lab Sample ID: 320-118511-9

No Detections.

Client Sample ID: FIT-001-FD-S003-01212025 — Lab Sample ID: 320-118511-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.059	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FIT-003-N-S001-01212025 — Lab Sample ID: 320-118511-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorononanoic acid (PFNA)	0.052	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.21		0.19	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FIT-003-N-S003-01212025 — Lab Sample ID: 320-118511-14

No Detections.

Client Sample ID: FIT-004-N-S001-01212025 — Lab Sample ID: 320-118511-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.26		0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FIT-004-N-S003-01212025 — Lab Sample ID: 320-118511-24

No Detections.

Client Sample ID: FIT-004-FD-S003-01212025 — Lab Sample ID: 320-118511-25

No Detections.

Client Sample ID: SRA-003-N-S001-01212025 — Lab Sample ID: 320-118511-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorodecanoic acid (PFDA)	0.056	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.87		0.20	0.050	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-003-N-S003-01212025 — Lab Sample ID: 320-118511-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.13	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-1

Client Sample ID: SRA-004A-N-S001-01212025 — Lab Sample ID: 320-118511-37

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.12	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.13	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.13	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.66		0.20	0.063	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.52		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	6.6		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	1.8		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	4.9		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.33		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.98		0.20	0.059	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.19	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.3		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.45		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	5.1		1.0	0.25	ug/Kg	1	☼	1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	6.8		1.0	0.25	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-004A-FD-S001-01212025 — Lab Sample ID: 320-118511-38

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.10	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.11	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.14	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.15	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.67		0.20	0.063	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.47		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	5.6		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	1.8		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	5.7		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.34		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.89		0.20	0.059	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.19	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.9		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.52		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	6.3		1.0	0.25	ug/Kg	1	☼	1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	7.2		1.0	0.25	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-004A-N-S003-01212025 — Lab Sample ID: 320-118511-39

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.20		0.20	0.063	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.15	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	1.0		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.11	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.25		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.088	J	0.20	0.059	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.46		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	0.40	J	1.0	0.25	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-1

Client Sample ID: SRA-006-N-S001-01212025 — Lab Sample ID: 320-118511-45

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.20	J	0.41	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.19	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.16	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.091	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.70		0.20	0.063	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.088	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.10	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.73		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.1		0.20	0.051	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: EB-01212025 — Lab Sample ID: 320-118511-47

No Detections.

Client Sample ID: FB-01212025 — Lab Sample ID: 320-118511-48

No Detections.

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-1

Client Sample ID: FIT-002-N-S001-01212025
Date Collected: 01/21/25 07:30
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-2
Matrix: Solid
Percent Solids: 94.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.063	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
Perfluorooctanesulfonic acid (PFOS)	**1.4**		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.064	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*99.8*		*35 - 130*	*01/30/25 04:13*	*01/30/25 22:59*	*1*
13C5 PFHxA	*92.8*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:59*	*1*
13C4 PFHpA	*109*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:59*	*1*
13C8 PFOA	*104*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:59*	*1*
13C9 PFNA	*95.7*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:59*	*1*
13C6 PFDA	*93.3*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:59*	*1*
13C7 PFUnA	*82.6*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:59*	*1*
13C2 PFDoA	*77.0*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:59*	*1*
13C2 PFTeDA	*86.5*		*20 - 130*	*01/30/25 04:13*	*01/30/25 22:59*	*1*
13C3 PFBS	*89.1*		*40 - 135*	*01/30/25 04:13*	*01/30/25 22:59*	*1*
13C3 PFHxS	*90.2*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:59*	*1*
13C8 PFOS	*86.3*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:59*	*1*

Client Sample ID: FIT-002-N-S001-01212025
Date Collected: 01/21/25 07:30
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-2
Matrix: Solid
Percent Solids: 94.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	74.9		40 - 130	01/30/25 04:13	01/30/25 22:59	1
d3-NMeFOSAA	79.2		40 - 135	01/30/25 04:13	01/30/25 22:59	1
d5-NEtFOSAA	78.1		40 - 150	01/30/25 04:13	01/30/25 22:59	1
d5-NEtPFOSA	63.0		10 - 130	01/30/25 04:13	01/30/25 22:59	1
d3-NMePFOSA	65.4		10 - 130	01/30/25 04:13	01/30/25 22:59	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 21:02	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 21:02	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 21:02	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 21:02	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 21:02	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 21:02	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	02/03/25 21:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	02/03/25 21:02	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	02/03/25 21:02	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	01/30/25 04:13	02/03/25 21:02	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 21:02	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 21:02	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 21:02	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	92.7		8 - 130	01/30/25 04:13	02/03/25 21:02	1
13C5 PFPeA	107		35 - 130	01/30/25 04:13	02/03/25 21:02	1
13C5 PFHxA	103		40 - 130	01/30/25 04:13	02/03/25 21:02	1
13C2 4:2 FTS	81.6		40 - 165	01/30/25 04:13	02/03/25 21:02	1
13C2 6:2 FTS	79.5		40 - 215	01/30/25 04:13	02/03/25 21:02	1
13C2 8:2 FTS	68.3		40 - 275	01/30/25 04:13	02/03/25 21:02	1
13C3 HFPO-DA	101		40 - 130	01/30/25 04:13	02/03/25 21:02	1
d7-N-MeFOSE-M	71.2		20 - 130	01/30/25 04:13	02/03/25 21:02	1
d9-N-EtFOSE-M	72.7		15 - 130	01/30/25 04:13	02/03/25 21:02	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	6.0		0.10	0.10	%			01/24/25 12:39	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-1

Client Sample ID: FIT-002-N-S003-01212025
Date Collected: 01/21/25 07:35
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-3
Matrix: Solid
Percent Solids: 93.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
Perfluorooctanesulfonic acid (PFOS)	**0.50**		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*93.1*		*35 - 130*	*01/30/25 04:13*	*01/30/25 23:15*	*1*
13C5 PFHxA	*99.4*		*40 - 130*	*01/30/25 04:13*	*01/30/25 23:15*	*1*
13C4 PFHpA	*104*		*40 - 130*	*01/30/25 04:13*	*01/30/25 23:15*	*1*
13C8 PFOA	*105*		*40 - 130*	*01/30/25 04:13*	*01/30/25 23:15*	*1*
13C9 PFNA	*98.4*		*40 - 130*	*01/30/25 04:13*	*01/30/25 23:15*	*1*
13C6 PFDA	*90.7*		*40 - 130*	*01/30/25 04:13*	*01/30/25 23:15*	*1*
13C7 PFUnA	*79.2*		*40 - 130*	*01/30/25 04:13*	*01/30/25 23:15*	*1*
13C2 PFDoA	*83.1*		*40 - 130*	*01/30/25 04:13*	*01/30/25 23:15*	*1*
13C2 PFTeDA	*92.2*		*20 - 130*	*01/30/25 04:13*	*01/30/25 23:15*	*1*
13C3 PFBS	*86.5*		*40 - 135*	*01/30/25 04:13*	*01/30/25 23:15*	*1*
13C3 PFHxS	*91.9*		*40 - 130*	*01/30/25 04:13*	*01/30/25 23:15*	*1*
13C8 PFOS	*97.2*		*40 - 130*	*01/30/25 04:13*	*01/30/25 23:15*	*1*

Client Sample ID: FIT-002-N-S003-01212025
Date Collected: 01/21/25 07:35
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-3
Matrix: Solid
Percent Solids: 93.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	87.3		40 - 130	01/30/25 04:13	01/30/25 23:15	1
d3-NMeFOSAA	92.3		40 - 135	01/30/25 04:13	01/30/25 23:15	1
d5-NEtFOSAA	89.5		40 - 150	01/30/25 04:13	01/30/25 23:15	1
d5-NEtPFOSA	73.3		10 - 130	01/30/25 04:13	01/30/25 23:15	1
d3-NMePFOSA	73.8		10 - 130	01/30/25 04:13	01/30/25 23:15	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 21:19	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 21:19	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 21:19	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 21:19	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 21:19	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 21:19	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	02/03/25 21:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	02/03/25 21:19	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	02/03/25 21:19	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	01/30/25 04:13	02/03/25 21:19	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 21:19	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 21:19	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 21:19	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	94.6		8 - 130	01/30/25 04:13	02/03/25 21:19	1
13C5 PFPeA	100		35 - 130	01/30/25 04:13	02/03/25 21:19	1
13C5 PFHxA	102		40 - 130	01/30/25 04:13	02/03/25 21:19	1
13C2 4:2 FTS	98.6		40 - 165	01/30/25 04:13	02/03/25 21:19	1
13C2 6:2 FTS	89.7		40 - 215	01/30/25 04:13	02/03/25 21:19	1
13C2 8:2 FTS	80.8		40 - 275	01/30/25 04:13	02/03/25 21:19	1
13C3 HFPO-DA	105		40 - 130	01/30/25 04:13	02/03/25 21:19	1
d7-N-MeFOSE-M	78.1		20 - 130	01/30/25 04:13	02/03/25 21:19	1
d9-N-EtFOSE-M	77.7		15 - 130	01/30/25 04:13	02/03/25 21:19	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	6.2		0.10	0.10	%			01/24/25 12:39	1

Client Sample ID: FIT-001-N-S001-01212025

Date Collected: 01/21/25 08:45
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-8

Matrix: Solid
Percent Solids: 89.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
Perfluorooctanesulfonic acid (PFOS)	**0.16**	**J**	0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 23:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*86.6*		*35 - 130*	*01/30/25 04:13*	*01/30/25 23:32*	*1*
13C5 PFHxA	*90.0*		*40 - 130*	*01/30/25 04:13*	*01/30/25 23:32*	*1*
13C4 PFHpA	*94.6*		*40 - 130*	*01/30/25 04:13*	*01/30/25 23:32*	*1*
13C8 PFOA	*87.4*		*40 - 130*	*01/30/25 04:13*	*01/30/25 23:32*	*1*
13C9 PFNA	*91.6*		*40 - 130*	*01/30/25 04:13*	*01/30/25 23:32*	*1*
13C6 PFDA	*91.9*		*40 - 130*	*01/30/25 04:13*	*01/30/25 23:32*	*1*
13C7 PFUnA	*77.9*		*40 - 130*	*01/30/25 04:13*	*01/30/25 23:32*	*1*
13C2 PFDoA	*78.3*		*40 - 130*	*01/30/25 04:13*	*01/30/25 23:32*	*1*
13C2 PFTeDA	*88.9*		*20 - 130*	*01/30/25 04:13*	*01/30/25 23:32*	*1*
13C3 PFBS	*82.3*		*40 - 135*	*01/30/25 04:13*	*01/30/25 23:32*	*1*
13C3 PFHxS	*85.6*		*40 - 130*	*01/30/25 04:13*	*01/30/25 23:32*	*1*
13C8 PFOS	*85.9*		*40 - 130*	*01/30/25 04:13*	*01/30/25 23:32*	*1*

Client Sample ID: FIT-001-N-S001-01212025

Date Collected: 01/21/25 08:45
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-8

Matrix: Solid
Percent Solids: 89.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	79.5		40 - 130	01/30/25 04:13	01/30/25 23:32	1
d3-NMeFOSAA	80.4		40 - 135	01/30/25 04:13	01/30/25 23:32	1
d5-NEtFOSAA	81.4		40 - 150	01/30/25 04:13	01/30/25 23:32	1
d5-NEtPFOSA	66.9		10 - 130	01/30/25 04:13	01/30/25 23:32	1
d3-NMePFOSA	68.8		10 - 130	01/30/25 04:13	01/30/25 23:32	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.11**	**J**	0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 21:35	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 21:35	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 21:35	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 21:35	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 21:35	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 21:35	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	02/03/25 21:35	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	02/03/25 21:35	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	02/03/25 21:35	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	01/30/25 04:13	02/03/25 21:35	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 21:35	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 21:35	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 21:35	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	90.7		8 - 130	01/30/25 04:13	02/03/25 21:35	1
13C5 PFPeA	101		35 - 130	01/30/25 04:13	02/03/25 21:35	1
13C5 PFHxA	95.3		40 - 130	01/30/25 04:13	02/03/25 21:35	1
13C2 4:2 FTS	86.4		40 - 165	01/30/25 04:13	02/03/25 21:35	1
13C2 6:2 FTS	79.8		40 - 215	01/30/25 04:13	02/03/25 21:35	1
13C2 8:2 FTS	71.3		40 - 275	01/30/25 04:13	02/03/25 21:35	1
13C3 HFPO-DA	99.9		40 - 130	01/30/25 04:13	02/03/25 21:35	1
d7-N-MeFOSE-M	77.3		20 - 130	01/30/25 04:13	02/03/25 21:35	1
d9-N-EtFOSE-M	80.0		15 - 130	01/30/25 04:13	02/03/25 21:35	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**10**		0.10	0.10	%			01/24/25 12:39	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-1

Client Sample ID: FIT-001-N-S003-01212025
Date Collected: 01/21/25 08:50
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-9
Matrix: Solid
Percent Solids: 94.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*96.4*		*35 - 130*	*01/30/25 04:13*	*01/31/25 00:21*	*1*
13C5 PFHxA	*97.1*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:21*	*1*
13C4 PFHpA	*99.7*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:21*	*1*
13C8 PFOA	*96.0*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:21*	*1*
13C9 PFNA	*97.7*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:21*	*1*
13C6 PFDA	*84.5*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:21*	*1*
13C7 PFUnA	*67.1*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:21*	*1*
13C2 PFDoA	*74.2*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:21*	*1*
13C2 PFTeDA	*86.1*		*20 - 130*	*01/30/25 04:13*	*01/31/25 00:21*	*1*
13C3 PFBS	*81.7*		*40 - 135*	*01/30/25 04:13*	*01/31/25 00:21*	*1*
13C3 PFHxS	*88.1*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:21*	*1*
13C8 PFOS	*80.5*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:21*	*1*
13C8 FOSA	*72.9*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:21*	*1*

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-1

Client Sample ID: FIT-001-N-S003-01212025
Date Collected: 01/21/25 08:50
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-9
Matrix: Solid
Percent Solids: 94.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMeFOSAA	73.5		40 - 135	01/30/25 04:13	01/31/25 00:21	1
d5-NEtFOSAA	72.1		40 - 150	01/30/25 04:13	01/31/25 00:21	1
d5-NEtPFOSA	59.6		10 - 130	01/30/25 04:13	01/31/25 00:21	1
d3-NMePFOSA	61.0		10 - 130	01/30/25 04:13	01/31/25 00:21	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.099	ug/Kg	☼	01/30/25 04:13	02/03/25 21:52	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	01/30/25 04:13	02/03/25 21:52	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.099	ug/Kg	☼	01/30/25 04:13	02/03/25 21:52	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.099	ug/Kg	☼	01/30/25 04:13	02/03/25 21:52	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 21:52	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 21:52	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 21:52	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 21:52	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 21:52	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	01/30/25 04:13	02/03/25 21:52	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.099	ug/Kg	☼	01/30/25 04:13	02/03/25 21:52	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 21:52	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 21:52	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	95.4		8 - 130	01/30/25 04:13	02/03/25 21:52	1
13C5 PFPeA	102		35 - 130	01/30/25 04:13	02/03/25 21:52	1
13C5 PFHxA	99.3		40 - 130	01/30/25 04:13	02/03/25 21:52	1
13C2 4:2 FTS	82.0		40 - 165	01/30/25 04:13	02/03/25 21:52	1
13C2 6:2 FTS	84.0		40 - 215	01/30/25 04:13	02/03/25 21:52	1
13C2 8:2 FTS	65.4		40 - 275	01/30/25 04:13	02/03/25 21:52	1
13C3 HFPO-DA	104		40 - 130	01/30/25 04:13	02/03/25 21:52	1
d7-N-MeFOSE-M	71.4		20 - 130	01/30/25 04:13	02/03/25 21:52	1
d9-N-EtFOSE-M	72.5		15 - 130	01/30/25 04:13	02/03/25 21:52	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	6.0		0.10	0.10	%			01/24/25 12:39	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-1

Client Sample ID: FIT-001-FD-S003-01212025
Date Collected: 01/21/25 09:20
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-10
Matrix: Solid
Percent Solids: 93.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.060	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
Perfluorooctanesulfonic acid (PFOS)	**0.059**	**J**	0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 00:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*98.6*		*35 - 130*	*01/30/25 04:13*	*01/31/25 00:37*	*1*
13C5 PFHxA	*98.8*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:37*	*1*
13C4 PFHpA	*94.0*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:37*	*1*
13C8 PFOA	*90.3*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:37*	*1*
13C9 PFNA	*96.6*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:37*	*1*
13C6 PFDA	*97.1*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:37*	*1*
13C7 PFUnA	*81.7*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:37*	*1*
13C2 PFDoA	*93.9*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:37*	*1*
13C2 PFTeDA	*98.5*		*20 - 130*	*01/30/25 04:13*	*01/31/25 00:37*	*1*
13C3 PFBS	*82.7*		*40 - 135*	*01/30/25 04:13*	*01/31/25 00:37*	*1*
13C3 PFHxS	*89.1*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:37*	*1*
13C8 PFOS	*85.7*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:37*	*1*

Client Sample ID: FIT-001-FD-S003-01212025

Date Collected: 01/21/25 09:20
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-10

Matrix: Solid
Percent Solids: 93.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	*74.1*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:37*	*1*
d3-NMeFOSAA	*78.3*		*40 - 135*	*01/30/25 04:13*	*01/31/25 00:37*	*1*
d5-NEtFOSAA	*79.1*		*40 - 150*	*01/30/25 04:13*	*01/31/25 00:37*	*1*
d5-NEtPFOSA	*65.2*		*10 - 130*	*01/30/25 04:13*	*01/31/25 00:37*	*1*
d3-NMePFOSA	*63.4*		*10 - 130*	*01/30/25 04:13*	*01/31/25 00:37*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.096	ug/Kg	☼	01/30/25 04:13	02/03/25 22:08	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.096	ug/Kg	☼	01/30/25 04:13	02/03/25 22:08	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.096	ug/Kg	☼	01/30/25 04:13	02/03/25 22:08	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.096	ug/Kg	☼	01/30/25 04:13	02/03/25 22:08	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.96	0.24	ug/Kg	☼	01/30/25 04:13	02/03/25 22:08	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.96	0.24	ug/Kg	☼	01/30/25 04:13	02/03/25 22:08	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	02/03/25 22:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	02/03/25 22:08	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	02/03/25 22:08	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.072	ug/Kg	☼	01/30/25 04:13	02/03/25 22:08	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.096	ug/Kg	☼	01/30/25 04:13	02/03/25 22:08	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	01/30/25 04:13	02/03/25 22:08	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	01/30/25 04:13	02/03/25 22:08	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	*97.0*		*8 - 130*	*01/30/25 04:13*	*02/03/25 22:08*	*1*
13C5 PFPeA	*102*		*35 - 130*	*01/30/25 04:13*	*02/03/25 22:08*	*1*
13C5 PFHxA	*97.8*		*40 - 130*	*01/30/25 04:13*	*02/03/25 22:08*	*1*
13C2 4:2 FTS	*93.5*		*40 - 165*	*01/30/25 04:13*	*02/03/25 22:08*	*1*
13C2 6:2 FTS	*79.8*		*40 - 215*	*01/30/25 04:13*	*02/03/25 22:08*	*1*
13C2 8:2 FTS	*70.5*		*40 - 275*	*01/30/25 04:13*	*02/03/25 22:08*	*1*
13C3 HFPO-DA	*105*		*40 - 130*	*01/30/25 04:13*	*02/03/25 22:08*	*1*
d7-N-MeFOSE-M	*79.5*		*20 - 130*	*01/30/25 04:13*	*02/03/25 22:08*	*1*
d9-N-EtFOSE-M	*81.1*		*15 - 130*	*01/30/25 04:13*	*02/03/25 22:08*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**7.0**		0.10	0.10	%			01/24/25 12:39	1

Client Sample ID: FIT-003-N-S001-01212025

Date Collected: 01/21/25 09:40
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-13

Matrix: Solid
Percent Solids: 95.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.060	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
Perfluorononanoic acid (PFNA)	**0.052**	**J**	0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
Perfluorooctanesulfonic acid (PFOS)	**0.21**		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 00:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*90.2*		*35 - 130*	*01/30/25 04:13*	*01/31/25 00:54*	*1*
13C5 PFHxA	*102*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:54*	*1*
13C4 PFHpA	*103*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:54*	*1*
13C8 PFOA	*99.9*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:54*	*1*
13C9 PFNA	*97.2*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:54*	*1*
13C6 PFDA	*88.7*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:54*	*1*
13C7 PFUnA	*72.7*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:54*	*1*
13C2 PFDoA	*75.2*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:54*	*1*
13C2 PFTeDA	*81.7*		*20 - 130*	*01/30/25 04:13*	*01/31/25 00:54*	*1*
13C3 PFBS	*90.3*		*40 - 135*	*01/30/25 04:13*	*01/31/25 00:54*	*1*
13C3 PFHxS	*90.0*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:54*	*1*
13C8 PFOS	*88.1*		*40 - 130*	*01/30/25 04:13*	*01/31/25 00:54*	*1*

Client Sample ID: FIT-003-N-S001-01212025
Date Collected: 01/21/25 09:40
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-13
Matrix: Solid
Percent Solids: 95.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	77.5		40 - 130	01/30/25 04:13	01/31/25 00:54	1
d3-NMeFOSAA	80.0		40 - 135	01/30/25 04:13	01/31/25 00:54	1
d5-NEtFOSAA	76.5		40 - 150	01/30/25 04:13	01/31/25 00:54	1
d5-NEtPFOSA	61.7		10 - 130	01/30/25 04:13	01/31/25 00:54	1
d3-NMePFOSA	60.2		10 - 130	01/30/25 04:13	01/31/25 00:54	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.097	ug/Kg	☼	01/30/25 04:13	02/03/25 22:25	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/30/25 04:13	02/03/25 22:25	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/30/25 04:13	02/03/25 22:25	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/30/25 04:13	02/03/25 22:25	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	01/30/25 04:13	02/03/25 22:25	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	01/30/25 04:13	02/03/25 22:25	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 22:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 22:25	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 22:25	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.073	ug/Kg	☼	01/30/25 04:13	02/03/25 22:25	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	01/30/25 04:13	02/03/25 22:25	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	01/30/25 04:13	02/03/25 22:25	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	01/30/25 04:13	02/03/25 22:25	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	96.2		8 - 130	01/30/25 04:13	02/03/25 22:25	1
13C5 PFPeA	97.4		35 - 130	01/30/25 04:13	02/03/25 22:25	1
13C5 PFHxA	103		40 - 130	01/30/25 04:13	02/03/25 22:25	1
13C2 4:2 FTS	96.2		40 - 165	01/30/25 04:13	02/03/25 22:25	1
13C2 6:2 FTS	90.2		40 - 215	01/30/25 04:13	02/03/25 22:25	1
13C2 8:2 FTS	70.3		40 - 275	01/30/25 04:13	02/03/25 22:25	1
13C3 HFPO-DA	100		40 - 130	01/30/25 04:13	02/03/25 22:25	1
d7-N-MeFOSE-M	70.7		20 - 130	01/30/25 04:13	02/03/25 22:25	1
d9-N-EtFOSE-M	72.8		15 - 130	01/30/25 04:13	02/03/25 22:25	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	4.4		0.10	0.10	%			01/24/25 12:39	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-1

Client Sample ID: FIT-003-N-S003-01212025
Date Collected: 01/21/25 09:45
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-14
Matrix: Solid
Percent Solids: 86.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*86.7*		*35 - 130*	*01/30/25 04:13*	*01/31/25 01:10*	*1*
13C5 PFHxA	*83.5*		*40 - 130*	*01/30/25 04:13*	*01/31/25 01:10*	*1*
13C4 PFHpA	*103*		*40 - 130*	*01/30/25 04:13*	*01/31/25 01:10*	*1*
13C8 PFOA	*92.8*		*40 - 130*	*01/30/25 04:13*	*01/31/25 01:10*	*1*
13C9 PFNA	*95.9*		*40 - 130*	*01/30/25 04:13*	*01/31/25 01:10*	*1*
13C6 PFDA	*92.3*		*40 - 130*	*01/30/25 04:13*	*01/31/25 01:10*	*1*
13C7 PFUnA	*85.2*		*40 - 130*	*01/30/25 04:13*	*01/31/25 01:10*	*1*
13C2 PFDoA	*89.8*		*40 - 130*	*01/30/25 04:13*	*01/31/25 01:10*	*1*
13C2 PFTeDA	*94.6*		*20 - 130*	*01/30/25 04:13*	*01/31/25 01:10*	*1*
13C3 PFBS	*83.2*		*40 - 135*	*01/30/25 04:13*	*01/31/25 01:10*	*1*
13C3 PFHxS	*90.4*		*40 - 130*	*01/30/25 04:13*	*01/31/25 01:10*	*1*
13C8 PFOS	*90.9*		*40 - 130*	*01/30/25 04:13*	*01/31/25 01:10*	*1*
13C8 FOSA	*80.3*		*40 - 130*	*01/30/25 04:13*	*01/31/25 01:10*	*1*

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-1

Client Sample ID: FIT-003-N-S003-01212025
Date Collected: 01/21/25 09:45
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-14
Matrix: Solid
Percent Solids: 86.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMeFOSAA	85.9		40 - 135	01/30/25 04:13	01/31/25 01:10	1
d5-NEtFOSAA	83.7		40 - 150	01/30/25 04:13	01/31/25 01:10	1
d5-NEtPFOSA	58.2		10 - 130	01/30/25 04:13	01/31/25 01:10	1
d3-NMePFOSA	57.7		10 - 130	01/30/25 04:13	01/31/25 01:10	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 22:41	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 22:41	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 22:41	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 22:41	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 22:41	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 22:41	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	02/03/25 22:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	02/03/25 22:41	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	02/03/25 22:41	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	01/30/25 04:13	02/03/25 22:41	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 22:41	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 22:41	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 22:41	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	95.4		8 - 130	01/30/25 04:13	02/03/25 22:41	1
13C5 PFPeA	109		35 - 130	01/30/25 04:13	02/03/25 22:41	1
13C5 PFHxA	106		40 - 130	01/30/25 04:13	02/03/25 22:41	1
13C2 4:2 FTS	87.9		40 - 165	01/30/25 04:13	02/03/25 22:41	1
13C2 6:2 FTS	81.2		40 - 215	01/30/25 04:13	02/03/25 22:41	1
13C2 8:2 FTS	73.0		40 - 275	01/30/25 04:13	02/03/25 22:41	1
13C3 HFPO-DA	105		40 - 130	01/30/25 04:13	02/03/25 22:41	1
d7-N-MeFOSE-M	77.6		20 - 130	01/30/25 04:13	02/03/25 22:41	1
d9-N-EtFOSE-M	82.4		15 - 130	01/30/25 04:13	02/03/25 22:41	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	14		0.10	0.10	%			01/24/25 12:39	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-1

Client Sample ID: FIT-004-N-S001-01212025
Date Collected: 01/21/25 11:05
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-23
Matrix: Solid
Percent Solids: 96.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
Perfluorooctanesulfonic acid (PFOS)	**0.26**		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 01:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*97.3*		*35 - 130*	*01/30/25 04:13*	*01/31/25 01:27*	*1*
13C5 PFHxA	*107*		*40 - 130*	*01/30/25 04:13*	*01/31/25 01:27*	*1*
13C4 PFHpA	*110*		*40 - 130*	*01/30/25 04:13*	*01/31/25 01:27*	*1*
13C8 PFOA	*85.8*		*40 - 130*	*01/30/25 04:13*	*01/31/25 01:27*	*1*
13C9 PFNA	*92.1*		*40 - 130*	*01/30/25 04:13*	*01/31/25 01:27*	*1*
13C6 PFDA	*90.3*		*40 - 130*	*01/30/25 04:13*	*01/31/25 01:27*	*1*
13C7 PFUnA	*78.6*		*40 - 130*	*01/30/25 04:13*	*01/31/25 01:27*	*1*
13C2 PFDoA	*72.4*		*40 - 130*	*01/30/25 04:13*	*01/31/25 01:27*	*1*
13C2 PFTeDA	*77.3*		*20 - 130*	*01/30/25 04:13*	*01/31/25 01:27*	*1*
13C3 PFBS	*93.1*		*40 - 135*	*01/30/25 04:13*	*01/31/25 01:27*	*1*
13C3 PFHxS	*91.9*		*40 - 130*	*01/30/25 04:13*	*01/31/25 01:27*	*1*
13C8 PFOS	*96.0*		*40 - 130*	*01/30/25 04:13*	*01/31/25 01:27*	*1*

Client Sample ID: FIT-004-N-S001-01212025

Date Collected: 01/21/25 11:05
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-23

Matrix: Solid
Percent Solids: 96.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	*76.6*		*40 - 130*	*01/30/25 04:13*	*01/31/25 01:27*	*1*
d3-NMeFOSAA	*79.8*		*40 - 135*	*01/30/25 04:13*	*01/31/25 01:27*	*1*
d5-NEtFOSAA	*79.6*		*40 - 150*	*01/30/25 04:13*	*01/31/25 01:27*	*1*
d5-NEtPFOSA	*57.8*		*10 - 130*	*01/30/25 04:13*	*01/31/25 01:27*	*1*
d3-NMePFOSA	*59.2*		*10 - 130*	*01/30/25 04:13*	*01/31/25 01:27*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	01/30/25 04:13	02/03/25 23:30	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/30/25 04:13	02/03/25 23:30	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/30/25 04:13	02/03/25 23:30	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/30/25 04:13	02/03/25 23:30	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 23:30	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 23:30	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 23:30	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 23:30	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 23:30	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	01/30/25 04:13	02/03/25 23:30	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	01/30/25 04:13	02/03/25 23:30	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 23:30	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 23:30	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	*94.9*		*8 - 130*	*01/30/25 04:13*	*02/03/25 23:30*	*1*
13C5 PFPeA	*99.1*		*35 - 130*	*01/30/25 04:13*	*02/03/25 23:30*	*1*
13C5 PFHxA	*94.1*		*40 - 130*	*01/30/25 04:13*	*02/03/25 23:30*	*1*
13C2 4:2 FTS	*93.0*		*40 - 165*	*01/30/25 04:13*	*02/03/25 23:30*	*1*
13C2 6:2 FTS	*86.1*		*40 - 215*	*01/30/25 04:13*	*02/03/25 23:30*	*1*
13C2 8:2 FTS	*73.6*		*40 - 275*	*01/30/25 04:13*	*02/03/25 23:30*	*1*
13C3 HFPO-DA	*98.0*		*40 - 130*	*01/30/25 04:13*	*02/03/25 23:30*	*1*
d7-N-MeFOSE-M	*72.0*		*20 - 130*	*01/30/25 04:13*	*02/03/25 23:30*	*1*
d9-N-EtFOSE-M	*70.4*		*15 - 130*	*01/30/25 04:13*	*02/03/25 23:30*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**3.4**		0.10	0.10	%			01/24/25 12:39	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-1

Client Sample ID: FIT-004-N-S003-01212025
Date Collected: 01/21/25 11:10
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-24
Matrix: Solid
Percent Solids: 96.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	^+	0.20	0.062	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1

Client Sample ID: FIT-004-N-S003-01212025

Lab Sample ID: 320-118511-24
Date Collected: 01/21/25 11:10
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 96.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 00:05	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99.0*		*8 - 130*	*02/03/25 11:41*	*02/05/25 00:05*	*1*
13C5 PFPeA	*92.6*		*35 - 130*	*02/03/25 11:41*	*02/05/25 00:05*	*1*
13C5 PFHxA	*102*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:05*	*1*
13C4 PFHpA	*109*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:05*	*1*
13C8 PFOA	*89.0*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:05*	*1*
13C9 PFNA	*85.8*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:05*	*1*
13C6 PFDA	*79.4*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:05*	*1*
13C7 PFUnA	*81.2*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:05*	*1*
13C2 PFDoA	*71.9*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:05*	*1*
13C2 PFTeDA	*76.3*		*20 - 130*	*02/03/25 11:41*	*02/05/25 00:05*	*1*
13C3 PFBS	*83.8*		*40 - 135*	*02/03/25 11:41*	*02/05/25 00:05*	*1*
13C3 PFHxS	*92.4*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:05*	*1*
13C8 PFOS	*88.6*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:05*	*1*
13C8 FOSA	*69.3*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:05*	*1*
d3-NMeFOSAA	*105*		*40 - 135*	*02/03/25 11:41*	*02/05/25 00:05*	*1*
d5-NEtFOSAA	*98.0*		*40 - 150*	*02/03/25 11:41*	*02/05/25 00:05*	*1*
13C2 4:2 FTS	*83.0*		*40 - 165*	*02/03/25 11:41*	*02/05/25 00:05*	*1*
13C2 6:2 FTS	*101*		*40 - 215*	*02/03/25 11:41*	*02/05/25 00:05*	*1*
13C2 8:2 FTS	*71.9*		*40 - 275*	*02/03/25 11:41*	*02/05/25 00:05*	*1*
13C3 HFPO-DA	*103*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:05*	*1*
d7-N-MeFOSE-M	*84.9*		*20 - 130*	*02/03/25 11:41*	*02/05/25 00:05*	*1*
d9-N-EtFOSE-M	*84.4*		*15 - 130*	*02/03/25 11:41*	*02/05/25 00:05*	*1*
d5-NEtPFOSA	*67.4*		*10 - 130*	*02/03/25 11:41*	*02/05/25 00:05*	*1*
d3-NMePFOSA	*64.2*		*10 - 130*	*02/03/25 11:41*	*02/05/25 00:05*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**3.7**		0.10	0.10	%			01/24/25 12:39	1

Client Sample ID: FIT-004-FD-S003-01212025

Lab Sample ID: 320-118511-25
Date Collected: 01/21/25 11:40
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 96.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-1

Client Sample ID: FIT-004-FD-S003-01212025
Date Collected: 01/21/25 11:40
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-25
Matrix: Solid
Percent Solids: 96.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	^+	0.20	0.061	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1

Client Sample ID: FIT-004-FD-S003-01212025

Lab Sample ID: 320-118511-25

Date Collected: 01/21/25 11:40
Date Received: 01/23/25 09:55

Matrix: Solid
Percent Solids: 96.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 00:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*95.5*		*8 - 130*	*02/03/25 11:41*	*02/05/25 00:21*	*1*
13C5 PFPeA	*88.8*		*35 - 130*	*02/03/25 11:41*	*02/05/25 00:21*	*1*
13C5 PFHxA	*94.5*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:21*	*1*
13C4 PFHpA	*96.3*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:21*	*1*
13C8 PFOA	*95.1*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:21*	*1*
13C9 PFNA	*86.8*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:21*	*1*
13C6 PFDA	*77.8*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:21*	*1*
13C7 PFUnA	*72.6*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:21*	*1*
13C2 PFDoA	*75.8*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:21*	*1*
13C2 PFTeDA	*79.0*		*20 - 130*	*02/03/25 11:41*	*02/05/25 00:21*	*1*
13C3 PFBS	*87.6*		*40 - 135*	*02/03/25 11:41*	*02/05/25 00:21*	*1*
13C3 PFHxS	*95.5*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:21*	*1*
13C8 PFOS	*85.3*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:21*	*1*
13C8 FOSA	*68.8*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:21*	*1*
d3-NMeFOSAA	*98.1*		*40 - 135*	*02/03/25 11:41*	*02/05/25 00:21*	*1*
d5-NEtFOSAA	*95.8*		*40 - 150*	*02/03/25 11:41*	*02/05/25 00:21*	*1*
13C2 4:2 FTS	*73.4*		*40 - 165*	*02/03/25 11:41*	*02/05/25 00:21*	*1*
13C2 6:2 FTS	*108*		*40 - 215*	*02/03/25 11:41*	*02/05/25 00:21*	*1*
13C2 8:2 FTS	*77.7*		*40 - 275*	*02/03/25 11:41*	*02/05/25 00:21*	*1*
13C3 HFPO-DA	*95.8*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:21*	*1*
d7-N-MeFOSE-M	*82.5*		*20 - 130*	*02/03/25 11:41*	*02/05/25 00:21*	*1*
d9-N-EtFOSE-M	*85.1*		*15 - 130*	*02/03/25 11:41*	*02/05/25 00:21*	*1*
d5-NEtPFOSA	*55.5*		*10 - 130*	*02/03/25 11:41*	*02/05/25 00:21*	*1*
d3-NMePFOSA	*55.5*		*10 - 130*	*02/03/25 11:41*	*02/05/25 00:21*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**3.1**		0.10	0.10	%			01/24/25 12:39	1

Client Sample ID: SRA-003-N-S001-01212025

Lab Sample ID: 320-118511-31

Date Collected: 01/21/25 13:05
Date Received: 01/23/25 09:55

Matrix: Solid
Percent Solids: 89.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
Perfluorodecanoic acid (PFDA)	**0.056**	**J**	0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-1

Client Sample ID: SRA-003-N-S001-01212025
Date Collected: 01/21/25 13:05
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-31
Matrix: Solid
Percent Solids: 89.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
Perfluorooctanesulfonic acid (PFOS)	**0.87**		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	^+	0.20	0.062	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 00:38	1

Client Sample ID: SRA-003-N-S001-01212025

Lab Sample ID: 320-118511-31

Date Collected: 01/21/25 13:05
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 89.6

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91.7*		*8 - 130*	*02/03/25 11:41*	*02/05/25 00:38*	*1*
13C5 PFPeA	*95.5*		*35 - 130*	*02/03/25 11:41*	*02/05/25 00:38*	*1*
13C5 PFHxA	*97.9*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:38*	*1*
13C4 PFHpA	*100*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:38*	*1*
13C8 PFOA	*96.7*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:38*	*1*
13C9 PFNA	*91.3*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:38*	*1*
13C6 PFDA	*79.3*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:38*	*1*
13C7 PFUnA	*71.2*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:38*	*1*
13C2 PFDoA	*69.2*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:38*	*1*
13C2 PFTeDA	*65.4*		*20 - 130*	*02/03/25 11:41*	*02/05/25 00:38*	*1*
13C3 PFBS	*82.6*		*40 - 135*	*02/03/25 11:41*	*02/05/25 00:38*	*1*
13C3 PFHxS	*90.5*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:38*	*1*
13C8 PFOS	*87.2*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:38*	*1*
13C8 FOSA	*68.6*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:38*	*1*
d3-NMeFOSAA	*99.1*		*40 - 135*	*02/03/25 11:41*	*02/05/25 00:38*	*1*
d5-NEtFOSAA	*91.7*		*40 - 150*	*02/03/25 11:41*	*02/05/25 00:38*	*1*
13C2 4:2 FTS	*66.2*		*40 - 165*	*02/03/25 11:41*	*02/05/25 00:38*	*1*
13C2 6:2 FTS	*101*		*40 - 215*	*02/03/25 11:41*	*02/05/25 00:38*	*1*
13C2 8:2 FTS	*72.1*		*40 - 275*	*02/03/25 11:41*	*02/05/25 00:38*	*1*
13C3 HFPO-DA	*89.8*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:38*	*1*
d7-N-MeFOSE-M	*83.4*		*20 - 130*	*02/03/25 11:41*	*02/05/25 00:38*	*1*
d9-N-EtFOSE-M	*78.1*		*15 - 130*	*02/03/25 11:41*	*02/05/25 00:38*	*1*
d5-NEtPFOSA	*62.5*		*10 - 130*	*02/03/25 11:41*	*02/05/25 00:38*	*1*
d3-NMePFOSA	*61.2*		*10 - 130*	*02/03/25 11:41*	*02/05/25 00:38*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**10**		0.10	0.10	%			01/24/25 12:39	1

Client Sample ID: SRA-003-N-S003-01212025

Lab Sample ID: 320-118511-32

Date Collected: 01/21/25 13:10
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 92.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.097	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.060	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1

Client Sample ID: SRA-003-N-S003-01212025
Date Collected: 01/21/25 13:10
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-32
Matrix: Solid
Percent Solids: 92.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**0.13**	**J**	0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	^+	0.19	0.060	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.073	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	02/03/25 11:41	02/05/25 00:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*8 - 130*	*02/03/25 11:41*	*02/05/25 00:54*	*1*
13C5 PFPeA	*93.5*		*35 - 130*	*02/03/25 11:41*	*02/05/25 00:54*	*1*
13C5 PFHxA	*92.9*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:54*	*1*
13C4 PFHpA	*89.9*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:54*	*1*
13C8 PFOA	*93.3*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:54*	*1*
13C9 PFNA	*89.2*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:54*	*1*
13C6 PFDA	*82.8*		*40 - 130*	*02/03/25 11:41*	*02/05/25 00:54*	*1*

Client Sample ID: SRA-003-N-S003-01212025

Lab Sample ID: 320-118511-32

Date Collected: 01/21/25 13:10
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 92.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C7 PFUnA	76.8		40 - 130	02/03/25 11:41	02/05/25 00:54	1
13C2 PFDoA	72.7		40 - 130	02/03/25 11:41	02/05/25 00:54	1
13C2 PFTeDA	68.5		20 - 130	02/03/25 11:41	02/05/25 00:54	1
13C3 PFBS	84.8		40 - 135	02/03/25 11:41	02/05/25 00:54	1
13C3 PFHxS	96.0		40 - 130	02/03/25 11:41	02/05/25 00:54	1
13C8 PFOS	82.8		40 - 130	02/03/25 11:41	02/05/25 00:54	1
13C8 FOSA	67.3		40 - 130	02/03/25 11:41	02/05/25 00:54	1
d3-NMeFOSAA	92.0		40 - 135	02/03/25 11:41	02/05/25 00:54	1
d5-NEtFOSAA	95.2		40 - 150	02/03/25 11:41	02/05/25 00:54	1
13C2 4:2 FTS	80.7		40 - 165	02/03/25 11:41	02/05/25 00:54	1
13C2 6:2 FTS	101		40 - 215	02/03/25 11:41	02/05/25 00:54	1
13C2 8:2 FTS	76.9		40 - 275	02/03/25 11:41	02/05/25 00:54	1
13C3 HFPO-DA	101		40 - 130	02/03/25 11:41	02/05/25 00:54	1
d7-N-MeFOSE-M	71.7		20 - 130	02/03/25 11:41	02/05/25 00:54	1
d9-N-EtFOSE-M	75.3		15 - 130	02/03/25 11:41	02/05/25 00:54	1
d5-NEtPFOSA	54.2		10 - 130	02/03/25 11:41	02/05/25 00:54	1
d3-NMePFOSA	57.2		10 - 130	02/03/25 11:41	02/05/25 00:54	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	7.9		0.10	0.10	%			01/24/25 12:39	1

Client Sample ID: SRA-004A-N-S001-01212025

Lab Sample ID: 320-118511-37

Date Collected: 01/21/25 14:05
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 62.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
Perfluoropentanoic acid (PFPeA)	0.12	J	0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
Perfluorohexanoic acid (PFHxA)	0.13	J	0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
Perfluoroheptanoic acid (PFHpA)	0.13	J	0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
Perfluorooctanoic acid (PFOA)	0.66		0.20	0.063	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
Perfluorononanoic acid (PFNA)	0.52		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
Perfluorodecanoic acid (PFDA)	6.6		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
Perfluoroundecanoic acid (PFUnA)	1.8		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
Perfluorododecanoic acid (PFDoA)	4.9		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
Perfluorotridecanoic acid (PFTrDA)	0.33		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
Perfluorotetradecanoic acid (PFTeDA)	0.98		0.20	0.059	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
Perfluorohexanesulfonic acid (PFHxS)	0.19	J	0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
Perfluorooctanesulfonic acid (PFOS)	2.3		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1

Client Sample ID: SRA-004A-N-S001-01212025
Date Collected: 01/21/25 14:05
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-37
Matrix: Solid
Percent Solids: 62.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.064	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	^+	0.20	0.063	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	**0.45**		0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**5.1**		1.0	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	**6.8**		1.0	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 01:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*86.3*		*8 - 130*	*02/03/25 11:41*	*02/05/25 01:10*	*1*
13C5 PFPeA	*94.8*		*35 - 130*	*02/03/25 11:41*	*02/05/25 01:10*	*1*
13C5 PFHxA	*91.6*		*40 - 130*	*02/03/25 11:41*	*02/05/25 01:10*	*1*
13C4 PFHpA	*98.1*		*40 - 130*	*02/03/25 11:41*	*02/05/25 01:10*	*1*
13C8 PFOA	*96.0*		*40 - 130*	*02/03/25 11:41*	*02/05/25 01:10*	*1*
13C9 PFNA	*79.4*		*40 - 130*	*02/03/25 11:41*	*02/05/25 01:10*	*1*
13C6 PFDA	*73.0*		*40 - 130*	*02/03/25 11:41*	*02/05/25 01:10*	*1*
13C7 PFUnA	*60.9*		*40 - 130*	*02/03/25 11:41*	*02/05/25 01:10*	*1*

Client Sample ID: SRA-004A-N-S001-01212025

Lab Sample ID: 320-118511-37

Date Collected: 01/21/25 14:05
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 62.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDoA	51.3		40 - 130	02/03/25 11:41	02/05/25 01:10	1
13C2 PFTeDA	51.4		20 - 130	02/03/25 11:41	02/05/25 01:10	1
13C3 PFBS	82.7		40 - 135	02/03/25 11:41	02/05/25 01:10	1
13C3 PFHxS	90.7		40 - 130	02/03/25 11:41	02/05/25 01:10	1
13C8 PFOS	81.4		40 - 130	02/03/25 11:41	02/05/25 01:10	1
13C8 FOSA	59.4		40 - 130	02/03/25 11:41	02/05/25 01:10	1
d3-NMeFOSAA	76.5		40 - 135	02/03/25 11:41	02/05/25 01:10	1
d5-NEtFOSAA	76.7		40 - 150	02/03/25 11:41	02/05/25 01:10	1
13C2 4:2 FTS	107		40 - 165	02/03/25 11:41	02/05/25 01:10	1
13C2 6:2 FTS	108		40 - 215	02/03/25 11:41	02/05/25 01:10	1
13C2 8:2 FTS	92.0		40 - 275	02/03/25 11:41	02/05/25 01:10	1
13C3 HFPO-DA	92.2		40 - 130	02/03/25 11:41	02/05/25 01:10	1
d7-N-MeFOSE-M	62.1		20 - 130	02/03/25 11:41	02/05/25 01:10	1
d9-N-EtFOSE-M	63.3		15 - 130	02/03/25 11:41	02/05/25 01:10	1
d5-NEtPFOSA	55.3		10 - 130	02/03/25 11:41	02/05/25 01:10	1
d3-NMePFOSA	54.7		10 - 130	02/03/25 11:41	02/05/25 01:10	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	37		0.10	0.10	%			01/24/25 12:39	1

Client Sample ID: SRA-004A-FD-S001-01212025

Lab Sample ID: 320-118511-38

Date Collected: 01/21/25 14:35
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 63.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.10	J	0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
Perfluoropentanoic acid (PFPeA)	0.11	J	0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
Perfluorohexanoic acid (PFHxA)	0.14	J	0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
Perfluoroheptanoic acid (PFHpA)	0.15	J	0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
Perfluorooctanoic acid (PFOA)	0.67		0.20	0.063	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
Perfluorononanoic acid (PFNA)	0.47		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
Perfluorodecanoic acid (PFDA)	5.6		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
Perfluoroundecanoic acid (PFUnA)	1.8		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
Perfluorododecanoic acid (PFDoA)	5.7		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
Perfluorotridecanoic acid (PFTrDA)	0.34		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
Perfluorotetradecanoic acid (PFTeDA)	0.89		0.20	0.059	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
Perfluorohexanesulfonic acid (PFHxS)	0.19	J	0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
Perfluorooctanesulfonic acid (PFOS)	1.9		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1

Client Sample ID: SRA-004A-FD-S001-01212025
Date Collected: 01/21/25 14:35
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-38
Matrix: Solid
Percent Solids: 63.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.064	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	**0.52**		0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**6.3**		1.0	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	**7.2**		1.0	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 13:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*87.2*		*8 - 130*	*02/03/25 11:41*	*02/05/25 13:48*	*1*
13C5 PFPeA	*91.2*		*35 - 130*	*02/03/25 11:41*	*02/05/25 13:48*	*1*
13C5 PFHxA	*89.0*		*40 - 130*	*02/03/25 11:41*	*02/05/25 13:48*	*1*
13C4 PFHpA	*94.4*		*40 - 130*	*02/03/25 11:41*	*02/05/25 13:48*	*1*
13C8 PFOA	*88.7*		*40 - 130*	*02/03/25 11:41*	*02/05/25 13:48*	*1*
13C9 PFNA	*82.3*		*40 - 130*	*02/03/25 11:41*	*02/05/25 13:48*	*1*
13C6 PFDA	*74.1*		*40 - 130*	*02/03/25 11:41*	*02/05/25 13:48*	*1*
13C7 PFUnA	*65.5*		*40 - 130*	*02/03/25 11:41*	*02/05/25 13:48*	*1*
13C2 PFDoA	*52.6*		*40 - 130*	*02/03/25 11:41*	*02/05/25 13:48*	*1*

Client Sample ID: SRA-004A-FD-S001-01212025

Lab Sample ID: 320-118511-38
Date Collected: 01/21/25 14:35
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 63.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFTeDA	55.2		20 - 130	02/03/25 11:41	02/05/25 13:48	1
13C3 PFBS	88.6		40 - 135	02/03/25 11:41	02/05/25 13:48	1
13C3 PFHxS	93.1		40 - 130	02/03/25 11:41	02/05/25 13:48	1
13C8 PFOS	77.4		40 - 130	02/03/25 11:41	02/05/25 13:48	1
13C8 FOSA	57.2		40 - 130	02/03/25 11:41	02/05/25 13:48	1
d3-NMeFOSAA	70.4		40 - 135	02/03/25 11:41	02/05/25 13:48	1
d5-NEtFOSAA	73.5		40 - 150	02/03/25 11:41	02/05/25 13:48	1
13C2 4:2 FTS	106		40 - 165	02/03/25 11:41	02/05/25 13:48	1
13C2 6:2 FTS	124		40 - 215	02/03/25 11:41	02/05/25 13:48	1
13C2 8:2 FTS	106		40 - 275	02/03/25 11:41	02/05/25 13:48	1
13C3 HFPO-DA	90.1		40 - 130	02/03/25 11:41	02/05/25 13:48	1
d7-N-MeFOSE-M	62.3		20 - 130	02/03/25 11:41	02/05/25 13:48	1
d9-N-EtFOSE-M	58.8		15 - 130	02/03/25 11:41	02/05/25 13:48	1
d5-NEtPFOSA	57.2		10 - 130	02/03/25 11:41	02/05/25 13:48	1
d3-NMePFOSA	59.1		10 - 130	02/03/25 11:41	02/05/25 13:48	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**36**		0.10	0.10	%			01/24/25 12:39	1

Client Sample ID: SRA-004A-N-S003-01212025

Lab Sample ID: 320-118511-39
Date Collected: 01/21/25 14:10
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 75.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
Perfluorooctanoic acid (PFOA)	**0.20**		0.20	0.063	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
Perfluorononanoic acid (PFNA)	**0.15**	**J**	0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
Perfluorodecanoic acid (PFDA)	**1.0**		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
Perfluoroundecanoic acid (PFUnA)	**0.11**	**J**	0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
Perfluorododecanoic acid (PFDoA)	**0.25**		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
Perfluorotetradecanoic acid (PFTeDA)	**0.088**	**J**	0.20	0.059	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
Perfluorooctanesulfonic acid (PFOS)	**0.46**		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-1

Client Sample ID: SRA-004A-N-S003-01212025
Date Collected: 01/21/25 14:10
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-39
Matrix: Solid
Percent Solids: 75.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.064	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	^+	0.20	0.063	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	**0.40**	**J**	1.0	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 01:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*95.2*		*8 - 130*	*02/03/25 11:41*	*02/05/25 01:27*	*1*
13C5 PFPeA	*88.9*		*35 - 130*	*02/03/25 11:41*	*02/05/25 01:27*	*1*
13C5 PFHxA	*92.9*		*40 - 130*	*02/03/25 11:41*	*02/05/25 01:27*	*1*
13C4 PFHpA	*98.7*		*40 - 130*	*02/03/25 11:41*	*02/05/25 01:27*	*1*
13C8 PFOA	*96.3*		*40 - 130*	*02/03/25 11:41*	*02/05/25 01:27*	*1*
13C9 PFNA	*83.5*		*40 - 130*	*02/03/25 11:41*	*02/05/25 01:27*	*1*
13C6 PFDA	*74.3*		*40 - 130*	*02/03/25 11:41*	*02/05/25 01:27*	*1*
13C7 PFUnA	*60.3*		*40 - 130*	*02/03/25 11:41*	*02/05/25 01:27*	*1*
13C2 PFDoA	*53.6*		*40 - 130*	*02/03/25 11:41*	*02/05/25 01:27*	*1*
13C2 PFTeDA	*55.2*		*20 - 130*	*02/03/25 11:41*	*02/05/25 01:27*	*1*
13C3 PFBS	*87.3*		*40 - 135*	*02/03/25 11:41*	*02/05/25 01:27*	*1*
13C3 PFHxS	*95.9*		*40 - 130*	*02/03/25 11:41*	*02/05/25 01:27*	*1*

Client Sample ID: SRA-004A-N-S003-01212025

Lab Sample ID: 320-118511-39
Date Collected: 01/21/25 14:10
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 75.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	74.9		40 - 130	02/03/25 11:41	02/05/25 01:27	1
13C8 FOSA	57.2		40 - 130	02/03/25 11:41	02/05/25 01:27	1
d3-NMeFOSAA	75.6		40 - 135	02/03/25 11:41	02/05/25 01:27	1
d5-NEtFOSAA	69.2		40 - 150	02/03/25 11:41	02/05/25 01:27	1
13C2 4:2 FTS	85.9		40 - 165	02/03/25 11:41	02/05/25 01:27	1
13C2 6:2 FTS	108		40 - 215	02/03/25 11:41	02/05/25 01:27	1
13C2 8:2 FTS	78.5		40 - 275	02/03/25 11:41	02/05/25 01:27	1
13C3 HFPO-DA	89.2		40 - 130	02/03/25 11:41	02/05/25 01:27	1
d7-N-MeFOSE-M	57.8		20 - 130	02/03/25 11:41	02/05/25 01:27	1
d9-N-EtFOSE-M	60.1		15 - 130	02/03/25 11:41	02/05/25 01:27	1
d5-NEtPFOSA	54.4		10 - 130	02/03/25 11:41	02/05/25 01:27	1
d3-NMePFOSA	54.1		10 - 130	02/03/25 11:41	02/05/25 01:27	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	24		0.10	0.10	%			01/24/25 12:39	1

Client Sample ID: SRA-006-N-S001-01212025

Lab Sample ID: 320-118511-45
Date Collected: 01/21/25 15:45
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 78.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.20	J	0.41	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
Perfluoropentanoic acid (PFPeA)	0.19	J	0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
Perfluorohexanoic acid (PFHxA)	0.16	J	0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
Perfluoroheptanoic acid (PFHpA)	0.091	J	0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
Perfluorooctanoic acid (PFOA)	0.70		0.20	0.063	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
Perfluorononanoic acid (PFNA)	0.088	J	0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
Perfluorodecanoic acid (PFDA)	0.10	J	0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
Perfluorohexanesulfonic acid (PFHxS)	0.73		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
Perfluorooctanesulfonic acid (PFOS)	1.1		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.41	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.41	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-1

Client Sample ID: SRA-006-N-S001-01212025
Date Collected: 01/21/25 15:45
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-45
Matrix: Solid
Percent Solids: 78.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.41	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.064	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	^+	0.20	0.063	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.41	0.10	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/03/25 11:41	02/05/25 01:44	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*94.4*		*8 - 130*	*02/03/25 11:41*	*02/05/25 01:44*	*1*
13C5 PFPeA	*92.3*		*35 - 130*	*02/03/25 11:41*	*02/05/25 01:44*	*1*
13C5 PFHxA	*95.7*		*40 - 130*	*02/03/25 11:41*	*02/05/25 01:44*	*1*
13C4 PFHpA	*89.1*		*40 - 130*	*02/03/25 11:41*	*02/05/25 01:44*	*1*
13C8 PFOA	*87.7*		*40 - 130*	*02/03/25 11:41*	*02/05/25 01:44*	*1*
13C9 PFNA	*80.7*		*40 - 130*	*02/03/25 11:41*	*02/05/25 01:44*	*1*
13C6 PFDA	*66.6*		*40 - 130*	*02/03/25 11:41*	*02/05/25 01:44*	*1*
13C7 PFUnA	*56.4*		*40 - 130*	*02/03/25 11:41*	*02/05/25 01:44*	*1*
13C2 PFDoA	*48.1*		*40 - 130*	*02/03/25 11:41*	*02/05/25 01:44*	*1*
13C2 PFTeDA	*53.9*		*20 - 130*	*02/03/25 11:41*	*02/05/25 01:44*	*1*
13C3 PFBS	*83.5*		*40 - 135*	*02/03/25 11:41*	*02/05/25 01:44*	*1*
13C3 PFHxS	*86.9*		*40 - 130*	*02/03/25 11:41*	*02/05/25 01:44*	*1*
13C8 PFOS	*75.9*		*40 - 130*	*02/03/25 11:41*	*02/05/25 01:44*	*1*
13C8 FOSA	*54.9*		*40 - 130*	*02/03/25 11:41*	*02/05/25 01:44*	*1*
d3-NMeFOSAA	*73.4*		*40 - 135*	*02/03/25 11:41*	*02/05/25 01:44*	*1*
d5-NEtFOSAA	*69.8*		*40 - 150*	*02/03/25 11:41*	*02/05/25 01:44*	*1*

Client Sample ID: SRA-006-N-S001-01212025

Lab Sample ID: 320-118511-45

Date Collected: 01/21/25 15:45
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 78.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 4:2 FTS	110		40 - 165	02/03/25 11:41	02/05/25 01:44	1
13C2 6:2 FTS	113		40 - 215	02/03/25 11:41	02/05/25 01:44	1
13C2 8:2 FTS	83.9		40 - 275	02/03/25 11:41	02/05/25 01:44	1
13C3 HFPO-DA	96.2		40 - 130	02/03/25 11:41	02/05/25 01:44	1
d7-N-MeFOSE-M	60.3		20 - 130	02/03/25 11:41	02/05/25 01:44	1
d9-N-EtFOSE-M	61.9		15 - 130	02/03/25 11:41	02/05/25 01:44	1
d5-NEtPFOSA	56.5		10 - 130	02/03/25 11:41	02/05/25 01:44	1
d3-NMePFOSA	55.4		10 - 130	02/03/25 11:41	02/05/25 01:44	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	21		0.10	0.10	%			01/24/25 12:39	1

Client Sample ID: EB-01212025

Lab Sample ID: 320-118511-47

Date Collected: 01/21/25 07:15
Matrix: Water
Date Received: 01/23/25 09:55

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.2	0.80	ng/L		01/27/25 03:51	01/28/25 18:04	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.40	ng/L		01/27/25 03:51	01/28/25 18:04	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.40	ng/L		01/27/25 03:51	01/28/25 18:04	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.40	ng/L		01/27/25 03:51	01/28/25 18:04	1
Perfluorooctanoic acid (PFOA)	ND		1.6	0.40	ng/L		01/27/25 03:51	01/28/25 18:04	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.40	ng/L		01/27/25 03:51	01/28/25 18:04	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.40	ng/L		01/27/25 03:51	01/28/25 18:04	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.40	ng/L		01/27/25 03:51	01/28/25 18:04	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.44	ng/L		01/27/25 03:51	01/28/25 18:04	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.6	0.46	ng/L		01/27/25 03:51	01/28/25 18:04	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.6	0.65	ng/L		01/27/25 03:51	01/28/25 18:04	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.40	ng/L		01/27/25 03:51	01/28/25 18:04	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.6	0.40	ng/L		01/27/25 03:51	01/28/25 18:04	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.40	ng/L		01/27/25 03:51	01/28/25 18:04	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.40	ng/L		01/27/25 03:51	01/28/25 18:04	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.40	ng/L		01/27/25 03:51	01/28/25 18:04	1
Perfluorononanesulfonic acid (PFNS)	ND		1.6	0.40	ng/L		01/27/25 03:51	01/28/25 18:04	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.40	ng/L		01/27/25 03:51	01/28/25 18:04	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.6	0.42	ng/L		01/27/25 03:51	01/28/25 18:04	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.2	0.80	ng/L		01/27/25 03:51	01/28/25 18:04	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.2	0.80	ng/L		01/27/25 03:51	01/28/25 18:04	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.2	0.80	ng/L		01/27/25 03:51	01/28/25 18:04	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.40	ng/L		01/27/25 03:51	01/28/25 18:04	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.6	0.40	ng/L		01/27/25 03:51	01/28/25 18:04	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.6	0.40	ng/L		01/27/25 03:51	01/28/25 18:04	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-1

Client Sample ID: EB-01212025
Date Collected: 01/21/25 07:15
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-47
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.6	0.40	ng/L		01/27/25 03:51	01/28/25 18:04	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.6	0.40	ng/L		01/27/25 03:51	01/28/25 18:04	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.0	2.0	ng/L		01/27/25 03:51	01/28/25 18:04	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.0	2.0	ng/L		01/27/25 03:51	01/28/25 18:04	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.2	0.31	ng/L		01/27/25 03:51	01/28/25 18:04	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.6	0.40	ng/L		01/27/25 03:51	01/28/25 18:04	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.6	0.40	ng/L		01/27/25 03:51	01/28/25 18:04	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.6	0.40	ng/L		01/27/25 03:51	01/28/25 18:04	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.6	0.58	ng/L		01/27/25 03:51	01/28/25 18:04	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.6	0.46	ng/L		01/27/25 03:51	01/28/25 18:04	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.6	0.40	ng/L		01/27/25 03:51	01/28/25 18:04	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.6	0.40	ng/L		01/27/25 03:51	01/28/25 18:04	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.2	0.80	ng/L		01/27/25 03:51	01/28/25 18:04	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.0	2.0	ng/L		01/27/25 03:51	01/28/25 18:04	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.0	2.0	ng/L		01/27/25 03:51	01/28/25 18:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*95.5*		*5 - 130*	*01/27/25 03:51*	*01/28/25 18:04*	*1*
13C5 PFPeA	*94.9*		*40 - 130*	*01/27/25 03:51*	*01/28/25 18:04*	*1*
13C5 PFHxA	*111*		*40 - 130*	*01/27/25 03:51*	*01/28/25 18:04*	*1*
13C4 PFHpA	*105*		*40 - 130*	*01/27/25 03:51*	*01/28/25 18:04*	*1*
13C8 PFOA	*91.4*		*40 - 130*	*01/27/25 03:51*	*01/28/25 18:04*	*1*
13C9 PFNA	*89.3*		*40 - 130*	*01/27/25 03:51*	*01/28/25 18:04*	*1*
13C6 PFDA	*91.0*		*40 - 130*	*01/27/25 03:51*	*01/28/25 18:04*	*1*
13C7 PFUnA	*76.2*		*30 - 130*	*01/27/25 03:51*	*01/28/25 18:04*	*1*
13C2 PFDoA	*84.8*		*10 - 130*	*01/27/25 03:51*	*01/28/25 18:04*	*1*
13C2 PFTeDA	*69.0*		*10 - 130*	*01/27/25 03:51*	*01/28/25 18:04*	*1*
13C3 PFBS	*97.3*		*40 - 135*	*01/27/25 03:51*	*01/28/25 18:04*	*1*
13C3 PFHxS	*99.0*		*40 - 130*	*01/27/25 03:51*	*01/28/25 18:04*	*1*
13C8 PFOS	*96.7*		*40 - 130*	*01/27/25 03:51*	*01/28/25 18:04*	*1*
13C8 FOSA	*82.5*		*40 - 130*	*01/27/25 03:51*	*01/28/25 18:04*	*1*
d3-NMeFOSAA	*78.9*		*40 - 170*	*01/27/25 03:51*	*01/28/25 18:04*	*1*
d5-NEtFOSAA	*82.4*		*25 - 135*	*01/27/25 03:51*	*01/28/25 18:04*	*1*
13C2 4:2 FTS	*120*		*40 - 200*	*01/27/25 03:51*	*01/28/25 18:04*	*1*
13C2 6:2 FTS	*124*		*40 - 200*	*01/27/25 03:51*	*01/28/25 18:04*	*1*
13C2 8:2 FTS	*99.6*		*40 - 300*	*01/27/25 03:51*	*01/28/25 18:04*	*1*
13C3 HFPO-DA	*89.9*		*40 - 130*	*01/27/25 03:51*	*01/28/25 18:04*	*1*
d7-N-MeFOSE-M	*62.5*		*10 - 130*	*01/27/25 03:51*	*01/28/25 18:04*	*1*
d9-N-EtFOSE-M	*56.0*		*10 - 130*	*01/27/25 03:51*	*01/28/25 18:04*	*1*

Client Sample ID: EB-01212025

Lab Sample ID: 320-118511-47

Date Collected: 01/21/25 07:15

Matrix: Water

Date Received: 01/23/25 09:55

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtPFOSA	74.9		10 - 130	01/27/25 03:51	01/28/25 18:04	1
d3-NMePFOSA	77.3		10 - 130	01/27/25 03:51	01/28/25 18:04	1

Client Sample ID: FB-01212025

Lab Sample ID: 320-118511-48

Date Collected: 01/21/25 00:00

Matrix: Water

Date Received: 01/23/25 09:55

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.0	0.76	ng/L		01/27/25 03:51	01/28/25 18:53	1
Perfluoropentanoic acid (PFPeA)	ND		1.5	0.38	ng/L		01/27/25 03:51	01/28/25 18:53	1
Perfluorohexanoic acid (PFHxA)	ND		1.5	0.38	ng/L		01/27/25 03:51	01/28/25 18:53	1
Perfluoroheptanoic acid (PFHpA)	ND		1.5	0.38	ng/L		01/27/25 03:51	01/28/25 18:53	1
Perfluorooctanoic acid (PFOA)	ND		1.5	0.38	ng/L		01/27/25 03:51	01/28/25 18:53	1
Perfluorononanoic acid (PFNA)	ND		1.5	0.38	ng/L		01/27/25 03:51	01/28/25 18:53	1
Perfluorodecanoic acid (PFDA)	ND		1.5	0.38	ng/L		01/27/25 03:51	01/28/25 18:53	1
Perfluoroundecanoic acid (PFUnA)	ND		1.5	0.38	ng/L		01/27/25 03:51	01/28/25 18:53	1
Perfluorododecanoic acid (PFDoA)	ND		1.5	0.42	ng/L		01/27/25 03:51	01/28/25 18:53	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.5	0.44	ng/L		01/27/25 03:51	01/28/25 18:53	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.5	0.62	ng/L		01/27/25 03:51	01/28/25 18:53	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.5	0.38	ng/L		01/27/25 03:51	01/28/25 18:53	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.5	0.38	ng/L		01/27/25 03:51	01/28/25 18:53	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.5	0.38	ng/L		01/27/25 03:51	01/28/25 18:53	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.5	0.38	ng/L		01/27/25 03:51	01/28/25 18:53	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.5	0.38	ng/L		01/27/25 03:51	01/28/25 18:53	1
Perfluorononanesulfonic acid (PFNS)	ND		1.5	0.38	ng/L		01/27/25 03:51	01/28/25 18:53	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.5	0.38	ng/L		01/27/25 03:51	01/28/25 18:53	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.5	0.40	ng/L		01/27/25 03:51	01/28/25 18:53	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.0	0.76	ng/L		01/27/25 03:51	01/28/25 18:53	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.0	0.76	ng/L		01/27/25 03:51	01/28/25 18:53	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.0	0.76	ng/L		01/27/25 03:51	01/28/25 18:53	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.5	0.38	ng/L		01/27/25 03:51	01/28/25 18:53	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.5	0.38	ng/L		01/27/25 03:51	01/28/25 18:53	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.5	0.38	ng/L		01/27/25 03:51	01/28/25 18:53	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.5	0.38	ng/L		01/27/25 03:51	01/28/25 18:53	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.5	0.38	ng/L		01/27/25 03:51	01/28/25 18:53	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		7.6	1.9	ng/L		01/27/25 03:51	01/28/25 18:53	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		7.6	1.9	ng/L		01/27/25 03:51	01/28/25 18:53	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.1	0.30	ng/L		01/27/25 03:51	01/28/25 18:53	1

Client Sample ID: FB-01212025
Date Collected: 01/21/25 00:00
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118511-48
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.5	0.38	ng/L		01/27/25 03:51	01/28/25 18:53	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.5	0.38	ng/L		01/27/25 03:51	01/28/25 18:53	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.5	0.38	ng/L		01/27/25 03:51	01/28/25 18:53	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.5	0.55	ng/L		01/27/25 03:51	01/28/25 18:53	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.5	0.44	ng/L		01/27/25 03:51	01/28/25 18:53	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.5	0.38	ng/L		01/27/25 03:51	01/28/25 18:53	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.5	0.38	ng/L		01/27/25 03:51	01/28/25 18:53	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.0	0.76	ng/L		01/27/25 03:51	01/28/25 18:53	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		7.6	1.9	ng/L		01/27/25 03:51	01/28/25 18:53	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		7.6	1.9	ng/L		01/27/25 03:51	01/28/25 18:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*98.9*		*5 - 130*	*01/27/25 03:51*	*01/28/25 18:53*	*1*
13C5 PFPeA	*94.2*		*40 - 130*	*01/27/25 03:51*	*01/28/25 18:53*	*1*
13C5 PFHxA	*103*		*40 - 130*	*01/27/25 03:51*	*01/28/25 18:53*	*1*
13C4 PFHpA	*107*		*40 - 130*	*01/27/25 03:51*	*01/28/25 18:53*	*1*
13C8 PFOA	*98.9*		*40 - 130*	*01/27/25 03:51*	*01/28/25 18:53*	*1*
13C9 PFNA	*91.3*		*40 - 130*	*01/27/25 03:51*	*01/28/25 18:53*	*1*
13C6 PFDA	*87.2*		*40 - 130*	*01/27/25 03:51*	*01/28/25 18:53*	*1*
13C7 PFUnA	*86.8*		*30 - 130*	*01/27/25 03:51*	*01/28/25 18:53*	*1*
13C2 PFDoA	*85.9*		*10 - 130*	*01/27/25 03:51*	*01/28/25 18:53*	*1*
13C2 PFTeDA	*75.3*		*10 - 130*	*01/27/25 03:51*	*01/28/25 18:53*	*1*
13C3 PFBS	*105*		*40 - 135*	*01/27/25 03:51*	*01/28/25 18:53*	*1*
13C3 PFHxS	*109*		*40 - 130*	*01/27/25 03:51*	*01/28/25 18:53*	*1*
13C8 PFOS	*97.6*		*40 - 130*	*01/27/25 03:51*	*01/28/25 18:53*	*1*
13C8 FOSA	*79.9*		*40 - 130*	*01/27/25 03:51*	*01/28/25 18:53*	*1*
d3-NMeFOSAA	*81.5*		*40 - 170*	*01/27/25 03:51*	*01/28/25 18:53*	*1*
d5-NEtFOSAA	*86.0*		*25 - 135*	*01/27/25 03:51*	*01/28/25 18:53*	*1*
13C2 4:2 FTS	*102*		*40 - 200*	*01/27/25 03:51*	*01/28/25 18:53*	*1*
13C2 6:2 FTS	*131*		*40 - 200*	*01/27/25 03:51*	*01/28/25 18:53*	*1*
13C2 8:2 FTS	*97.7*		*40 - 300*	*01/27/25 03:51*	*01/28/25 18:53*	*1*
13C3 HFPO-DA	*83.3*		*40 - 130*	*01/27/25 03:51*	*01/28/25 18:53*	*1*
d7-N-MeFOSE-M	*60.4*		*10 - 130*	*01/27/25 03:51*	*01/28/25 18:53*	*1*
d9-N-EtFOSE-M	*50.2*		*10 - 130*	*01/27/25 03:51*	*01/28/25 18:53*	*1*
d5-NEtPFOSA	*71.7*		*10 - 130*	*01/27/25 03:51*	*01/28/25 18:53*	*1*
d3-NMePFOSA	*71.7*		*10 - 130*	*01/27/25 03:51*	*01/28/25 18:53*	*1*

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (8-130)	PFPeA (35-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (40-130)
320-118511-2	FIT-002-N-S001-01212025		99.8	92.8	109	104	95.7	93.3	82.6
320-118511-2 - RA	FIT-002-N-S001-01212025	92.7	107	103					
320-118511-3	FIT-002-N-S003-01212025		93.1	99.4	104	105	98.4	90.7	79.2
320-118511-3 - RA	FIT-002-N-S003-01212025	94.6	100	102					
320-118511-8	FIT-001-N-S001-01212025		86.6	90.0	94.6	87.4	91.6	91.9	77.9
320-118511-8 - RA	FIT-001-N-S001-01212025	90.7	101	95.3					
320-118511-9	FIT-001-N-S003-01212025		96.4	97.1	99.7	96.0	97.7	84.5	67.1
320-118511-9 - RA	FIT-001-N-S003-01212025	95.4	102	99.3					
320-118511-10	FIT-001-FD-S003-01212025		98.6	98.8	94.0	90.3	96.6	97.1	81.7
320-118511-10 - RA	FIT-001-FD-S003-01212025	97.0	102	97.8					
320-118511-13	FIT-003-N-S001-01212025		90.2	102	103	99.9	97.2	88.7	72.7
320-118511-13 - RA	FIT-003-N-S001-01212025	96.2	97.4	103					
320-118511-14	FIT-003-N-S003-01212025		86.7	83.5	103	92.8	95.9	92.3	85.2
320-118511-14 - RA	FIT-003-N-S003-01212025	95.4	109	106					
320-118511-23	FIT-004-N-S001-01212025		97.3	107	110	85.8	92.1	90.3	78.6
320-118511-23 - RA	FIT-004-N-S001-01212025	94.9	99.1	94.1					
320-118511-24	FIT-004-N-S003-01212025	99.0	92.6	102	109	89.0	85.8	79.4	81.2
320-118511-25	FIT-004-FD-S003-01212025	95.5	88.8	94.5	96.3	95.1	86.8	77.8	72.6
320-118511-31	SRA-003-N-S001-01212025	91.7	95.5	97.9	100	96.7	91.3	79.3	71.2
320-118511-32	SRA-003-N-S003-01212025	101	93.5	92.9	89.9	93.3	89.2	82.8	76.8
320-118511-37	SRA-004A-N-S001-01212025	86.3	94.8	91.6	98.1	96.0	79.4	73.0	60.9
320-118511-38	SRA-004A-FD-S001-01212025	87.2	91.2	89.0	94.4	88.7	82.3	74.1	65.5
320-118511-39	SRA-004A-N-S003-01212025	95.2	88.9	92.9	98.7	96.3	83.5	74.3	60.3
320-118511-45	SRA-006-N-S001-01212025	94.4	92.3	95.7	89.1	87.7	80.7	66.6	56.4
LCS 320-830277/3-A	Lab Control Sample		99.2	104	110	103	89.3	90.1	81.7
LCS 320-830277/3-A - RA	Lab Control Sample	92.3	116	94.0					
LCS 320-830935/3-A	Lab Control Sample	94.7	90.1	97.8	99.0	94.8	88.6	79.9	77.5
LCSD 320-830277/4-A	Lab Control Sample Dup		98.9	104	101	94.3	94.7	92.9	90.8
LCSD 320-830277/4-A - RA	Lab Control Sample Dup	94.6	112	97.2					
LCSD 320-830935/4-A	Lab Control Sample Dup	86.1	98.3	99.6	88.7	95.9	84.8	88.3	96.2
LLCS 320-830277/2-A	Lab Control Sample		93.5	89.3	101	103	99.8	88.3	73.6
LLCS 320-830277/2-A - RA	Lab Control Sample	91.6	109	98.0					
LLCS 320-830935/2-A	Lab Control Sample	87.7	90.1	97.6	98.9	98.3	91.1	83.8	80.6
MB 320-830277/1-A	Method Blank		89.9	96.0	96.8	96.1	102	93.3	89.8
MB 320-830277/1-A - RA	Method Blank	97.8	112	101					
MB 320-830935/1-A	Method Blank	96.1	85.2	102	99.6	101	87.4	88.4	85.9

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (40-130)	PFTDA (20-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-135)	d5NEFOS (40-150)
320-118511-2	FIT-002-N-S001-01212025	77.0	86.5	89.1	90.2	86.3	74.9	79.2	78.1
320-118511-2 - RA	FIT-002-N-S001-01212025								
320-118511-3	FIT-002-N-S003-01212025	83.1	92.2	86.5	91.9	97.2	87.3	92.3	89.5
320-118511-3 - RA	FIT-002-N-S003-01212025								
320-118511-8	FIT-001-N-S001-01212025	78.3	88.9	82.3	85.6	85.9	79.5	80.4	81.4
320-118511-8 - RA	FIT-001-N-S001-01212025								
320-118511-9	FIT-001-N-S003-01212025	74.2	86.1	81.7	88.1	80.5	72.9	73.5	72.1
320-118511-9 - RA	FIT-001-N-S003-01212025								
320-118511-10	FIT-001-FD-S003-01212025	93.9	98.5	82.7	89.1	85.7	74.1	78.3	79.1
320-118511-10 - RA	FIT-001-FD-S003-01212025								

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118511-1
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Solid
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (40-130)	PFTDA (20-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-135)	d5NEFOS (40-150)
320-118511-13	FIT-003-N-S001-01212025	75.2	81.7	90.3	90.0	88.1	77.5	80.0	76.5
320-118511-13 - RA	FIT-003-N-S001-01212025								
320-118511-14	FIT-003-N-S003-01212025	89.8	94.6	83.2	90.4	90.9	80.3	85.9	83.7
320-118511-14 - RA	FIT-003-N-S003-01212025								
320-118511-23	FIT-004-N-S001-01212025	72.4	77.3	93.1	91.9	96.0	76.6	79.8	79.6
320-118511-23 - RA	FIT-004-N-S001-01212025								
320-118511-24	FIT-004-N-S003-01212025	71.9	76.3	83.8	92.4	88.6	69.3	105	98.0
320-118511-25	FIT-004-FD-S003-01212025	75.8	79.0	87.6	95.5	85.3	68.8	98.1	95.8
320-118511-31	SRA-003-N-S001-01212025	69.2	65.4	82.6	90.5	87.2	68.6	99.1	91.7
320-118511-32	SRA-003-N-S003-01212025	72.7	68.5	84.8	96.0	82.8	67.3	92.0	95.2
320-118511-37	SRA-004A-N-S001-01212025	51.3	51.4	82.7	90.7	81.4	59.4	76.5	76.7
320-118511-38	SRA-004A-FD-S001-01212025	52.6	55.2	88.6	93.1	77.4	57.2	70.4	73.5
320-118511-39	SRA-004A-N-S003-01212025	53.6	55.2	87.3	95.9	74.9	57.2	75.6	69.2
320-118511-45	SRA-006-N-S001-01212025	48.1	53.9	83.5	86.9	75.9	54.9	73.4	69.8
LCS 320-830277/3-A	Lab Control Sample	80.9	89.7	92.1	95.2	103	82.3	86.6	88.6
LCS 320-830277/3-A - RA	Lab Control Sample								
LCS 320-830935/3-A	Lab Control Sample	77.1	71.3	90.9	93.4	87.0	80.5	102	92.0
LCSD 320-830277/4-A	Lab Control Sample Dup	97.1	101	93.9	97.8	102	88.3	88.8	90.8
LCSD 320-830277/4-A - RA	Lab Control Sample Dup								
LCSD 320-830935/4-A	Lab Control Sample Dup	90.7	90.8	94.3	98.5	86.2	72.3	93.8	103
LLCS 320-830277/2-A	Lab Control Sample	75.9	85.0	91.3	97.4	93.4	75.1	82.6	77.8
LLCS 320-830277/2-A - RA	Lab Control Sample								
LLCS 320-830935/2-A	Lab Control Sample	77.1	75.6	90.2	88.0	85.0	78.6	97.3	88.1
MB 320-830277/1-A	Method Blank	93.4	96.8	99.4	96.4	97.5	82.5	91.5	80.4
MB 320-830277/1-A - RA	Method Blank								
MB 320-830935/1-A	Method Blank	82.5	80.3	94.7	93.1	89.0	75.2	96.7	95.4

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118511-2	FIT-002-N-S001-01212025							63.0	65.4
320-118511-2 - RA	FIT-002-N-S001-01212025	81.6	79.5	68.3	101	71.2	72.7		
320-118511-3	FIT-002-N-S003-01212025							73.3	73.8
320-118511-3 - RA	FIT-002-N-S003-01212025	98.6	89.7	80.8	105	78.1	77.7		
320-118511-8	FIT-001-N-S001-01212025							66.9	68.8
320-118511-8 - RA	FIT-001-N-S001-01212025	86.4	79.8	71.3	99.9	77.3	80.0		
320-118511-9	FIT-001-N-S003-01212025							59.6	61.0
320-118511-9 - RA	FIT-001-N-S003-01212025	82.0	84.0	65.4	104	71.4	72.5		
320-118511-10	FIT-001-FD-S003-01212025							65.2	63.4
320-118511-10 - RA	FIT-001-FD-S003-01212025	93.5	79.8	70.5	105	79.5	81.1		
320-118511-13	FIT-003-N-S001-01212025							61.7	60.2
320-118511-13 - RA	FIT-003-N-S001-01212025	96.2	90.2	70.3	100	70.7	72.8		
320-118511-14	FIT-003-N-S003-01212025							58.2	57.7
320-118511-14 - RA	FIT-003-N-S003-01212025	87.9	81.2	73.0	105	77.6	82.4		
320-118511-23	FIT-004-N-S001-01212025							57.8	59.2
320-118511-23 - RA	FIT-004-N-S001-01212025	93.0	86.1	73.6	98.0	72.0	70.4		
320-118511-24	FIT-004-N-S003-01212025	83.0	101	71.9	103	84.9	84.4	67.4	64.2
320-118511-25	FIT-004-FD-S003-01212025	73.4	108	77.7	95.8	82.5	85.1	55.5	55.5
320-118511-31	SRA-003-N-S001-01212025	66.2	101	72.1	89.8	83.4	78.1	62.5	61.2
320-118511-32	SRA-003-N-S003-01212025	80.7	101	76.9	101	71.7	75.3	54.2	57.2
320-118511-37	SRA-004A-N-S001-01212025	107	108	92.0	92.2	62.1	63.3	55.3	54.7

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118511-38	SRA-004A-FD-S001-01212025	106	124	106	90.1	62.3	58.8	57.2	59.1
320-118511-39	SRA-004A-N-S003-01212025	85.9	108	78.5	89.2	57.8	60.1	54.4	54.1
320-118511-45	SRA-006-N-S001-01212025	110	113	83.9	96.2	60.3	61.9	56.5	55.4
LCS 320-830277/3-A	Lab Control Sample							59.0	53.7
LCS 320-830277/3-A - RA	Lab Control Sample	103	93.9	75.8	114	81.2	72.1		
LCS 320-830935/3-A	Lab Control Sample	88.8	101	89.6	98.8	74.9	79.9	72.0	74.9
LCSD 320-830277/4-A	Lab Control Sample Dup							63.1	62.1
LCSD 320-830277/4-A - RA	Lab Control Sample Dup	101	91.4	80.1	115	83.3	74.9		
LCSD 320-830935/4-A	Lab Control Sample Dup	99.6	105	90.8	103	89.4	88.2	70.8	60.9
LLCS 320-830277/2-A	Lab Control Sample							57.9	56.4
LLCS 320-830277/2-A - RA	Lab Control Sample	101	87.9	74.6	107	70.7	63.6		
LLCS 320-830935/2-A	Lab Control Sample	89.5	96.7	91.0	101	90.6	87.9	77.8	74.9
MB 320-830277/1-A	Method Blank							64.7	65.0
MB 320-830277/1-A - RA	Method Blank	106	91.8	77.7	115	77.5	70.5		
MB 320-830935/1-A	Method Blank	86.6	113	97.2	96.7	82.1	80.9	64.8	60.4

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (5-130)	PFPeA (40-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (30-130)
320-118511-47	EB-01212025	95.5	94.9	111	105	91.4	89.3	91.0	76.2
320-118511-48	FB-01212025	98.9	94.2	103	107	98.9	91.3	87.2	86.8
LCS 320-829538/3-A	Lab Control Sample	45.6	49.9	52.8	52.3	53.2	44.2	48.0	46.8

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118511-1
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (5-130)	PFPeA (40-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (30-130)
LCSD 320-829538/4-A	Lab Control Sample Dup	99.1	112	107	110	97.4	83.2	85.0	73.3
LLCS 320-829538/2-A	Lab Control Sample	101	90.3	97.2	99.0	96.9	85.0	86.2	84.4
MB 320-829538/1-A	Method Blank	97.2	95.9	95.0	101	96.5	81.4	77.9	70.6

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (10-130)	PFTDA (10-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-170)	d5NEFOS (25-135)
320-118511-47	EB-01212025	84.8	69.0	97.3	99.0	96.7	82.5	78.9	82.4
320-118511-48	FB-01212025	85.9	75.3	105	109	97.6	79.9	81.5	86.0
LCS 320-829538/3-A	Lab Control Sample	53.0	52.1	45.8	47.9	45.7	51.1	42.9	46.8
LCSD 320-829538/4-A	Lab Control Sample Dup	74.6	73.7	93.1	98.5	87.0	78.7	75.2	72.8
LLCS 320-829538/2-A	Lab Control Sample	86.9	80.0	87.4	91.6	84.4	81.1	78.4	79.0
MB 320-829538/1-A	Method Blank	73.4	57.8	82.7	88.4	87.2	80.1	76.7	77.2

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-200)	M262FTS (40-200)	M282FTS (40-300)	HFPODA (40-130)	NMFM (10-130)	NEFM (10-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118511-47	EB-01212025	120	124	99.6	89.9	62.5	56.0	74.9	77.3
320-118511-48	FB-01212025	102	131	97.7	83.3	60.4	50.2	71.7	71.7
LCS 320-829538/3-A	Lab Control Sample	52.3	52.3	44.4	38.4 *5-	41.9	40.0	50.3	50.5
LCSD 320-829538/4-A	Lab Control Sample Dup	106	105	91.8	88.2	64.8	63.4	76.5	78.2
LLCS 320-829538/2-A	Lab Control Sample	102	111	91.4	77.5	67.3	65.5	76.2	78.0
MB 320-829538/1-A	Method Blank	97.4	97.4	81.9	77.6	59.0	55.0	74.6	73.4

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-829538/1-A
Matrix: Water
Analysis Batch: 830037

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 829538

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.0	1.0	ng/L		01/27/25 03:51	01/28/25 15:36	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.50	ng/L		01/27/25 03:51	01/28/25 15:36	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		01/27/25 03:51	01/28/25 15:36	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		01/27/25 03:51	01/28/25 15:36	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		01/27/25 03:51	01/28/25 15:36	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		01/27/25 03:51	01/28/25 15:36	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		01/27/25 03:51	01/28/25 15:36	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		01/27/25 03:51	01/28/25 15:36	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		01/27/25 03:51	01/28/25 15:36	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.58	ng/L		01/27/25 03:51	01/28/25 15:36	1
Perfluorotetradecanoic acid (PFTeDA)	ND		2.0	0.81	ng/L		01/27/25 03:51	01/28/25 15:36	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		01/27/25 03:51	01/28/25 15:36	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		01/27/25 03:51	01/28/25 15:36	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		01/27/25 03:51	01/28/25 15:36	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.50	ng/L		01/27/25 03:51	01/28/25 15:36	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		01/27/25 03:51	01/28/25 15:36	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		01/27/25 03:51	01/28/25 15:36	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		01/27/25 03:51	01/28/25 15:36	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.53	ng/L		01/27/25 03:51	01/28/25 15:36	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		4.0	1.0	ng/L		01/27/25 03:51	01/28/25 15:36	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		4.0	1.0	ng/L		01/27/25 03:51	01/28/25 15:36	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		4.0	1.0	ng/L		01/27/25 03:51	01/28/25 15:36	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		01/27/25 03:51	01/28/25 15:36	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		2.0	0.50	ng/L		01/27/25 03:51	01/28/25 15:36	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		2.0	0.50	ng/L		01/27/25 03:51	01/28/25 15:36	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ng/L		01/27/25 03:51	01/28/25 15:36	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.50	ng/L		01/27/25 03:51	01/28/25 15:36	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		10	2.5	ng/L		01/27/25 03:51	01/28/25 15:36	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		10	2.5	ng/L		01/27/25 03:51	01/28/25 15:36	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.5	0.39	ng/L		01/27/25 03:51	01/28/25 15:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.50	ng/L		01/27/25 03:51	01/28/25 15:36	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	0.50	ng/L		01/27/25 03:51	01/28/25 15:36	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	0.50	ng/L		01/27/25 03:51	01/28/25 15:36	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	0.72	ng/L		01/27/25 03:51	01/28/25 15:36	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		2.0	0.58	ng/L		01/27/25 03:51	01/28/25 15:36	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-829538/1-A
Matrix: Water
Analysis Batch: 830037

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 829538

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	0.50	ng/L		01/27/25 03:51	01/28/25 15:36	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	0.50	ng/L		01/27/25 03:51	01/28/25 15:36	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		4.0	1.0	ng/L		01/27/25 03:51	01/28/25 15:36	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		10	2.5	ng/L		01/27/25 03:51	01/28/25 15:36	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		10	2.5	ng/L		01/27/25 03:51	01/28/25 15:36	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*97.2*		*5 - 130*	*01/27/25 03:51*	*01/28/25 15:36*	*1*
13C5 PFPeA	*95.9*		*40 - 130*	*01/27/25 03:51*	*01/28/25 15:36*	*1*
13C5 PFHxA	*95.0*		*40 - 130*	*01/27/25 03:51*	*01/28/25 15:36*	*1*
13C4 PFHpA	*101*		*40 - 130*	*01/27/25 03:51*	*01/28/25 15:36*	*1*
13C8 PFOA	*96.5*		*40 - 130*	*01/27/25 03:51*	*01/28/25 15:36*	*1*
13C9 PFNA	*81.4*		*40 - 130*	*01/27/25 03:51*	*01/28/25 15:36*	*1*
13C6 PFDA	*77.9*		*40 - 130*	*01/27/25 03:51*	*01/28/25 15:36*	*1*
13C7 PFUnA	*70.6*		*30 - 130*	*01/27/25 03:51*	*01/28/25 15:36*	*1*
13C2 PFDoA	*73.4*		*10 - 130*	*01/27/25 03:51*	*01/28/25 15:36*	*1*
13C2 PFTeDA	*57.8*		*10 - 130*	*01/27/25 03:51*	*01/28/25 15:36*	*1*
13C3 PFBS	*82.7*		*40 - 135*	*01/27/25 03:51*	*01/28/25 15:36*	*1*
13C3 PFHxS	*88.4*		*40 - 130*	*01/27/25 03:51*	*01/28/25 15:36*	*1*
13C8 PFOS	*87.2*		*40 - 130*	*01/27/25 03:51*	*01/28/25 15:36*	*1*
13C8 FOSA	*80.1*		*40 - 130*	*01/27/25 03:51*	*01/28/25 15:36*	*1*
d3-NMeFOSAA	*76.7*		*40 - 170*	*01/27/25 03:51*	*01/28/25 15:36*	*1*
d5-NEtFOSAA	*77.2*		*25 - 135*	*01/27/25 03:51*	*01/28/25 15:36*	*1*
13C2 4:2 FTS	*97.4*		*40 - 200*	*01/27/25 03:51*	*01/28/25 15:36*	*1*
13C2 6:2 FTS	*97.4*		*40 - 200*	*01/27/25 03:51*	*01/28/25 15:36*	*1*
13C2 8:2 FTS	*81.9*		*40 - 300*	*01/27/25 03:51*	*01/28/25 15:36*	*1*
13C3 HFPO-DA	*77.6*		*40 - 130*	*01/27/25 03:51*	*01/28/25 15:36*	*1*
d7-N-MeFOSE-M	*59.0*		*10 - 130*	*01/27/25 03:51*	*01/28/25 15:36*	*1*
d9-N-EtFOSE-M	*55.0*		*10 - 130*	*01/27/25 03:51*	*01/28/25 15:36*	*1*
d5-NEtPFOSA	*74.6*		*10 - 130*	*01/27/25 03:51*	*01/28/25 15:36*	*1*
d3-NMePFOSA	*73.4*		*10 - 130*	*01/27/25 03:51*	*01/28/25 15:36*	*1*

Lab Sample ID: LCS 320-829538/3-A
Matrix: Water
Analysis Batch: 830037

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829538

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	84.7		ng/L		106	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	42.1		ng/L		105	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	36.5		ng/L		91	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	39.4		ng/L		99	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	37.3		ng/L		93	70 - 150
Perfluorononanoic acid (PFNA)	40.0	38.0		ng/L		95	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	36.3		ng/L		91	70 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-829538/3-A
Matrix: Water
Analysis Batch: 830037

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829538

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	40.0	41.1		ng/L		103	70 - 145
Perfluorododecanoic acid (PFDoA)	40.0	40.2		ng/L		100	70 - 140
Perfluorotridecanoic acid (PFTrDA)	40.0	38.0		ng/L		95	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	40.0	39.9		ng/L		100	60 - 140
Perfluorobutanesulfonic acid (PFBS)	35.5	36.9		ng/L		104	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	39.6		ng/L		105	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	35.2		ng/L		96	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	41.9		ng/L		110	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	38.5		ng/L		104	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	41.3		ng/L		107	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	39.1		ng/L		101	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	45.1		ng/L		116	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	83.9		ng/L		112	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	71.7		ng/L		94	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	78.1		ng/L		102	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	36.8		ng/L		92	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	40.2		ng/L		100	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	36.7		ng/L		92	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	41.9		ng/L		105	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	41.2		ng/L		103	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	185		ng/L		92	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	172		ng/L		86	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	31.3		ng/L		104	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	53.1		ng/L		140	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	42.0		ng/L		105	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	35.3		ng/L		88	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	30.8		ng/L		77	50 - 150

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-829538/3-A
Matrix: Water
Analysis Batch: 830037

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829538

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	51.4		ng/L		138	70 - 155		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	55.1		ng/L		146	55 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	37.2		ng/L		104	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	72.8		ng/L		91	65 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	159		ng/L		79	70 - 135		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	162		ng/L		81	50 - 145		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*45.6*		*5 - 130*
13C5 PFPeA	*49.9*		*40 - 130*
13C5 PFHxA	*52.8*		*40 - 130*
13C4 PFHpA	*52.3*		*40 - 130*
13C8 PFOA	*53.2*		*40 - 130*
13C9 PFNA	*44.2*		*40 - 130*
13C6 PFDA	*48.0*		*40 - 130*
13C7 PFUnA	*46.8*		*30 - 130*
13C2 PFDoA	*53.0*		*10 - 130*
13C2 PFTeDA	*52.1*		*10 - 130*
13C3 PFBS	*45.8*		*40 - 135*
13C3 PFHxS	*47.9*		*40 - 130*
13C8 PFOS	*45.7*		*40 - 130*
13C8 FOSA	*51.1*		*40 - 130*
d3-NMeFOSAA	*42.9*		*40 - 170*
d5-NEtFOSAA	*46.8*		*25 - 135*
13C2 4:2 FTS	*52.3*		*40 - 200*
13C2 6:2 FTS	*52.3*		*40 - 200*
13C2 8:2 FTS	*44.4*		*40 - 300*
13C3 HFPO-DA	*38.4*	*5-	*40 - 130*
d7-N-MeFOSE-M	*41.9*		*10 - 130*
d9-N-EtFOSE-M	*40.0*		*10 - 130*
d5-NEtPFOSA	*50.3*		*10 - 130*
d3-NMePFOSA	*50.5*		*10 - 130*

Lab Sample ID: LCSD 320-829538/4-A
Matrix: Water
Analysis Batch: 830037

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829538

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			80.0	74.4		ng/L		93	70 - 140	13	30
Perfluoropentanoic acid (PFPeA)			40.0	41.2		ng/L		103	65 - 135	2	30
Perfluorohexanoic acid (PFHxA)			40.0	41.2		ng/L		103	70 - 145	12	30
Perfluoroheptanoic acid (PFHpA)			40.0	41.2		ng/L		103	70 - 150	4	30
Perfluorooctanoic acid (PFOA)			40.0	39.5		ng/L		99	70 - 150	6	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-829538/4-A
Matrix: Water
Analysis Batch: 830037

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829538

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	40.0	43.3		ng/L		108	70 - 150	13	30
Perfluorodecanoic acid (PFDA)	40.0	36.6		ng/L		91	70 - 140	1	30
Perfluoroundecanoic acid (PFUnA)	40.0	43.4		ng/L		109	70 - 145	6	30
Perfluorododecanoic acid (PFDoA)	40.0	43.0		ng/L		108	70 - 140	7	30
Perfluorotridecanoic acid (PFTrDA)	40.0	42.4		ng/L		106	65 - 140	11	30
Perfluorotetradecanoic acid (PFTeDA)	40.0	39.4		ng/L		99	60 - 140	1	30
Perfluorobutanesulfonic acid (PFBS)	35.5	36.8		ng/L		104	60 - 145	0	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	38.1		ng/L		101	65 - 140	4	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	33.2		ng/L		91	65 - 145	6	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	37.8		ng/L		99	70 - 150	10	30
Perfluorooctanesulfonic acid (PFOS)	37.2	37.1		ng/L		100	55 - 150	4	30
Perfluorononanesulfonic acid (PFNS)	38.5	38.4		ng/L		100	65 - 145	7	30
Perfluorodecanesulfonic acid (PFDS)	38.6	35.6		ng/L		92	60 - 145	9	30
Perfluorododecanesulfonic acid (PFDoS)	38.8	36.5		ng/L		94	50 - 145	21	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	75.4		ng/L		100	70 - 145	11	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	74.8		ng/L		98	65 - 155	4	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	75.7		ng/L		99	60 - 150	3	30
Perfluorooctanesulfonamide (PFOSA)	40.0	39.6		ng/L		99	70 - 145	7	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	40.5		ng/L		101	60 - 150	1	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	37.4		ng/L		93	65 - 145	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	43.8		ng/L		109	50 - 140	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	42.5		ng/L		106	70 - 145	3	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	192		ng/L		96	70 - 145	4	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	175		ng/L		87	70 - 135	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	30.9		ng/L		103	70 - 140	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	53.0		ng/L		140	65 - 145	0	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	41.3		ng/L		103	55 - 140	2	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	39.1		ng/L		98	60 - 150	10	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-829538/4-A
Matrix: Water
Analysis Batch: 830037

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829538

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			40.0	31.3		ng/L		78	50 - 150	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	44.6		ng/L		119	70 - 155	14	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	45.8		ng/L		121	55 - 160	18	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	41.6		ng/L		117	70 - 140	11	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	76.0		ng/L		95	65 - 130	4	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	178		ng/L		89	70 - 135	11	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	179		ng/L		89	50 - 145	10	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*99.1*		*5 - 130*
13C5 PFPeA	*112*		*40 - 130*
13C5 PFHxA	*107*		*40 - 130*
13C4 PFHpA	*110*		*40 - 130*
13C8 PFOA	*97.4*		*40 - 130*
13C9 PFNA	*83.2*		*40 - 130*
13C6 PFDA	*85.0*		*40 - 130*
13C7 PFUnA	*73.3*		*30 - 130*
13C2 PFDoA	*74.6*		*10 - 130*
13C2 PFTeDA	*73.7*		*10 - 130*
13C3 PFBS	*93.1*		*40 - 135*
13C3 PFHxS	*98.5*		*40 - 130*
13C8 PFOS	*87.0*		*40 - 130*
13C8 FOSA	*78.7*		*40 - 130*
d3-NMeFOSAA	*75.2*		*40 - 170*
d5-NEtFOSAA	*72.8*		*25 - 135*
13C2 4:2 FTS	*106*		*40 - 200*
13C2 6:2 FTS	*105*		*40 - 200*
13C2 8:2 FTS	*91.8*		*40 - 300*
13C3 HFPO-DA	*88.2*		*40 - 130*
d7-N-MeFOSE-M	*64.8*		*10 - 130*
d9-N-EtFOSE-M	*63.4*		*10 - 130*
d5-NEtPFOSA	*76.5*		*10 - 130*
d3-NMePFOSA	*78.2*		*10 - 130*

Lab Sample ID: LLCS 320-829538/2-A
Matrix: Water
Analysis Batch: 830037

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829538

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			8.00	7.87		ng/L		98	70 - 140
Perfluoropentanoic acid (PFPeA)			4.00	4.56		ng/L		114	65 - 135
Perfluorohexanoic acid (PFHxA)			4.00	3.55		ng/L		89	70 - 145

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-829538/2-A
Matrix: Water
Analysis Batch: 830037

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829538

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	4.00	3.60		ng/L		90	70 - 150
Perfluorooctanoic acid (PFOA)	4.00	4.23		ng/L		106	70 - 150
Perfluorononanoic acid (PFNA)	4.00	3.77		ng/L		94	70 - 150
Perfluorodecanoic acid (PFDA)	4.00	3.84		ng/L		96	70 - 140
Perfluoroundecanoic acid (PFUnA)	4.00	4.23		ng/L		106	70 - 145
Perfluorododecanoic acid (PFDoA)	4.00	4.14		ng/L		104	70 - 140
Perfluorotridecanoic acid (PFTrDA)	4.00	3.79		ng/L		95	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	4.00	3.69		ng/L		92	60 - 140
Perfluorobutanesulfonic acid (PFBS)	3.55	3.63		ng/L		102	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.76	3.63		ng/L		97	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	3.65	3.38		ng/L		93	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.82	3.76		ng/L		98	70 - 150
Perfluorooctanesulfonic acid (PFOS)	3.72	4.04		ng/L		109	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.85	4.04		ng/L		105	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.86	3.50		ng/L		91	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.88	3.66		ng/L		94	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	7.50	7.15		ng/L		95	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.62	6.92		ng/L		91	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.68	6.82		ng/L		89	60 - 150
Perfluorooctanesulfonamide (PFOSA)	4.00	3.81		ng/L		95	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	4.00	3.93		ng/L		98	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	4.00	3.86		ng/L		96	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.00	4.10		ng/L		103	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.00	3.86		ng/L		96	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	20.0	19.7		ng/L		98	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	20.0	17.2		ng/L		86	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.00	3.02		ng/L		101	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	4.67		ng/L		123	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.00	4.33		ng/L		108	55 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-829538/2-A
Matrix: Water
Analysis Batch: 830037

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829538

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.00	3.61		ng/L		90	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.00	3.26		ng/L		81	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	3.74	4.47		ng/L		120	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	3.78	4.34		ng/L		115	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	3.57	3.73		ng/L		105	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	8.00	7.43		ng/L		93	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	20.0	16.3		ng/L		82	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	20.0	16.5		ng/L		82	50 - 145

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*101*		*5 - 130*
13C5 PFPeA	*90.3*		*40 - 130*
13C5 PFHxA	*97.2*		*40 - 130*
13C4 PFHpA	*99.0*		*40 - 130*
13C8 PFOA	*96.9*		*40 - 130*
13C9 PFNA	*85.0*		*40 - 130*
13C6 PFDA	*86.2*		*40 - 130*
13C7 PFUnA	*84.4*		*30 - 130*
13C2 PFDoA	*86.9*		*10 - 130*
13C2 PFTeDA	*80.0*		*10 - 130*
13C3 PFBS	*87.4*		*40 - 135*
13C3 PFHxS	*91.6*		*40 - 130*
13C8 PFOS	*84.4*		*40 - 130*
13C8 FOSA	*81.1*		*40 - 130*
d3-NMeFOSAA	*78.4*		*40 - 170*
d5-NEtFOSAA	*79.0*		*25 - 135*
13C2 4:2 FTS	*102*		*40 - 200*
13C2 6:2 FTS	*111*		*40 - 200*
13C2 8:2 FTS	*91.4*		*40 - 300*
13C3 HFPO-DA	*77.5*		*40 - 130*
d7-N-MeFOSE-M	*67.3*		*10 - 130*
d9-N-EtFOSE-M	*65.5*		*10 - 130*
d5-NEtPFOSA	*76.2*		*10 - 130*
d3-NMePFOSA	*78.0*		*10 - 130*

Lab Sample ID: MB 320-830277/1-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830277

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-830277/1-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830277

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*89.9*		*35 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C5 PFHxA	*96.0*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C4 PFHpA	*96.8*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C8 PFOA	*96.1*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C9 PFNA	*102*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C6 PFDA	*93.3*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C7 PFUnA	*89.8*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C2 PFDoA	*93.4*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C2 PFTeDA	*96.8*		*20 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C3 PFBS	*99.4*		*40 - 135*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C3 PFHxS	*96.4*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C8 PFOS	*97.5*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-830277/1-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830277

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	82.5		40 - 130	01/30/25 04:13	01/30/25 18:52	1
d3-NMeFOSAA	91.5		40 - 135	01/30/25 04:13	01/30/25 18:52	1
d5-NEtFOSAA	80.4		40 - 150	01/30/25 04:13	01/30/25 18:52	1
d5-NEtPFOSA	64.7		10 - 130	01/30/25 04:13	01/30/25 18:52	1
d3-NMePFOSA	65.0		10 - 130	01/30/25 04:13	01/30/25 18:52	1

Lab Sample ID: LCS 320-830277/3-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830277

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanoic acid (PFPeA)	2.50	2.50		ug/Kg		100	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.41		ug/Kg		96	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.55		ug/Kg		102	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.56		ug/Kg		102	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.95		ug/Kg		118	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.46		ug/Kg		98	70 - 155
Perfluoroundecanoic acid (PFUnA)	2.50	2.73		ug/Kg		109	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.61		ug/Kg		104	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.49		ug/Kg		100	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.51		ug/Kg		100	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.20		ug/Kg		99	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.46		ug/Kg		105	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.03		ug/Kg		89	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.45		ug/Kg		103	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.36		ug/Kg		101	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.21		ug/Kg		92	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.15		ug/Kg		89	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.50		ug/Kg		103	25 - 160
Perfluorooctanesulfonamide (PFOSA)	2.50	2.50		ug/Kg		100	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.52		ug/Kg		101	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.33		ug/Kg		93	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.71		ug/Kg		109	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.64		ug/Kg		106	65 - 165
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.52		ug/Kg		101	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-830277/3-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830277

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			2.50	2.56		ug/Kg		103	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.10		ug/Kg		84	60 - 155		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.77		ug/Kg		124	70 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C5 PFPeA	*99.2*		*35 - 130*
13C5 PFHxA	*104*		*40 - 130*
13C4 PFHpA	*110*		*40 - 130*
13C8 PFOA	*103*		*40 - 130*
13C9 PFNA	*89.3*		*40 - 130*
13C6 PFDA	*90.1*		*40 - 130*
13C7 PFUnA	*81.7*		*40 - 130*
13C2 PFDoA	*80.9*		*40 - 130*
13C2 PFTeDA	*89.7*		*20 - 130*
13C3 PFBS	*92.1*		*40 - 135*
13C3 PFHxS	*95.2*		*40 - 130*
13C8 PFOS	*103*		*40 - 130*
13C8 FOSA	*82.3*		*40 - 130*
d3-NMeFOSAA	*86.6*		*40 - 135*
d5-NEtFOSAA	*88.6*		*40 - 150*
d5-NEtPFOSA	*59.0*		*10 - 130*
d3-NMePFOSA	*53.7*		*10 - 130*

Lab Sample ID: LCSD 320-830277/4-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830277

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanoic acid (PFPeA)			2.50	2.72		ug/Kg		109	60 - 150	8	30
Perfluorohexanoic acid (PFHxA)			2.50	2.35		ug/Kg		94	65 - 140	3	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.70		ug/Kg		108	65 - 145	6	30
Perfluorooctanoic acid (PFOA)			2.50	2.48		ug/Kg		99	70 - 150	3	30
Perfluorononanoic acid (PFNA)			2.50	2.76		ug/Kg		110	70 - 155	7	30
Perfluorodecanoic acid (PFDA)			2.50	2.45		ug/Kg		98	70 - 155	0	30
Perfluoroundecanoic acid (PFUnA)			2.50	2.76		ug/Kg		111	70 - 155	1	30
Perfluorododecanoic acid (PFDoA)			2.50	2.51		ug/Kg		100	70 - 150	4	30
Perfluorotridecanoic acid (PFTrDA)			2.50	2.42		ug/Kg		97	65 - 150	3	30
Perfluorotetradecanoic acid (PFTeDA)			2.50	2.39		ug/Kg		96	65 - 150	5	30
Perfluorobutanesulfonic acid (PFBS)			2.22	2.32		ug/Kg		104	65 - 145	5	30
Perfluoropentanesulfonic acid (PFPeS)			2.35	2.37		ug/Kg		101	55 - 160	4	30
Perfluorohexanesulfonic acid (PFHxS)			2.28	2.00		ug/Kg		88	60 - 150	1	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-830277/4-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830277

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoroheptanesulfonic acid (PFHpS)			2.39	2.49		ug/Kg		104	65 - 155	2	30
Perfluorooctanesulfonic acid (PFOS)			2.33	2.32		ug/Kg		100	65 - 160	1	30
Perfluorononanesulfonic acid (PFNS)			2.41	2.28		ug/Kg		95	55 - 140	3	30
Perfluorodecanesulfonic acid (PFDS)			2.41	2.28		ug/Kg		95	40 - 155	6	30
Perfluorododecanesulfonic acid (PFDoS)			2.43	2.53		ug/Kg		105	25 - 160	2	30
Perfluorooctanesulfonamide (PFOSA)			2.50	2.48		ug/Kg		99	70 - 140	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)			2.50	2.50		ug/Kg		100	70 - 155	1	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)			2.50	2.38		ug/Kg		95	70 - 140	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			2.50	2.80		ug/Kg		112	65 - 155	3	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			2.50	2.62		ug/Kg		105	65 - 165	1	30
Perfluoro-3-methoxypropanoic acid (PFMPA)			2.50	2.45		ug/Kg		98	30 - 140	3	30
Perfluoro-4-methoxybutanoic acid (PFMBA)			2.50	2.28		ug/Kg		91	60 - 150	12	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.40		ug/Kg		96	60 - 155	14	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.63		ug/Kg		118	70 - 140	5	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C5 PFPeA	*98.9*		*35 - 130*
13C5 PFHxA	*104*		*40 - 130*
13C4 PFHpA	*101*		*40 - 130*
13C8 PFOA	*94.3*		*40 - 130*
13C9 PFNA	*94.7*		*40 - 130*
13C6 PFDA	*92.9*		*40 - 130*
13C7 PFUnA	*90.8*		*40 - 130*
13C2 PFDoA	*97.1*		*40 - 130*
13C2 PFTeDA	*101*		*20 - 130*
13C3 PFBS	*93.9*		*40 - 135*
13C3 PFHxS	*97.8*		*40 - 130*
13C8 PFOS	*102*		*40 - 130*
13C8 FOSA	*88.3*		*40 - 130*
d3-NMeFOSAA	*88.8*		*40 - 135*
d5-NEtFOSAA	*90.8*		*40 - 150*
d5-NEtPFOSA	*63.1*		*10 - 130*
d3-NMePFOSA	*62.1*		*10 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-830277/2-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830277

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanoic acid (PFPeA)	0.400	0.404		ug/Kg		101	60 - 150
Perfluorohexanoic acid (PFHxA)	0.400	0.405		ug/Kg		101	65 - 140
Perfluoroheptanoic acid (PFHpA)	0.400	0.415		ug/Kg		104	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.379		ug/Kg		95	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.438		ug/Kg		110	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.415		ug/Kg		104	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.477		ug/Kg		119	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.403		ug/Kg		101	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.395		ug/Kg		99	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.398		ug/Kg		100	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.335		ug/Kg		94	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.406		ug/Kg		108	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.324		ug/Kg		89	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.394		ug/Kg		103	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.439		ug/Kg		118	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.370		ug/Kg		96	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.323		ug/Kg		84	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.406		ug/Kg		105	25 - 160
Perfluorooctanesulfonamide (PFOSA)	0.400	0.445		ug/Kg		111	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.423		ug/Kg		106	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.399		ug/Kg		100	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.440		ug/Kg		110	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.428		ug/Kg		107	65 - 165
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.391		ug/Kg		98	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.400	0.372		ug/Kg		93	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.400	0.381		ug/Kg		95	60 - 155
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.357	0.412		ug/Kg		116	70 - 140

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C5 PFPeA	*93.5*		*35 - 130*
13C5 PFHxA	*89.3*		*40 - 130*
13C4 PFHpA	*101*		*40 - 130*
13C8 PFOA	*103*		*40 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-830277/2-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830277

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C9 PFNA	*99.8*		*40 - 130*
13C6 PFDA	*88.3*		*40 - 130*
13C7 PFUnA	*73.6*		*40 - 130*
13C2 PFDoA	*75.9*		*40 - 130*
13C2 PFTeDA	*85.0*		*20 - 130*
13C3 PFBS	*91.3*		*40 - 135*
13C3 PFHxS	*97.4*		*40 - 130*
13C8 PFOS	*93.4*		*40 - 130*
13C8 FOSA	*75.1*		*40 - 130*
d3-NMeFOSAA	*82.6*		*40 - 135*
d5-NEtFOSAA	*77.8*		*40 - 150*
d5-NEtPFOSA	*57.9*		*10 - 130*
d3-NMePFOSA	*56.4*		*10 - 130*

Lab Sample ID: MB 320-830935/1-A
Matrix: Solid
Analysis Batch: 830987

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830935

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-830935/1-A
Matrix: Solid
Analysis Batch: 830987

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830935

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		02/03/25 11:41	02/03/25 19:20	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		02/03/25 11:41	02/03/25 19:20	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*96.1*		*8 - 130*	*02/03/25 11:41*	*02/03/25 19:20*	*1*
13C5 PFPeA	*85.2*		*35 - 130*	*02/03/25 11:41*	*02/03/25 19:20*	*1*
13C5 PFHxA	*102*		*40 - 130*	*02/03/25 11:41*	*02/03/25 19:20*	*1*
13C4 PFHpA	*99.6*		*40 - 130*	*02/03/25 11:41*	*02/03/25 19:20*	*1*
13C8 PFOA	*101*		*40 - 130*	*02/03/25 11:41*	*02/03/25 19:20*	*1*
13C9 PFNA	*87.4*		*40 - 130*	*02/03/25 11:41*	*02/03/25 19:20*	*1*
13C6 PFDA	*88.4*		*40 - 130*	*02/03/25 11:41*	*02/03/25 19:20*	*1*
13C7 PFUnA	*85.9*		*40 - 130*	*02/03/25 11:41*	*02/03/25 19:20*	*1*
13C2 PFDoA	*82.5*		*40 - 130*	*02/03/25 11:41*	*02/03/25 19:20*	*1*
13C2 PFTeDA	*80.3*		*20 - 130*	*02/03/25 11:41*	*02/03/25 19:20*	*1*
13C3 PFBS	*94.7*		*40 - 135*	*02/03/25 11:41*	*02/03/25 19:20*	*1*
13C3 PFHxS	*93.1*		*40 - 130*	*02/03/25 11:41*	*02/03/25 19:20*	*1*
13C8 PFOS	*89.0*		*40 - 130*	*02/03/25 11:41*	*02/03/25 19:20*	*1*
13C8 FOSA	*75.2*		*40 - 130*	*02/03/25 11:41*	*02/03/25 19:20*	*1*
d3-NMeFOSAA	*96.7*		*40 - 135*	*02/03/25 11:41*	*02/03/25 19:20*	*1*
d5-NEtFOSAA	*95.4*		*40 - 150*	*02/03/25 11:41*	*02/03/25 19:20*	*1*
13C2 4:2 FTS	*86.6*		*40 - 165*	*02/03/25 11:41*	*02/03/25 19:20*	*1*
13C2 6:2 FTS	*113*		*40 - 215*	*02/03/25 11:41*	*02/03/25 19:20*	*1*
13C2 8:2 FTS	*97.2*		*40 - 275*	*02/03/25 11:41*	*02/03/25 19:20*	*1*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-830935/1-A
Matrix: Solid
Analysis Batch: 830987

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830935

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*96.7*		*40 - 130*	*02/03/25 11:41*	*02/03/25 19:20*	*1*
d7-N-MeFOSE-M	*82.1*		*20 - 130*	*02/03/25 11:41*	*02/03/25 19:20*	*1*
d9-N-EtFOSE-M	*80.9*		*15 - 130*	*02/03/25 11:41*	*02/03/25 19:20*	*1*
d5-NEtPFOSA	*64.8*		*10 - 130*	*02/03/25 11:41*	*02/03/25 19:20*	*1*
d3-NMePFOSA	*60.4*		*10 - 130*	*02/03/25 11:41*	*02/03/25 19:20*	*1*

Lab Sample ID: LCS 320-830935/3-A
Matrix: Solid
Analysis Batch: 830987

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830935

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	5.69		ug/Kg		114	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.89		ug/Kg		116	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.64		ug/Kg		106	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.76		ug/Kg		110	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.67		ug/Kg		107	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.44		ug/Kg		98	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.41		ug/Kg		96	70 - 155
Perfluoroundecanoic acid (PFUnA)	2.50	2.62		ug/Kg		105	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.42		ug/Kg		97	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.46		ug/Kg		98	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.41		ug/Kg		96	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.55		ug/Kg		115	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.71		ug/Kg		115	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.44		ug/Kg		107	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.71		ug/Kg		114	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.74		ug/Kg		118	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.71		ug/Kg		113	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.45		ug/Kg		101	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.36		ug/Kg		97	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	5.49		ug/Kg		117	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	5.51		ug/Kg		116	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	5.42		ug/Kg		113	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.74		ug/Kg		110	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.70		ug/Kg		108	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-830935/3-A
Matrix: Solid
Analysis Batch: 830987

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830935

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.62		ug/Kg		105	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.73		ug/Kg		109	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	3.00		ug/Kg		120	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.2		ug/Kg		97	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.0		ug/Kg		96	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.86		ug/Kg		99	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.53		ug/Kg		107	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	3.31		ug/Kg		133	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.78		ug/Kg		111	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.82		ug/Kg		113	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.34	2.25		ug/Kg		96	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.36	2.07		ug/Kg		88	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.23	2.33		ug/Kg		105	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	5.00	4.71		ug/Kg		94	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	12.5	10.4		ug/Kg		83	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	12.5	10.3		ug/Kg		82	60 - 150

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*94.7*		*8 - 130*
13C5 PFPeA	*90.1*		*35 - 130*
13C5 PFHxA	*97.8*		*40 - 130*
13C4 PFHpA	*99.0*		*40 - 130*
13C8 PFOA	*94.8*		*40 - 130*
13C9 PFNA	*88.6*		*40 - 130*
13C6 PFDA	*79.9*		*40 - 130*
13C7 PFUnA	*77.5*		*40 - 130*
13C2 PFDoA	*77.1*		*40 - 130*
13C2 PFTeDA	*71.3*		*20 - 130*
13C3 PFBS	*90.9*		*40 - 135*
13C3 PFHxS	*93.4*		*40 - 130*
13C8 PFOS	*87.0*		*40 - 130*
13C8 FOSA	*80.5*		*40 - 130*
d3-NMeFOSAA	*102*		*40 - 135*
d5-NEtFOSAA	*92.0*		*40 - 150*
13C2 4:2 FTS	*88.8*		*40 - 165*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-830935/3-A
Matrix: Solid
Analysis Batch: 830987

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830935

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 6:2 FTS	*101*		*40 - 215*
13C2 8:2 FTS	*89.6*		*40 - 275*
13C3 HFPO-DA	*98.8*		*40 - 130*
d7-N-MeFOSE-M	*74.9*		*20 - 130*
d9-N-EtFOSE-M	*79.9*		*15 - 130*
d5-NEtPFOSA	*72.0*		*10 - 130*
d3-NMePFOSA	*74.9*		*10 - 130*

Lab Sample ID: LCSD 320-830935/4-A
Matrix: Solid
Analysis Batch: 830987

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830935

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	5.81		ug/Kg		116	70 - 140	2	30
Perfluoropentanoic acid (PFPeA)			2.50	2.72		ug/Kg		109	60 - 150	6	30
Perfluorohexanoic acid (PFHxA)			2.50	2.62		ug/Kg		105	65 - 140	1	30
Perfluoroheptanoic acid (PFHpA)			2.50	3.29		ug/Kg		131	65 - 145	18	30
Perfluorooctanoic acid (PFOA)			2.50	2.74		ug/Kg		110	70 - 150	3	30
Perfluorononanoic acid (PFNA)			2.50	2.51		ug/Kg		100	70 - 155	3	30
Perfluorodecanoic acid (PFDA)			2.50	2.41		ug/Kg		96	70 - 155	0	30
Perfluoroundecanoic acid (PFUnA)			2.50	2.55		ug/Kg		102	70 - 155	3	30
Perfluorododecanoic acid (PFDoA)			2.50	2.78		ug/Kg		111	70 - 150	14	30
Perfluorotridecanoic acid (PFTrDA)			2.50	2.55		ug/Kg		102	65 - 150	4	30
Perfluorotetradecanoic acid (PFTeDA)			2.50	2.23		ug/Kg		89	65 - 150	8	30
Perfluorobutanesulfonic acid (PFBS)			2.22	2.78		ug/Kg		125	65 - 145	9	30
Perfluoropentanesulfonic acid (PFPeS)			2.35	2.67		ug/Kg		114	55 - 160	1	30
Perfluorohexanesulfonic acid (PFHxS)			2.28	2.37		ug/Kg		104	60 - 150	3	30
Perfluoroheptanesulfonic acid (PFHpS)			2.39	2.61		ug/Kg		110	65 - 155	4	30
Perfluorooctanesulfonic acid (PFOS)			2.33	2.52		ug/Kg		108	65 - 160	8	30
Perfluorononanesulfonic acid (PFNS)			2.41	2.68		ug/Kg		111	55 - 140	1	30
Perfluorodecanesulfonic acid (PFDS)			2.41	2.80		ug/Kg		116	40 - 155	14	30
Perfluorododecanesulfonic acid (PFDoS)			2.43	2.77		ug/Kg		114	25 - 160	16	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			4.69	5.59		ug/Kg		119	60 - 150	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			4.76	5.13		ug/Kg		108	55 - 200	7	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)			4.80	5.51		ug/Kg		115	70 - 150	2	30
Perfluorooctanesulfonamide (PFOSA)			2.50	2.77		ug/Kg		111	70 - 140	1	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-830935/4-A
Matrix: Solid
Analysis Batch: 830987

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830935

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
N-methylperfluorooctane sulfonamide (NMeFOSA)			2.50	2.77		ug/Kg		111	70 - 155	3	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)			2.50	2.45		ug/Kg		98	70 - 140	6	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			2.50	2.60		ug/Kg		104	65 - 155	5	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			2.50	2.83		ug/Kg		113	65 - 165	6	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)			12.5	11.7		ug/Kg		93	70 - 140	4	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)			12.5	12.3		ug/Kg		99	70 - 135	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)			1.88	1.86		ug/Kg		99	70 - 145	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.37	2.68		ug/Kg		113	70 - 160	6	30
Perfluoro-3-methoxypropanoic acid (PFMPA)			2.50	2.96		ug/Kg		119	30 - 140	11	30
Perfluoro-4-methoxybutanoic acid (PFMBA)			2.50	2.52		ug/Kg		101	60 - 150	10	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.47		ug/Kg		99	60 - 155	13	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.11		ug/Kg		90	70 - 150	6	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.32		ug/Kg		98	45 - 160	11	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.56		ug/Kg		115	70 - 140	9	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.61		ug/Kg		92	45 - 130	2	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.3		ug/Kg		82	60 - 130	1	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	9.56		ug/Kg		76	60 - 150	8	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*86.1*		*8 - 130*
13C5 PFPeA	*98.3*		*35 - 130*
13C5 PFHxA	*99.6*		*40 - 130*
13C4 PFHpA	*88.7*		*40 - 130*
13C8 PFOA	*95.9*		*40 - 130*
13C9 PFNA	*84.8*		*40 - 130*
13C6 PFDA	*88.3*		*40 - 130*
13C7 PFUnA	*96.2*		*40 - 130*
13C2 PFDoA	*90.7*		*40 - 130*
13C2 PFTeDA	*90.8*		*20 - 130*
13C3 PFBS	*94.3*		*40 - 135*
13C3 PFHxS	*98.5*		*40 - 130*
13C8 PFOS	*86.2*		*40 - 130*
13C8 FOSA	*72.3*		*40 - 130*
d3-NMeFOSAA	*93.8*		*40 - 135*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-830935/4-A
Matrix: Solid
Analysis Batch: 830987

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830935

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
d5-NEtFOSAA	*103*		*40 - 150*
13C2 4:2 FTS	*99.6*		*40 - 165*
13C2 6:2 FTS	*105*		*40 - 215*
13C2 8:2 FTS	*90.8*		*40 - 275*
13C3 HFPO-DA	*103*		*40 - 130*
d7-N-MeFOSE-M	*89.4*		*20 - 130*
d9-N-EtFOSE-M	*88.2*		*15 - 130*
d5-NEtPFOSA	*70.8*		*10 - 130*
d3-NMePFOSA	*60.9*		*10 - 130*

Lab Sample ID: LLCS 320-830935/2-A
Matrix: Solid
Analysis Batch: 830987

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830935

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	0.800	1.01		ug/Kg		126	70 - 140
Perfluoropentanoic acid (PFPeA)	0.400	0.457		ug/Kg		114	60 - 150
Perfluorohexanoic acid (PFHxA)	0.400	0.376		ug/Kg		94	65 - 140
Perfluoroheptanoic acid (PFHpA)	0.400	0.482		ug/Kg		120	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.410		ug/Kg		102	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.371		ug/Kg		93	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.385		ug/Kg		96	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.409		ug/Kg		102	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.419		ug/Kg		105	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.427		ug/Kg		107	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.362		ug/Kg		90	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.407		ug/Kg		115	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.435		ug/Kg		116	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.434		ug/Kg		119	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.435		ug/Kg		114	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.433		ug/Kg		116	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.407		ug/Kg		106	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.448		ug/Kg		116	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.406		ug/Kg		105	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.908		ug/Kg		121	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.934		ug/Kg		123	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.834		ug/Kg		109	70 - 150

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-830935/2-A
Matrix: Solid
Analysis Batch: 830987

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830935

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonamide (PFOSA)	0.400	0.442		ug/Kg		111	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.453		ug/Kg		113	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.404		ug/Kg		101	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.432		ug/Kg		108	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.483		ug/Kg		121	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.81		ug/Kg		91	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.00		ug/Kg		100	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.309		ug/Kg		103	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.400		ug/Kg		106	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.529		ug/Kg		132	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.400	0.473		ug/Kg		118	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.400	0.573		ug/Kg		143	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	0.374	0.378		ug/Kg		101	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	0.378	0.357		ug/Kg		95	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.357	0.402		ug/Kg		113	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.800	0.771		ug/Kg		96	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	2.00	1.66		ug/Kg		83	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	2.00	1.60		ug/Kg		80	60 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*87.7*		*8 - 130*
13C5 PFPeA	*90.1*		*35 - 130*
13C5 PFHxA	*97.6*		*40 - 130*
13C4 PFHpA	*98.9*		*40 - 130*
13C8 PFOA	*98.3*		*40 - 130*
13C9 PFNA	*91.1*		*40 - 130*
13C6 PFDA	*83.8*		*40 - 130*
13C7 PFUnA	*80.6*		*40 - 130*
13C2 PFDoA	*77.1*		*40 - 130*
13C2 PFTeDA	*75.6*		*20 - 130*
13C3 PFBS	*90.2*		*40 - 135*
13C3 PFHxS	*88.0*		*40 - 130*
13C8 PFOS	*85.0*		*40 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-830935/2-A
Matrix: Solid
Analysis Batch: 830987

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830935

Isotope Dilution	LLCS %Recovery	LLCS Qualifier	Limits
13C8 FOSA	78.6		40 - 130
d3-NMeFOSAA	97.3		40 - 135
d5-NEtFOSAA	88.1		40 - 150
13C2 4:2 FTS	89.5		40 - 165
13C2 6:2 FTS	96.7		40 - 215
13C2 8:2 FTS	91.0		40 - 275
13C3 HFPO-DA	101		40 - 130
d7-N-MeFOSE-M	90.6		20 - 130
d9-N-EtFOSE-M	87.9		15 - 130
d5-NEtPFOSA	77.8		10 - 130
d3-NMePFOSA	74.9		10 - 130

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Lab Sample ID: MB 320-830277/1-A
Matrix: Solid
Analysis Batch: 830984

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830277

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA) - RA	ND		0.40	0.10	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) - RA	ND		0.40	0.10	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA	ND		0.40	0.10	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA	ND		0.40	0.10	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE) - RA	ND		1.0	0.25	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE) - RA	ND		1.0	0.25	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) - RA	ND		0.20	0.050	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA	ND		0.20	0.050	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) - RA	ND		0.20	0.050	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) - RA	ND		0.20	0.075	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
3-Perfluoropropylpropanoic acid (3:3 FTCA) - RA	ND		0.40	0.10	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
3-Perfluoropentylpropanoic acid (5:3 FTCA) - RA	ND		1.0	0.25	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA) - RA	ND		1.0	0.25	ug/Kg		01/30/25 04:13	02/03/25 13:22	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA - RA	97.8		8 - 130	01/30/25 04:13	02/03/25 13:22	1
13C5 PFPeA - RA	112		35 - 130	01/30/25 04:13	02/03/25 13:22	1
13C5 PFHxA - RA	101		40 - 130	01/30/25 04:13	02/03/25 13:22	1
13C2 4:2 FTS - RA	106		40 - 165	01/30/25 04:13	02/03/25 13:22	1
13C2 6:2 FTS - RA	91.8		40 - 215	01/30/25 04:13	02/03/25 13:22	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Lab Sample ID: MB 320-830277/1-A
Matrix: Solid
Analysis Batch: 830984

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830277

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 8:2 FTS - RA	77.7		40 - 275	01/30/25 04:13	02/03/25 13:22	1
13C3 HFPO-DA - RA	115		40 - 130	01/30/25 04:13	02/03/25 13:22	1
d7-N-MeFOSE-M - RA	77.5		20 - 130	01/30/25 04:13	02/03/25 13:22	1
d9-N-EtFOSE-M - RA	70.5		15 - 130	01/30/25 04:13	02/03/25 13:22	1

Lab Sample ID: LCS 320-830277/3-A
Matrix: Solid
Analysis Batch: 830984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830277

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA) - RA	5.00	4.99		ug/Kg		100	70 - 140
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) - RA	4.69	4.55		ug/Kg		97	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA	4.76	4.52		ug/Kg		95	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA	4.80	5.01		ug/Kg		104	70 - 150
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE) - RA	12.5	12.0		ug/Kg		96	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE) - RA	12.5	12.4		ug/Kg		99	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) - RA	1.88	2.01		ug/Kg		107	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA	2.37	2.03		ug/Kg		86	70 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) - RA	2.34	2.07		ug/Kg		89	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) - RA	2.36	1.96		ug/Kg		83	45 - 160
3-Perfluoropropylpropanoic acid (3:3 FTCA) - RA	5.00	4.40		ug/Kg		88	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA) - RA	12.5	10.9		ug/Kg		87	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA) - RA	12.5	10.8		ug/Kg		87	60 - 150

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA - RA	92.3		8 - 130
13C5 PFPeA - RA	116		35 - 130
13C5 PFHxA - RA	94.0		40 - 130
13C2 4:2 FTS - RA	103		40 - 165
13C2 6:2 FTS - RA	93.9		40 - 215
13C2 8:2 FTS - RA	75.8		40 - 275
13C3 HFPO-DA - RA	114		40 - 130
d7-N-MeFOSE-M - RA	81.2		20 - 130
d9-N-EtFOSE-M - RA	72.1		15 - 130

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Lab Sample ID: LCSD 320-830277/4-A
Matrix: Solid
Analysis Batch: 830984

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830277

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA) - RA			5.00	4.68		ug/Kg		94	70 - 140	6	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) - RA			4.69	4.84		ug/Kg		103	60 - 150	6	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA			4.76	4.65		ug/Kg		98	55 - 200	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA			4.80	4.72		ug/Kg		98	70 - 150	6	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE) - RA			12.5	12.5		ug/Kg		100	70 - 140	4	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE) - RA			12.5	12.6		ug/Kg		101	70 - 135	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) - RA			1.88	2.00		ug/Kg		107	70 - 145	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA			2.37	1.95		ug/Kg		83	70 - 160	4	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) - RA			2.34	2.11		ug/Kg		90	70 - 150	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) - RA			2.36	1.95		ug/Kg		82	45 - 160	1	30
3-Perfluoropropylpropanoic acid (3:3 FTCA) - RA			5.00	4.69		ug/Kg		94	45 - 130	6	30
3-Perfluoropentylpropanoic acid (5:3 FTCA) - RA			12.5	10.8		ug/Kg		86	60 - 130	1	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA) - RA			12.5	10.5		ug/Kg		84	60 - 150	3	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA - RA	*94.6*		*8 - 130*
13C5 PFPeA - RA	*112*		*35 - 130*
13C5 PFHxA - RA	*97.2*		*40 - 130*
13C2 4:2 FTS - RA	*101*		*40 - 165*
13C2 6:2 FTS - RA	*91.4*		*40 - 215*
13C2 8:2 FTS - RA	*80.1*		*40 - 275*
13C3 HFPO-DA - RA	*115*		*40 - 130*
d7-N-MeFOSE-M - RA	*83.3*		*20 - 130*
d9-N-EtFOSE-M - RA	*74.9*		*15 - 130*

Lab Sample ID: LLCS 320-830277/2-A
Matrix: Solid
Analysis Batch: 830984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830277

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA) - RA			0.800	0.861		ug/Kg		108	70 - 140
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) - RA			0.750	0.820		ug/Kg		109	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA			0.762	0.813		ug/Kg		107	55 - 200

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Lab Sample ID: LLCS 320-830277/2-A
Matrix: Solid
Analysis Batch: 830984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830277

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA			0.768	0.864		ug/Kg		113	70 - 150		
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE) - RA			2.00	2.07		ug/Kg		104	70 - 140		
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE) - RA			2.00	2.18		ug/Kg		109	70 - 135		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) - RA			0.300	0.347		ug/Kg		116	70 - 145		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA			0.378	0.391		ug/Kg		103	70 - 160		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) - RA			0.374	0.349		ug/Kg		94	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) - RA			0.378	0.299		ug/Kg		79	45 - 160		
3-Perfluoropropylpropanoic acid (3:3 FTCA) - RA			0.800	0.730		ug/Kg		91	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA) - RA			2.00	1.82		ug/Kg		91	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA) - RA			2.00	1.60		ug/Kg		80	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA - RA	*91.6*		*8 - 130*
13C5 PFPeA - RA	*109*		*35 - 130*
13C5 PFHxA - RA	*98.0*		*40 - 130*
13C2 4:2 FTS - RA	*101*		*40 - 165*
13C2 6:2 FTS - RA	*87.9*		*40 - 215*
13C2 8:2 FTS - RA	*74.6*		*40 - 275*
13C3 HFPO-DA - RA	*107*		*40 - 130*
d7-N-MeFOSE-M - RA	*70.7*		*20 - 130*
d9-N-EtFOSE-M - RA	*63.6*		*15 - 130*

LCMS

Prep Batch: 829538

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-47	EB-01212025	Total/NA	Water	1633	
320-118511-48	FB-01212025	Total/NA	Water	1633	
MB 320-829538/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-829538/3-A	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-829538/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-829538/2-A	Lab Control Sample	Total/NA	Water	1633	

Analysis Batch: 830037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-47	EB-01212025	Total/NA	Water	1633	829538
320-118511-48	FB-01212025	Total/NA	Water	1633	829538
MB 320-829538/1-A	Method Blank	Total/NA	Water	1633	829538
LCS 320-829538/3-A	Lab Control Sample	Total/NA	Water	1633	829538
LCSD 320-829538/4-A	Lab Control Sample Dup	Total/NA	Water	1633	829538
LLCS 320-829538/2-A	Lab Control Sample	Total/NA	Water	1633	829538

Prep Batch: 830277

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-2	FIT-002-N-S001-01212025	Total/NA	Solid	1633 Shake	
320-118511-2 - RA	FIT-002-N-S001-01212025	Total/NA	Solid	1633 Shake	
320-118511-3	FIT-002-N-S003-01212025	Total/NA	Solid	1633 Shake	
320-118511-3 - RA	FIT-002-N-S003-01212025	Total/NA	Solid	1633 Shake	
320-118511-8	FIT-001-N-S001-01212025	Total/NA	Solid	1633 Shake	
320-118511-8 - RA	FIT-001-N-S001-01212025	Total/NA	Solid	1633 Shake	
320-118511-9	FIT-001-N-S003-01212025	Total/NA	Solid	1633 Shake	
320-118511-9 - RA	FIT-001-N-S003-01212025	Total/NA	Solid	1633 Shake	
320-118511-10	FIT-001-FD-S003-01212025	Total/NA	Solid	1633 Shake	
320-118511-10 - RA	FIT-001-FD-S003-01212025	Total/NA	Solid	1633 Shake	
320-118511-13	FIT-003-N-S001-01212025	Total/NA	Solid	1633 Shake	
320-118511-13 - RA	FIT-003-N-S001-01212025	Total/NA	Solid	1633 Shake	
320-118511-14	FIT-003-N-S003-01212025	Total/NA	Solid	1633 Shake	
320-118511-14 - RA	FIT-003-N-S003-01212025	Total/NA	Solid	1633 Shake	
320-118511-23	FIT-004-N-S001-01212025	Total/NA	Solid	1633 Shake	
320-118511-23 - RA	FIT-004-N-S001-01212025	Total/NA	Solid	1633 Shake	
MB 320-830277/1-A	Method Blank	Total/NA	Solid	1633 Shake	
MB 320-830277/1-A - RA	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-830277/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCS 320-830277/3-A - RA	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-830277/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LCSD 320-830277/4-A - RA	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-830277/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LLCS 320-830277/2-A - RA	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 830530

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-2	FIT-002-N-S001-01212025	Total/NA	Solid	1633	830277
320-118511-3	FIT-002-N-S003-01212025	Total/NA	Solid	1633	830277
320-118511-8	FIT-001-N-S001-01212025	Total/NA	Solid	1633	830277
320-118511-9	FIT-001-N-S003-01212025	Total/NA	Solid	1633	830277
320-118511-10	FIT-001-FD-S003-01212025	Total/NA	Solid	1633	830277
320-118511-13	FIT-003-N-S001-01212025	Total/NA	Solid	1633	830277

LCMS (Continued)

Analysis Batch: 830530 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-14	FIT-003-N-S003-01212025	Total/NA	Solid	1633	830277
320-118511-23	FIT-004-N-S001-01212025	Total/NA	Solid	1633	830277
MB 320-830277/1-A	Method Blank	Total/NA	Solid	1633	830277
LCS 320-830277/3-A	Lab Control Sample	Total/NA	Solid	1633	830277
LCSD 320-830277/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	830277
LLCS 320-830277/2-A	Lab Control Sample	Total/NA	Solid	1633	830277

Prep Batch: 830935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-24	FIT-004-N-S003-01212025	Total/NA	Solid	1633 Shake	
320-118511-25	FIT-004-FD-S003-01212025	Total/NA	Solid	1633 Shake	
320-118511-31	SRA-003-N-S001-01212025	Total/NA	Solid	1633 Shake	
320-118511-32	SRA-003-N-S003-01212025	Total/NA	Solid	1633 Shake	
320-118511-37	SRA-004A-N-S001-01212025	Total/NA	Solid	1633 Shake	
320-118511-38	SRA-004A-FD-S001-01212025	Total/NA	Solid	1633 Shake	
320-118511-39	SRA-004A-N-S003-01212025	Total/NA	Solid	1633 Shake	
320-118511-45	SRA-006-N-S001-01212025	Total/NA	Solid	1633 Shake	
MB 320-830935/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-830935/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-830935/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-830935/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 830984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-830277/1-A - RA	Method Blank	Total/NA	Solid	1633	830277
LCS 320-830277/3-A - RA	Lab Control Sample	Total/NA	Solid	1633	830277
LCSD 320-830277/4-A - RA	Lab Control Sample Dup	Total/NA	Solid	1633	830277
LLCS 320-830277/2-A - RA	Lab Control Sample	Total/NA	Solid	1633	830277

Analysis Batch: 830987

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-830935/1-A	Method Blank	Total/NA	Solid	1633	830935
LCS 320-830935/3-A	Lab Control Sample	Total/NA	Solid	1633	830935
LCSD 320-830935/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	830935
LLCS 320-830935/2-A	Lab Control Sample	Total/NA	Solid	1633	830935

Analysis Batch: 830988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-2 - RA	FIT-002-N-S001-01212025	Total/NA	Solid	1633	830277
320-118511-3 - RA	FIT-002-N-S003-01212025	Total/NA	Solid	1633	830277
320-118511-8 - RA	FIT-001-N-S001-01212025	Total/NA	Solid	1633	830277
320-118511-9 - RA	FIT-001-N-S003-01212025	Total/NA	Solid	1633	830277
320-118511-10 - RA	FIT-001-FD-S003-01212025	Total/NA	Solid	1633	830277
320-118511-13 - RA	FIT-003-N-S001-01212025	Total/NA	Solid	1633	830277
320-118511-14 - RA	FIT-003-N-S003-01212025	Total/NA	Solid	1633	830277
320-118511-23 - RA	FIT-004-N-S001-01212025	Total/NA	Solid	1633	830277

Analysis Batch: 831273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-24	FIT-004-N-S003-01212025	Total/NA	Solid	1633	830935
320-118511-25	FIT-004-FD-S003-01212025	Total/NA	Solid	1633	830935

LCMS (Continued)

Analysis Batch: 831273 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-31	SRA-003-N-S001-01212025	Total/NA	Solid	1633	830935
320-118511-32	SRA-003-N-S003-01212025	Total/NA	Solid	1633	830935
320-118511-37	SRA-004A-N-S001-01212025	Total/NA	Solid	1633	830935
320-118511-39	SRA-004A-N-S003-01212025	Total/NA	Solid	1633	830935
320-118511-45	SRA-006-N-S001-01212025	Total/NA	Solid	1633	830935

Analysis Batch: 831414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-38	SRA-004A-FD-S001-01212025	Total/NA	Solid	1633	830935

General Chemistry

Analysis Batch: 829420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118511-2	FIT-002-N-S001-01212025	Total/NA	Solid	1633	
320-118511-3	FIT-002-N-S003-01212025	Total/NA	Solid	1633	
320-118511-8	FIT-001-N-S001-01212025	Total/NA	Solid	1633	
320-118511-9	FIT-001-N-S003-01212025	Total/NA	Solid	1633	
320-118511-10	FIT-001-FD-S003-01212025	Total/NA	Solid	1633	
320-118511-13	FIT-003-N-S001-01212025	Total/NA	Solid	1633	
320-118511-14	FIT-003-N-S003-01212025	Total/NA	Solid	1633	
320-118511-23	FIT-004-N-S001-01212025	Total/NA	Solid	1633	
320-118511-24	FIT-004-N-S003-01212025	Total/NA	Solid	1633	
320-118511-25	FIT-004-FD-S003-01212025	Total/NA	Solid	1633	
320-118511-31	SRA-003-N-S001-01212025	Total/NA	Solid	1633	
320-118511-32	SRA-003-N-S003-01212025	Total/NA	Solid	1633	
320-118511-37	SRA-004A-N-S001-01212025	Total/NA	Solid	1633	
320-118511-38	SRA-004A-FD-S001-01212025	Total/NA	Solid	1633	
320-118511-39	SRA-004A-N-S003-01212025	Total/NA	Solid	1633	
320-118511-45	SRA-006-N-S001-01212025	Total/NA	Solid	1633	

Client Sample ID: FIT-002-N-S001-01212025
Lab Sample ID: 320-118511-2
Date Collected: 01/21/25 07:30
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829420	01/24/25 12:39	CFR	EET SAC

Client Sample ID: FIT-002-N-S001-01212025
Lab Sample ID: 320-118511-2
Date Collected: 01/21/25 07:30
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 94.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.11 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633		1			830530	01/30/25 22:59	K1S	EET SAC
Total/NA	Prep	1633 Shake	RA		2.11 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830988	02/03/25 21:02	C1P	EET SAC

Client Sample ID: FIT-002-N-S003-01212025
Lab Sample ID: 320-118511-3
Date Collected: 01/21/25 07:35
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829420	01/24/25 12:39	CFR	EET SAC

Client Sample ID: FIT-002-N-S003-01212025
Lab Sample ID: 320-118511-3
Date Collected: 01/21/25 07:35
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 93.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.14 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633		1			830530	01/30/25 23:15	K1S	EET SAC
Total/NA	Prep	1633 Shake	RA		2.14 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830988	02/03/25 21:19	C1P	EET SAC

Client Sample ID: FIT-001-N-S001-01212025
Lab Sample ID: 320-118511-8
Date Collected: 01/21/25 08:45
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829420	01/24/25 12:39	CFR	EET SAC

Client Sample ID: FIT-001-N-S001-01212025
Lab Sample ID: 320-118511-8
Date Collected: 01/21/25 08:45
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 89.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.22 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633		1			830530	01/30/25 23:32	K1S	EET SAC
Total/NA	Prep	1633 Shake	RA		2.22 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830988	02/03/25 21:35	C1P	EET SAC

Client Sample ID: FIT-001-N-S003-01212025
Lab Sample ID: 320-118511-9
Date Collected: 01/21/25 08:50
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829420	01/24/25 12:39	CFR	EET SAC

Client Sample ID: FIT-001-N-S003-01212025
Lab Sample ID: 320-118511-9
Date Collected: 01/21/25 08:50
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 94.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.15 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633		1			830530	01/31/25 00:21	K1S	EET SAC
Total/NA	Prep	1633 Shake	RA		2.15 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830988	02/03/25 21:52	C1P	EET SAC

Client Sample ID: FIT-001-FD-S003-01212025
Lab Sample ID: 320-118511-10
Date Collected: 01/21/25 09:20
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829420	01/24/25 12:39	CFR	EET SAC

Client Sample ID: FIT-001-FD-S003-01212025
Lab Sample ID: 320-118511-10
Date Collected: 01/21/25 09:20
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 93.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.23 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633		1			830530	01/31/25 00:37	K1S	EET SAC
Total/NA	Prep	1633 Shake	RA		2.23 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830988	02/03/25 22:08	C1P	EET SAC

Client Sample ID: FIT-003-N-S001-01212025
Lab Sample ID: 320-118511-13
Date Collected: 01/21/25 09:40
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829420	01/24/25 12:39	CFR	EET SAC

Client Sample ID: FIT-003-N-S001-01212025
Lab Sample ID: 320-118511-13
Date Collected: 01/21/25 09:40
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 95.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.15 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633		1			830530	01/31/25 00:54	K1S	EET SAC
Total/NA	Prep	1633 Shake	RA		2.15 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830988	02/03/25 22:25	C1P	EET SAC

Client Sample ID: FIT-003-N-S003-01212025
Lab Sample ID: 320-118511-14
Date Collected: 01/21/25 09:45
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829420	01/24/25 12:39	CFR	EET SAC

Client Sample ID: FIT-003-N-S003-01212025
Lab Sample ID: 320-118511-14
Date Collected: 01/21/25 09:45
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 86.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.30 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633		1			830530	01/31/25 01:10	K1S	EET SAC
Total/NA	Prep	1633 Shake	RA		2.30 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830988	02/03/25 22:41	C1P	EET SAC

Client Sample ID: FIT-004-N-S001-01212025
Lab Sample ID: 320-118511-23
Date Collected: 01/21/25 11:05
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829420	01/24/25 12:39	CFR	EET SAC

Client Sample ID: FIT-004-N-S001-01212025
Lab Sample ID: 320-118511-23
Date Collected: 01/21/25 11:05
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 96.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.11 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633		1			830530	01/31/25 01:27	K1S	EET SAC
Total/NA	Prep	1633 Shake	RA		2.11 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830988	02/03/25 23:30	C1P	EET SAC

Client Sample ID: FIT-004-N-S003-01212025
Lab Sample ID: 320-118511-24
Date Collected: 01/21/25 11:10
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829420	01/24/25 12:39	CFR	EET SAC

Client Sample ID: FIT-004-N-S003-01212025
Lab Sample ID: 320-118511-24
Date Collected: 01/21/25 11:10
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 96.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.08 g	5.00 mL	830935	02/03/25 11:41	BEQ	EET SAC
Total/NA	Analysis	1633		1			831273	02/05/25 00:05	SEY	EET SAC

Client Sample ID: FIT-004-FD-S003-01212025
Lab Sample ID: 320-118511-25
Date Collected: 01/21/25 11:40
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829420	01/24/25 12:39	CFR	EET SAC

Client Sample ID: FIT-004-FD-S003-01212025
Lab Sample ID: 320-118511-25
Date Collected: 01/21/25 11:40
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 96.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.10 g	5.00 mL	830935	02/03/25 11:41	BEQ	EET SAC
Total/NA	Analysis	1633		1			831273	02/05/25 00:21	SEY	EET SAC

Client Sample ID: SRA-003-N-S001-01212025
Lab Sample ID: 320-118511-31
Date Collected: 01/21/25 13:05
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829420	01/24/25 12:39	CFR	EET SAC

Client Sample ID: SRA-003-N-S001-01212025
Lab Sample ID: 320-118511-31
Date Collected: 01/21/25 13:05
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 89.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.23 g	5.00 mL	830935	02/03/25 11:41	BEQ	EET SAC
Total/NA	Analysis	1633		1			831273	02/05/25 00:38	SEY	EET SAC

Client Sample ID: SRA-003-N-S003-01212025
Lab Sample ID: 320-118511-32
Date Collected: 01/21/25 13:10
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829420	01/24/25 12:39	CFR	EET SAC

Client Sample ID: SRA-003-N-S003-01212025
Lab Sample ID: 320-118511-32
Date Collected: 01/21/25 13:10
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 92.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.24 g	5.00 mL	830935	02/03/25 11:41	BEQ	EET SAC
Total/NA	Analysis	1633		1			831273	02/05/25 00:54	SEY	EET SAC

Client Sample ID: SRA-004A-N-S001-01212025
Lab Sample ID: 320-118511-37
Date Collected: 01/21/25 14:05
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829420	01/24/25 12:39	CFR	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-1

Client Sample ID: SRA-004A-N-S001-01212025
Lab Sample ID: 320-118511-37
Date Collected: 01/21/25 14:05
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 62.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			3.15 g	5.00 mL	830935	02/03/25 11:41	BEQ	EET SAC
Total/NA	Analysis	1633		1			831273	02/05/25 01:10	SEY	EET SAC

Client Sample ID: SRA-004A-FD-S001-01212025
Lab Sample ID: 320-118511-38
Date Collected: 01/21/25 14:35
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829420	01/24/25 12:39	CFR	EET SAC

Client Sample ID: SRA-004A-FD-S001-01212025
Lab Sample ID: 320-118511-38
Date Collected: 01/21/25 14:35
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 63.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			3.10 g	5.00 mL	830935	02/03/25 11:41	BEQ	EET SAC
Total/NA	Analysis	1633		1			831414	02/05/25 13:48	N1K	EET SAC

Client Sample ID: SRA-004A-N-S003-01212025
Lab Sample ID: 320-118511-39
Date Collected: 01/21/25 14:10
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829420	01/24/25 12:39	CFR	EET SAC

Client Sample ID: SRA-004A-N-S003-01212025
Lab Sample ID: 320-118511-39
Date Collected: 01/21/25 14:10
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 75.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.61 g	5.00 mL	830935	02/03/25 11:41	BEQ	EET SAC
Total/NA	Analysis	1633		1			831273	02/05/25 01:27	SEY	EET SAC

Client Sample ID: SRA-006-N-S001-01212025
Lab Sample ID: 320-118511-45
Date Collected: 01/21/25 15:45
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829420	01/24/25 12:39	CFR	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-1

Client Sample ID: SRA-006-N-S001-01212025

Lab Sample ID: 320-118511-45

Date Collected: 01/21/25 15:45
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 78.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.51 g	5.00 mL	830935	02/03/25 11:41	BEQ	EET SAC
Total/NA	Analysis	1633		1			831273	02/05/25 01:44	SEY	EET SAC

Client Sample ID: EB-01212025

Lab Sample ID: 320-118511-47

Date Collected: 01/21/25 07:15
Matrix: Water
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			156.4 mL	5.0 mL	829538	01/27/25 03:51	RMF	EET SAC
Total/NA	Analysis	1633		1			830037	01/28/25 18:04	K1S	EET SAC

Client Sample ID: FB-01212025

Lab Sample ID: 320-118511-48

Date Collected: 01/21/25 00:00
Matrix: Water
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			164 mL	5.0 mL	829538	01/27/25 03:51	RMF	EET SAC
Total/NA	Analysis	1633		1			830037	01/28/25 18:53	K1S	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118511-1
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-1

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633	Solid-Phase Extraction (SPE)	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118511-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118511-2	FIT-002-N-S001-01212025	Solid	01/21/25 07:30	01/23/25 09:55
320-118511-3	FIT-002-N-S003-01212025	Solid	01/21/25 07:35	01/23/25 09:55
320-118511-8	FIT-001-N-S001-01212025	Solid	01/21/25 08:45	01/23/25 09:55
320-118511-9	FIT-001-N-S003-01212025	Solid	01/21/25 08:50	01/23/25 09:55
320-118511-10	FIT-001-FD-S003-01212025	Solid	01/21/25 09:20	01/23/25 09:55
320-118511-13	FIT-003-N-S001-01212025	Solid	01/21/25 09:40	01/23/25 09:55
320-118511-14	FIT-003-N-S003-01212025	Solid	01/21/25 09:45	01/23/25 09:55
320-118511-23	FIT-004-N-S001-01212025	Solid	01/21/25 11:05	01/23/25 09:55
320-118511-24	FIT-004-N-S003-01212025	Solid	01/21/25 11:10	01/23/25 09:55
320-118511-25	FIT-004-FD-S003-01212025	Solid	01/21/25 11:40	01/23/25 09:55
320-118511-31	SRA-003-N-S001-01212025	Solid	01/21/25 13:05	01/23/25 09:55
320-118511-32	SRA-003-N-S003-01212025	Solid	01/21/25 13:10	01/23/25 09:55
320-118511-37	SRA-004A-N-S001-01212025	Solid	01/21/25 14:05	01/23/25 09:55
320-118511-38	SRA-004A-FD-S001-01212025	Solid	01/21/25 14:35	01/23/25 09:55
320-118511-39	SRA-004A-N-S003-01212025	Solid	01/21/25 14:10	01/23/25 09:55
320-118511-45	SRA-006-N-S001-01212025	Solid	01/21/25 15:45	01/23/25 09:55
320-118511-47	EB-01212025	Water	01/21/25 07:15	01/23/25 09:55
320-118511-48	FB-01212025	Water	01/21/25 00:00	01/23/25 09:55

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
FIT-002-N-S000-01212025	1/21/2025	0725	Soil		1
FIT-002-N-S001-01212025	1/21/2025	0730	Soil	X	1
FIT-002-N-S003-01212025	1/21/2025	0735	Soil	X	1
FIT-002-N-S006-01212025	1/21/2025	0740	Soil		1
FIT-002-N-S010-01212025	1/21/2025	0745	Soil		1
FIT-002-N-S015-01212025	1/21/2025	0750	Soil		1
FIT-001-N-S000-01212025	1/21/2025	0840	Soil		1
FIT-001-N-S001-01212025	1/21/2025	0845	Soil	X	1
FIT-001-N-S003-01212025	1/21/2025	4850	Soil	X	1
FIT-001-FD-S003-01212025	1/21/2025	0920	Soil	X	1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118511 Chain of Custody

5.2, 5.6 cor 1/20/26

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo de Silva	Print Macky Morris
Firm HA	Firm EET SAC
Date 01/22/25 Time 1700	Date 1/22/25 1200
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print
Firm EET SAC	Firm
Date 1/22/25 Time 1517	Date
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections.

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

Form 3003

5.9/08

WHITE Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory

November 2024

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
FIT-001-N-S005-01212025	1/21/2025	0855	Soil		1
FIT-003-N-S000-01212025	1/21/2025	0935	Soil		1
FIT-003-N-S001-01212025	1/21/2025	0940	Soil	X	1
FIT-003-N-S003-01212025	1/21/2025	0945	Soil	X	1
FIT-003-N-S006-01212025	1/21/2025	0950	Soil		1
FIT-003-N-S010-01212025	1/21/2025	0955	Soil		1
FIT-003-N-S011-01212025	1/21/2025	1000	Soil		1
FIT-007-N-S000-01212025	1/21/2025	1010	Soil		1
FIT-008-N-S000-01212025	1/21/2025	1030	Soil		1
FIT-006-N-S000-01212025	1/21/2025	1111	Soil		1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

5.2, 5.6 (or IRCOC)

Sampled and Relinquished by	Received by
Sign [illegible]	Sign [illegible]
Print Jack Castillo de Solis	Print Macky Mora
Firm HA	Firm EECS PO
Date 01/22/25 Time 1200	Date 1/22/25 1200
Relinquished by	**Received by**
Sign [illegible]	Sign [illegible]
Print Macky Mora	Print [illegible]
Firm EECS PO	Firm [illegible]
Date 1/22/25 Time 1517	Date 1.23.25 955
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ RC-S2 ☐ RC-GW1 ☐ RC-GW2 ☐ S1 ☐ S2 ☐ S3 ☐ GW1 ☐ GW2 ☐ GW3

WHITE - Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington

DELIVERY DATE
TURNAROUND TIME STD
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
FIT-005-N-S000-01212025	1/21/2025	1106	Soil		1
FIT-004-N-S000-01212024	1/21/2025	1100	Soil		1
FIT-004-N-S001-01212024	1/21/2025	1105	Soil	x	1
FIT-004-N-S003-01212024	1/21/2025	1110	Soil	x	1
FIT-004-FD-S003-01212024	1/21/2025	1140	Soil	x	1
FIT-004-N-S006-01212024	1/21/2025	1115	Soil		1
FIT-004-N-S010-01212024	1/21/2025	1120	Soil		1
FIT-004-N-S015-01212024	1/21/2025	1125	Soil		1
FIT-004-N-S016-01212024	1/21/2025	1130	Soil		1
SRA-003-N-S000-01212025	1/21/2025	1300	Soil		1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

5.2.5. Lower Woody

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo de Sila	Print Macky Morris
Firm HA	Firm ECT SPO
Date 01/22/25 Time 1200	Date 1/22/25 1200
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print
Firm ECT SPO	Firm
Date 1/22/25 Time 1517	Date 1.23.25 700
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

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_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory

Form 3003

November 2024

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave. Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE		TURNAROUND TIME	
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
SRA-003-N-S001-01212025	1/21/2025	1305	Soil	X	1
SRA-003-N-S003-01212025	1/21/2025	1310	Soil	X	1
SRA-003-N-S006-01212025	1/21/2025	1315	Soil		1
SRA-003-N-S010-01212025	1/21/2025	1320	Soil		1
SRA-003-N-S012-01212025	1/21/2025	1325	Soil		1
SRA-004A-N-S000-01212025	1/21/2025	1400	Soil		1
SRA-004A-N-S001-01212025	1/21/2025	1405	Soil	X	1
SRA-004A-FD-S001-01212025	1/21/2025	1435	Soil	X	1
SRA-004A-N-S003-01212025	1/21/2025	1410	Soil	X	1
SRA-004A-N-S006-01212025	1/21/2025	1415	Soil		1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

$2,540 (R006

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo dasth	Print Madey Morris
Firm HA	Firm EECSPO
Date 01/22/25 Time 1200	Date 1/22/25 1200
Relinquished by	**Received by**
Sign	Sign
Print Madey Morris	Print
Firm EECSPO	Firm
Date 1/22/25 Time 1517	Date
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
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_____
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory

Form 3003 November 2024

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
SRA-004B-N-S000-01212025	1/21/2025	1450	Soil		1
SRA-007A-N-S006-01212025	1/21/2025	1505	Soil		1
SRA-007B-N-S000-01212025	1/21/2025	1515	Soil		1
SRA-006-N-S000-01212025	1/21/2025	1540	Soil		1
SRA-006-N-S001-01212025	1/21/2025	1545	Soil	X	1
SRA-006-N-S006-01212025	1/21/2025	1550	Soil		1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

5.2, 5.5 con 1P006

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo-LaSala	Print Mackey Morris
Firm H A	Firm EET Spo
Date 01/22/25 Time 1200	Date 1/22/25 1200
Relinquished by	**Received by**
Sign	Sign
Print Mackey Morris	Print
Firm EET Spo	Firm
Date 1/22/25 Time 1517	Date
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE Laboratory **CANARY** Project Manager **PINK** Haley & Aldrich Laboratory

Form 3003

November 2024

HALEY ALDRICH

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	**LABORATORY**	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	**ADDRESS**	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	**CONTACT**	Randee Arrington

DELIVERY DATE
TURNAROUND TIME
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
EB-01212025	1/21/2025	0715	H20		3
FB-01212025	1/21/2025	All Day	H20		2

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

5.2, 9.6 can IRCOC

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo 1st	Print Macky Morris
Firm H+A	Firm EBS&O
Date 01/22/25 Time 1200	Date 1/22/25 1200
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Tyson Kinard
Firm EBS&O	Firm EBS&O
Date 1/22/25 Time 1517	Date 1/22/25 1517
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol	
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)	

Sampling Comments: EB taken from deconned shovel

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE Laboratory **CANARY** Project Manager **PINK** - Haley & Aldrich Laboratory

November 2024

Form 3003

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118511

Tracking # 4242 5693 0438

Job _____ _____

SO / (PO) / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm. ID LOY Corr Factor (+ / -) -0.1 °C

Ice_____ Wet_____ Gel _____ Other _____

Cooler Custody Seal. 2691567 +SO 1123125

Cooler ID 2of2

Temp Observed 5.9 °C Corrected 5.9 °C

From Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials SO Date 1/23/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☐
Samples w/o discrepancies?	☐	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials SO Date 1/23/25

Notes: NO COC (in the other cooler)

(17) Rec 2 containers

(17) Rec NO containers

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials SO Date 1/23/25

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Sacramento Sample Receiving Notes (SSRN)

Tracking # 420256930457

Job _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID L-11 Corr Factor (+/-) _____ °C

Ice 1 Wet 1 Gel _____ Other _____

Cooler Custody Seal: 2284986

Cooler ID: 1 of 2

Temp Observed: 0.8 °C Corrected 0.8 °C

From: Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials [illegible] Date 1.23.25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☑	☐	☑ SO 1/23/25
Samples w/o discrepancies?	☑ SO 1/23/25	☐	☐
Zero headspace?*	☐ SO	☐	☑
Alkalinity has no headspace?	1/23/25 ☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials [illegible] Date 1.23.25

Notes:_____

Trizma Lot #(s). _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☑ SO 1/23/25
Samples received within hold time?	☑	☐	☑ SO 1/23/25
Log Release checked in TALS?	☑	☐	☑ SO 1/23/25

Initials [illegible] Date 1.23.25

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 2/27/2025 9:41:30 AM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118499-2

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

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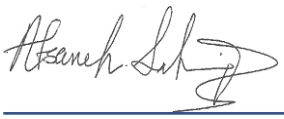

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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-2

Qualifiers

LCMS

Qualifier	Qualifier Description
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118499-2 — Eurofins Sacramento

Job Narrative
320-118499-2

Receipt
The samples were received on 1/23/2025 9:55 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 5.3º C.

LCMS
Method 1633: The continuing calibration verification (CCV) associated with batch 320-835755 recovered above the upper/outside control limit for 13C5 PFPeA. The associated target analytes Perfluoropentanoic acid (PFPeA), Perfluoro-3-methoxypropanoic acid (PFMPA), Perfluoro-4-methoxybutanoic acid (PFMBA) and 3-Perfluoropropylpropanoic acid (3:3 FTCA) are within control limits. The samples associated with this CCV were non-detects for the affected target analytes; therefore, the data have been reported. The associated samples are impacted: RTA-002-N-S000-01202025 (320-118499-1), RTA-002-N-S006-01202025 (320-118499-4), PDW-002-N-S000-01202025 (320-118499-14), PDW-002-N-S006-01202025 (320-118499-17), PDW-001-N-S006-01202025 (320-118499-27) and (CCV 320-835755/1).

Method 1633: The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. The associated analytes have been flagged: PDW-002-N-S000-01202025 (320-118499-14).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 14 days. The following samples in analytical batch 320-834661 were prepared and analyzed outside this time period : RTA-002-N-S000-01202025 (320-118499-1), RTA-002-N-S006-01202025 (320-118499-4), PDW-002-N-S000-01202025 (320-118499-14), PDW-002-N-S006-01202025 (320-118499-17) and PDW-001-N-S006-01202025 (320-118499-27).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-2

Client Sample ID: RTA-002-N-S000-01202025 — Lab Sample ID: 320-118499-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.061	J	0.19	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.083	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.9		0.19	0.048	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: RTA-002-N-S006-01202025 — Lab Sample ID: 320-118499-4

No Detections.

Client Sample ID: PDW-002-N-S000-01202025 — Lab Sample ID: 320-118499-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.10	J	0.39	0.099	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.086	J I	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.052	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.27		0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: PDW-002-N-S006-01202025 — Lab Sample ID: 320-118499-17

No Detections.

Client Sample ID: PDW-001-N-S006-01202025 — Lab Sample ID: 320-118499-27

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: RTA-002-N-S000-01202025

Date Collected: 01/20/25 08:25
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-1

Matrix: Solid
Percent Solids: 92.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.097	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
Perfluorooctanoic acid (PFOA)	**0.061**	**J**	0.19	0.060	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
Perfluorodecanoic acid (PFDA)	**0.083**	**J**	0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
Perfluorooctanesulfonic acid (PFOS)	**1.9**		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1

Client Sample ID: RTA-002-N-S000-01202025

Lab Sample ID: 320-118499-1

Date Collected: 01/20/25 08:25
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 92.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.073	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	02/25/25 12:35	02/26/25 03:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*96.0*		*8 - 130*	*02/25/25 12:35*	*02/26/25 03:14*	*1*
13C5 PFPeA	*97.0*		*35 - 130*	*02/25/25 12:35*	*02/26/25 03:14*	*1*
13C5 PFHxA	*106*		*40 - 130*	*02/25/25 12:35*	*02/26/25 03:14*	*1*
13C4 PFHpA	*73.1*		*40 - 130*	*02/25/25 12:35*	*02/26/25 03:14*	*1*
13C8 PFOA	*75.8*		*40 - 130*	*02/25/25 12:35*	*02/26/25 03:14*	*1*
13C9 PFNA	*79.7*		*40 - 130*	*02/25/25 12:35*	*02/26/25 03:14*	*1*
13C6 PFDA	*72.7*		*40 - 130*	*02/25/25 12:35*	*02/26/25 03:14*	*1*
13C7 PFUnA	*68.2*		*40 - 130*	*02/25/25 12:35*	*02/26/25 03:14*	*1*
13C2 PFDoA	*70.4*		*40 - 130*	*02/25/25 12:35*	*02/26/25 03:14*	*1*
13C2 PFTeDA	*68.9*		*20 - 130*	*02/25/25 12:35*	*02/26/25 03:14*	*1*
13C3 PFBS	*72.1*		*40 - 135*	*02/25/25 12:35*	*02/26/25 03:14*	*1*
13C3 PFHxS	*98.8*		*40 - 130*	*02/25/25 12:35*	*02/26/25 03:14*	*1*
13C8 PFOS	*41.8*		*40 - 130*	*02/25/25 12:35*	*02/26/25 03:14*	*1*
13C8 FOSA	*69.6*		*40 - 130*	*02/25/25 12:35*	*02/26/25 03:14*	*1*
d3-NMeFOSAA	*57.3*		*40 - 135*	*02/25/25 12:35*	*02/26/25 03:14*	*1*
d5-NEtFOSAA	*54.2*		*40 - 150*	*02/25/25 12:35*	*02/26/25 03:14*	*1*
13C2 4:2 FTS	*63.0*		*40 - 165*	*02/25/25 12:35*	*02/26/25 03:14*	*1*
13C2 6:2 FTS	*87.5*		*40 - 215*	*02/25/25 12:35*	*02/26/25 03:14*	*1*
13C2 8:2 FTS	*65.7*		*40 - 275*	*02/25/25 12:35*	*02/26/25 03:14*	*1*
13C3 HFPO-DA	*93.1*		*40 - 130*	*02/25/25 12:35*	*02/26/25 03:14*	*1*
d7-N-MeFOSE-M	*65.0*		*20 - 130*	*02/25/25 12:35*	*02/26/25 03:14*	*1*
d9-N-EtFOSE-M	*54.9*		*15 - 130*	*02/25/25 12:35*	*02/26/25 03:14*	*1*
d5-NEtPFOSA	*51.7*		*10 - 130*	*02/25/25 12:35*	*02/26/25 03:14*	*1*
d3-NMePFOSA	*53.9*		*10 - 130*	*02/25/25 12:35*	*02/26/25 03:14*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**7.5**	**H**	0.10	0.10	%			02/20/25 14:31	1

Client Sample ID: RTA-002-N-S006-01202025

Lab Sample ID: 320-118499-4

Date Collected: 01/20/25 09:01
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 94.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-2

Client Sample ID: RTA-002-N-S006-01202025
Date Collected: 01/20/25 09:01
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-4
Matrix: Solid
Percent Solids: 94.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1

Client Sample ID: RTA-002-N-S006-01202025

Lab Sample ID: 320-118499-4

Date Collected: 01/20/25 09:01
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 94.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 03:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91.8*		*8 - 130*	*02/25/25 12:35*	*02/26/25 03:31*	*1*
13C5 PFPeA	*87.8*		*35 - 130*	*02/25/25 12:35*	*02/26/25 03:31*	*1*
13C5 PFHxA	*87.5*		*40 - 130*	*02/25/25 12:35*	*02/26/25 03:31*	*1*
13C4 PFHpA	*83.1*		*40 - 130*	*02/25/25 12:35*	*02/26/25 03:31*	*1*
13C8 PFOA	*68.5*		*40 - 130*	*02/25/25 12:35*	*02/26/25 03:31*	*1*
13C9 PFNA	*76.4*		*40 - 130*	*02/25/25 12:35*	*02/26/25 03:31*	*1*
13C6 PFDA	*74.0*		*40 - 130*	*02/25/25 12:35*	*02/26/25 03:31*	*1*
13C7 PFUnA	*70.5*		*40 - 130*	*02/25/25 12:35*	*02/26/25 03:31*	*1*
13C2 PFDoA	*81.8*		*40 - 130*	*02/25/25 12:35*	*02/26/25 03:31*	*1*
13C2 PFTeDA	*74.4*		*20 - 130*	*02/25/25 12:35*	*02/26/25 03:31*	*1*
13C3 PFBS	*60.7*		*40 - 135*	*02/25/25 12:35*	*02/26/25 03:31*	*1*
13C3 PFHxS	*96.6*		*40 - 130*	*02/25/25 12:35*	*02/26/25 03:31*	*1*
13C8 PFOS	*88.5*		*40 - 130*	*02/25/25 12:35*	*02/26/25 03:31*	*1*
13C8 FOSA	*73.1*		*40 - 130*	*02/25/25 12:35*	*02/26/25 03:31*	*1*
d3-NMeFOSAA	*61.3*		*40 - 135*	*02/25/25 12:35*	*02/26/25 03:31*	*1*
d5-NEtFOSAA	*69.0*		*40 - 150*	*02/25/25 12:35*	*02/26/25 03:31*	*1*
13C2 4:2 FTS	*80.9*		*40 - 165*	*02/25/25 12:35*	*02/26/25 03:31*	*1*
13C2 6:2 FTS	*78.6*		*40 - 215*	*02/25/25 12:35*	*02/26/25 03:31*	*1*
13C2 8:2 FTS	*73.0*		*40 - 275*	*02/25/25 12:35*	*02/26/25 03:31*	*1*
13C3 HFPO-DA	*79.4*		*40 - 130*	*02/25/25 12:35*	*02/26/25 03:31*	*1*
d7-N-MeFOSE-M	*67.6*		*20 - 130*	*02/25/25 12:35*	*02/26/25 03:31*	*1*
d9-N-EtFOSE-M	*63.6*		*15 - 130*	*02/25/25 12:35*	*02/26/25 03:31*	*1*
d5-NEtPFOSA	*50.2*		*10 - 130*	*02/25/25 12:35*	*02/26/25 03:31*	*1*
d3-NMePFOSA	*56.5*		*10 - 130*	*02/25/25 12:35*	*02/26/25 03:31*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**5.8**	**H**	0.10	0.10	%			02/20/25 14:31	1

Client Sample ID: PDW-002-N-S000-01202025

Lab Sample ID: 320-118499-14

Date Collected: 01/20/25 14:10
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 83.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.10**	**J**	0.39	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
Perfluorononanoic acid (PFNA)	**0.086**	**J I**	0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
Perfluorodecanoic acid (PFDA)	**0.052**	**J**	0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-2

Client Sample ID: PDW-002-N-S000-01202025
Date Collected: 01/20/25 14:10
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-14
Matrix: Solid
Percent Solids: 83.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
Perfluorooctanesulfonic acid (PFOS)	**0.27**		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.099	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 03:47	1

Client Sample ID: PDW-002-N-S000-01202025

Lab Sample ID: 320-118499-14

Date Collected: 01/20/25 14:10
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 83.7

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	84.5		8 - 130	02/25/25 12:35	02/26/25 03:47	1
13C5 PFPeA	77.7		35 - 130	02/25/25 12:35	02/26/25 03:47	1
13C5 PFHxA	91.8		40 - 130	02/25/25 12:35	02/26/25 03:47	1
13C4 PFHpA	78.1		40 - 130	02/25/25 12:35	02/26/25 03:47	1
13C8 PFOA	79.3		40 - 130	02/25/25 12:35	02/26/25 03:47	1
13C9 PFNA	71.4		40 - 130	02/25/25 12:35	02/26/25 03:47	1
13C6 PFDA	70.5		40 - 130	02/25/25 12:35	02/26/25 03:47	1
13C7 PFUnA	73.8		40 - 130	02/25/25 12:35	02/26/25 03:47	1
13C2 PFDoA	82.9		40 - 130	02/25/25 12:35	02/26/25 03:47	1
13C2 PFTeDA	62.5		20 - 130	02/25/25 12:35	02/26/25 03:47	1
13C3 PFBS	84.0		40 - 135	02/25/25 12:35	02/26/25 03:47	1
13C3 PFHxS	93.2		40 - 130	02/25/25 12:35	02/26/25 03:47	1
13C8 PFOS	82.9		40 - 130	02/25/25 12:35	02/26/25 03:47	1
13C8 FOSA	83.4		40 - 130	02/25/25 12:35	02/26/25 03:47	1
d3-NMeFOSAA	57.0		40 - 135	02/25/25 12:35	02/26/25 03:47	1
d5-NEtFOSAA	72.8		40 - 150	02/25/25 12:35	02/26/25 03:47	1
13C2 4:2 FTS	76.6		40 - 165	02/25/25 12:35	02/26/25 03:47	1
13C2 6:2 FTS	76.8		40 - 215	02/25/25 12:35	02/26/25 03:47	1
13C2 8:2 FTS	93.4		40 - 275	02/25/25 12:35	02/26/25 03:47	1
13C3 HFPO-DA	80.2		40 - 130	02/25/25 12:35	02/26/25 03:47	1
d7-N-MeFOSE-M	74.5		20 - 130	02/25/25 12:35	02/26/25 03:47	1
d9-N-EtFOSE-M	73.8		15 - 130	02/25/25 12:35	02/26/25 03:47	1
d5-NEtPFOSA	81.9		10 - 130	02/25/25 12:35	02/26/25 03:47	1
d3-NMePFOSA	81.6		10 - 130	02/25/25 12:35	02/26/25 03:47	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	16	H	0.10	0.10	%			02/20/25 14:31	1

Client Sample ID: PDW-002-N-S006-01202025

Lab Sample ID: 320-118499-17

Date Collected: 01/20/25 14:30
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 89.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.063	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-2

Client Sample ID: PDW-002-N-S006-01202025
Date Collected: 01/20/25 14:30
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-17
Matrix: Solid
Percent Solids: 89.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.064	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/25/25 12:35	02/26/25 04:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*86.4*		*8 - 130*	*02/25/25 12:35*	*02/26/25 04:37*	*1*
13C5 PFPeA	*91.1*		*35 - 130*	*02/25/25 12:35*	*02/26/25 04:37*	*1*
13C5 PFHxA	*95.8*		*40 - 130*	*02/25/25 12:35*	*02/26/25 04:37*	*1*
13C4 PFHpA	*66.1*		*40 - 130*	*02/25/25 12:35*	*02/26/25 04:37*	*1*
13C8 PFOA	*71.1*		*40 - 130*	*02/25/25 12:35*	*02/26/25 04:37*	*1*
13C9 PFNA	*71.0*		*40 - 130*	*02/25/25 12:35*	*02/26/25 04:37*	*1*
13C6 PFDA	*68.0*		*40 - 130*	*02/25/25 12:35*	*02/26/25 04:37*	*1*

Client Sample ID: PDW-002-N-S006-01202025

Lab Sample ID: 320-118499-17

Date Collected: 01/20/25 14:30
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 89.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C7 PFUnA	68.2		40 - 130	02/25/25 12:35	02/26/25 04:37	1
13C2 PFDoA	80.7		40 - 130	02/25/25 12:35	02/26/25 04:37	1
13C2 PFTeDA	87.8		20 - 130	02/25/25 12:35	02/26/25 04:37	1
13C3 PFBS	87.9		40 - 135	02/25/25 12:35	02/26/25 04:37	1
13C3 PFHxS	100		40 - 130	02/25/25 12:35	02/26/25 04:37	1
13C8 PFOS	81.1		40 - 130	02/25/25 12:35	02/26/25 04:37	1
13C8 FOSA	73.2		40 - 130	02/25/25 12:35	02/26/25 04:37	1
d3-NMeFOSAA	60.7		40 - 135	02/25/25 12:35	02/26/25 04:37	1
d5-NEtFOSAA	56.6		40 - 150	02/25/25 12:35	02/26/25 04:37	1
13C2 4:2 FTS	88.3		40 - 165	02/25/25 12:35	02/26/25 04:37	1
13C2 6:2 FTS	87.0		40 - 215	02/25/25 12:35	02/26/25 04:37	1
13C2 8:2 FTS	68.3		40 - 275	02/25/25 12:35	02/26/25 04:37	1
13C3 HFPO-DA	45.5		40 - 130	02/25/25 12:35	02/26/25 04:37	1
d7-N-MeFOSE-M	79.8		20 - 130	02/25/25 12:35	02/26/25 04:37	1
d9-N-EtFOSE-M	71.3		15 - 130	02/25/25 12:35	02/26/25 04:37	1
d5-NEtPFOSA	70.7		10 - 130	02/25/25 12:35	02/26/25 04:37	1
d3-NMePFOSA	73.7		10 - 130	02/25/25 12:35	02/26/25 04:37	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	11	H	0.10	0.10	%			02/20/25 14:31	1

Client Sample ID: PDW-001-N-S006-01202025

Lab Sample ID: 320-118499-27

Date Collected: 01/20/25 16:45
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 83.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.096	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.060	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1

Client Sample ID: PDW-001-N-S006-01202025
Date Collected: 01/20/25 16:45
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-27
Matrix: Solid
Percent Solids: 83.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.096	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.096	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.096	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.96	0.24	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.96	0.24	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.072	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.096	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	02/25/25 12:35	02/26/25 04:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*86.3*		*8 - 130*	*02/25/25 12:35*	*02/26/25 04:53*	*1*
13C5 PFPeA	*83.1*		*35 - 130*	*02/25/25 12:35*	*02/26/25 04:53*	*1*
13C5 PFHxA	*82.8*		*40 - 130*	*02/25/25 12:35*	*02/26/25 04:53*	*1*
13C4 PFHpA	*71.6*		*40 - 130*	*02/25/25 12:35*	*02/26/25 04:53*	*1*
13C8 PFOA	*65.1*		*40 - 130*	*02/25/25 12:35*	*02/26/25 04:53*	*1*
13C9 PFNA	*72.9*		*40 - 130*	*02/25/25 12:35*	*02/26/25 04:53*	*1*
13C6 PFDA	*85.3*		*40 - 130*	*02/25/25 12:35*	*02/26/25 04:53*	*1*
13C7 PFUnA	*82.1*		*40 - 130*	*02/25/25 12:35*	*02/26/25 04:53*	*1*
13C2 PFDoA	*107*		*40 - 130*	*02/25/25 12:35*	*02/26/25 04:53*	*1*
13C2 PFTeDA	*93.0*		*20 - 130*	*02/25/25 12:35*	*02/26/25 04:53*	*1*
13C3 PFBS	*92.8*		*40 - 135*	*02/25/25 12:35*	*02/26/25 04:53*	*1*
13C3 PFHxS	*92.1*		*40 - 130*	*02/25/25 12:35*	*02/26/25 04:53*	*1*

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-2

Client Sample ID: PDW-001-N-S006-01202025
Date Collected: 01/20/25 16:45
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-27
Matrix: Solid
Percent Solids: 83.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	94.0		40 - 130	02/25/25 12:35	02/26/25 04:53	1
13C8 FOSA	87.7		40 - 130	02/25/25 12:35	02/26/25 04:53	1
d3-NMeFOSAA	66.2		40 - 135	02/25/25 12:35	02/26/25 04:53	1
d5-NEtFOSAA	78.2		40 - 150	02/25/25 12:35	02/26/25 04:53	1
13C2 4:2 FTS	67.6		40 - 165	02/25/25 12:35	02/26/25 04:53	1
13C2 6:2 FTS	80.4		40 - 215	02/25/25 12:35	02/26/25 04:53	1
13C2 8:2 FTS	70.2		40 - 275	02/25/25 12:35	02/26/25 04:53	1
13C3 HFPO-DA	77.0		40 - 130	02/25/25 12:35	02/26/25 04:53	1
d7-N-MeFOSE-M	95.7		20 - 130	02/25/25 12:35	02/26/25 04:53	1
d9-N-EtFOSE-M	91.8		15 - 130	02/25/25 12:35	02/26/25 04:53	1
d5-NEtPFOSA	70.1		10 - 130	02/25/25 12:35	02/26/25 04:53	1
d3-NMePFOSA	67.2		10 - 130	02/25/25 12:35	02/26/25 04:53	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	16	H	0.10	0.10	%			02/20/25 14:31	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-2

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (8-130)	PFPeA (35-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (40-130)
320-118499-1	RTA-002-N-S000-01202025	96.0	97.0	106	73.1	75.8	79.7	72.7	68.2
320-118499-4	RTA-002-N-S006-01202025	91.8	87.8	87.5	83.1	68.5	76.4	74.0	70.5
320-118499-14	PDW-002-N-S000-01202025	84.5	77.7	91.8	78.1	79.3	71.4	70.5	73.8
320-118499-17	PDW-002-N-S006-01202025	86.4	91.1	95.8	66.1	71.1	71.0	68.0	68.2
320-118499-27	PDW-001-N-S006-01202025	86.3	83.1	82.8	71.6	65.1	72.9	85.3	82.1
LCS 320-835593/3-A	Lab Control Sample	87.4	63.8	80.0	73.0	67.2	64.6	75.5	72.7
LCSD 320-835593/4-A	Lab Control Sample Dup	114	90.3	105	104	90.9	81.9	92.3	91.4
LLCS 320-835593/2-A	Lab Control Sample	111	79.2	107	96.9	87.9	78.7	90.2	86.5
MB 320-835593/1-A	Method Blank	115	81.7	104	91.9	88.5	86.2	90.2	87.2

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (40-130)	PFTDA (20-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-135)	d5NEFOS (40-150)
320-118499-1	RTA-002-N-S000-01202025	70.4	68.9	72.1	98.8	41.8	69.6	57.3	54.2
320-118499-4	RTA-002-N-S006-01202025	81.8	74.4	60.7	96.6	88.5	73.1	61.3	69.0
320-118499-14	PDW-002-N-S000-01202025	82.9	62.5	84.0	93.2	82.9	83.4	57.0	72.8
320-118499-17	PDW-002-N-S006-01202025	80.7	87.8	87.9	100	81.1	73.2	60.7	56.6
320-118499-27	PDW-001-N-S006-01202025	107	93.0	92.8	92.1	94.0	87.7	66.2	78.2
LCS 320-835593/3-A	Lab Control Sample	81.2	73.7	68.8	79.7	61.4	60.8	68.3	73.6
LCSD 320-835593/4-A	Lab Control Sample Dup	92.9	80.9	78.4	102	85.9	84.8	94.8	94.1
LLCS 320-835593/2-A	Lab Control Sample	85.9	76.2	82.8	98.6	77.2	76.1	88.1	87.1
MB 320-835593/1-A	Method Blank	88.8	84.7	82.0	100	78.0	78.0	84.9	85.8

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118499-1	RTA-002-N-S000-01202025	63.0	87.5	65.7	93.1	65.0	54.9	51.7	53.9
320-118499-4	RTA-002-N-S006-01202025	80.9	78.6	73.0	79.4	67.6	63.6	50.2	56.5
320-118499-14	PDW-002-N-S000-01202025	76.6	76.8	93.4	80.2	74.5	73.8	81.9	81.6
320-118499-17	PDW-002-N-S006-01202025	88.3	87.0	68.3	45.5	79.8	71.3	70.7	73.7
320-118499-27	PDW-001-N-S006-01202025	67.6	80.4	70.2	77.0	95.7	91.8	70.1	67.2
LCS 320-835593/3-A	Lab Control Sample	79.5	73.4	70.6	71.7	60.1	55.9	47.9	40.5
LCSD 320-835593/4-A	Lab Control Sample Dup	96.3	83.1	88.1	105	78.6	70.6	60.9	56.9
LLCS 320-835593/2-A	Lab Control Sample	89.8	86.7	86.3	94.4	69.5	64.7	57.2	51.8
MB 320-835593/1-A	Method Blank	89.0	95.3	87.7	97.7	76.6	67.4	55.3	52.6

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118499-2
Project/Site: Spokane International Airport

d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-835593/1-A
Matrix: Solid
Analysis Batch: 836020

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 835593

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-835593/1-A
Matrix: Solid
Analysis Batch: 836020

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 835593

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		02/25/25 12:35	02/26/25 13:55	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		02/25/25 12:35	02/26/25 13:55	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*115*		*8 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C5 PFPeA	*81.7*		*35 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C5 PFHxA	*104*		*40 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C4 PFHpA	*91.9*		*40 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C8 PFOA	*88.5*		*40 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C9 PFNA	*86.2*		*40 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C6 PFDA	*90.2*		*40 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C7 PFUnA	*87.2*		*40 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C2 PFDoA	*88.8*		*40 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C2 PFTeDA	*84.7*		*20 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C3 PFBS	*82.0*		*40 - 135*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C3 PFHxS	*100*		*40 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C8 PFOS	*78.0*		*40 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C8 FOSA	*78.0*		*40 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
d3-NMeFOSAA	*84.9*		*40 - 135*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
d5-NEtFOSAA	*85.8*		*40 - 150*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C2 4:2 FTS	*89.0*		*40 - 165*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C2 6:2 FTS	*95.3*		*40 - 215*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C2 8:2 FTS	*87.7*		*40 - 275*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
13C3 HFPO-DA	*97.7*		*40 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
d7-N-MeFOSE-M	*76.6*		*20 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
d9-N-EtFOSE-M	*67.4*		*15 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
d5-NEtPFOSA	*55.3*		*10 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*
d3-NMePFOSA	*52.6*		*10 - 130*	*02/25/25 12:35*	*02/26/25 13:55*	*1*

Lab Sample ID: LCS 320-835593/3-A
Matrix: Solid
Analysis Batch: 836020

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835593

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.21		ug/Kg		84	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.54		ug/Kg		101	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.10		ug/Kg		84	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.37		ug/Kg		95	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.56		ug/Kg		103	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.53		ug/Kg		101	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.75		ug/Kg		110	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-835593/3-A
Matrix: Solid
Analysis Batch: 836020

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835593

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.69		ug/Kg		108	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.39		ug/Kg		96	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.66		ug/Kg		106	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.74		ug/Kg		110	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.20		ug/Kg		99	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.04		ug/Kg		87	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.99		ug/Kg		87	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.50		ug/Kg		105	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.28		ug/Kg		98	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.57		ug/Kg		107	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.35		ug/Kg		98	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.44		ug/Kg		101	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.38		ug/Kg		93	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.76		ug/Kg		100	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.72		ug/Kg		98	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.61		ug/Kg		105	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	3.05		ug/Kg		122	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.43		ug/Kg		97	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.44		ug/Kg		98	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.19		ug/Kg		88	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.4		ug/Kg		99	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	13.3		ug/Kg		106	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.85		ug/Kg		99	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.08		ug/Kg		88	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.30		ug/Kg		92	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.74		ug/Kg		110	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	1.89		ug/Kg		75	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-835593/3-A
Matrix: Solid
Analysis Batch: 836020

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835593

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.06		ug/Kg		88	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.09		ug/Kg		89	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.84		ug/Kg		82	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.04		ug/Kg		101	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	9.45		ug/Kg		76	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	9.79		ug/Kg		78	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*87.4*		*8 - 130*
13C5 PFPeA	*63.8*		*35 - 130*
13C5 PFHxA	*80.0*		*40 - 130*
13C4 PFHpA	*73.0*		*40 - 130*
13C8 PFOA	*67.2*		*40 - 130*
13C9 PFNA	*64.6*		*40 - 130*
13C6 PFDA	*75.5*		*40 - 130*
13C7 PFUnA	*72.7*		*40 - 130*
13C2 PFDoA	*81.2*		*40 - 130*
13C2 PFTeDA	*73.7*		*20 - 130*
13C3 PFBS	*68.8*		*40 - 135*
13C3 PFHxS	*79.7*		*40 - 130*
13C8 PFOS	*61.4*		*40 - 130*
13C8 FOSA	*60.8*		*40 - 130*
d3-NMeFOSAA	*68.3*		*40 - 135*
d5-NEtFOSAA	*73.6*		*40 - 150*
13C2 4:2 FTS	*79.5*		*40 - 165*
13C2 6:2 FTS	*73.4*		*40 - 215*
13C2 8:2 FTS	*70.6*		*40 - 275*
13C3 HFPO-DA	*71.7*		*40 - 130*
d7-N-MeFOSE-M	*60.1*		*20 - 130*
d9-N-EtFOSE-M	*55.9*		*15 - 130*
d5-NEtPFOSA	*47.9*		*10 - 130*
d3-NMePFOSA	*40.5*		*10 - 130*

Lab Sample ID: LCSD 320-835593/4-A
Matrix: Solid
Analysis Batch: 836020

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 835593

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.13		ug/Kg		83	70 - 140	2	30
Perfluoropentanoic acid (PFPeA)			2.50	2.69		ug/Kg		108	60 - 150	6	30
Perfluorohexanoic acid (PFHxA)			2.50	2.17		ug/Kg		87	65 - 140	4	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.35		ug/Kg		94	65 - 145	1	30
Perfluorooctanoic acid (PFOA)			2.50	2.69		ug/Kg		107	70 - 150	5	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-835593/4-A
Matrix: Solid
Analysis Batch: 836020

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 835593

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.72		ug/Kg		109	70 - 155	7	30
Perfluorodecanoic acid (PFDA)	2.50	2.67		ug/Kg		107	70 - 155	3	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.49		ug/Kg		99	70 - 155	8	30
Perfluorododecanoic acid (PFDoA)	2.50	2.59		ug/Kg		104	70 - 150	8	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.70		ug/Kg		108	65 - 150	1	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.88		ug/Kg		115	65 - 150	5	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.28		ug/Kg		103	65 - 145	4	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	1.96		ug/Kg		83	55 - 160	4	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.88		ug/Kg		82	60 - 150	6	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.40		ug/Kg		101	65 - 155	4	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.17		ug/Kg		93	65 - 160	5	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.53		ug/Kg		105	55 - 140	2	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.23		ug/Kg		93	40 - 155	5	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.29		ug/Kg		94	25 - 160	6	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.59		ug/Kg		98	60 - 150	5	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.92		ug/Kg		103	55 - 200	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.71		ug/Kg		98	70 - 150	0	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.58		ug/Kg		103	70 - 140	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.98		ug/Kg		119	70 - 155	2	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.53		ug/Kg		101	70 - 140	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.37		ug/Kg		95	65 - 155	3	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.33		ug/Kg		93	65 - 165	6	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.0		ug/Kg		96	70 - 140	3	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	13.3		ug/Kg		107	70 - 135	0	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.78		ug/Kg		95	70 - 145	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.14		ug/Kg		90	70 - 160	3	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.30		ug/Kg		92	30 - 140	0	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.85		ug/Kg		114	60 - 150	4	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-835593/4-A
Matrix: Solid
Analysis Batch: 836020

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 835593

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.32		ug/Kg		93	60 - 155	21	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.04		ug/Kg		87	70 - 150	1	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.02		ug/Kg		86	45 - 160	4	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.91		ug/Kg		86	70 - 140	4	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.19		ug/Kg		104	45 - 130	3	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.3		ug/Kg		82	60 - 130	8	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	10.4		ug/Kg		83	60 - 150	6	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*114*		*8 - 130*
13C5 PFPeA	*90.3*		*35 - 130*
13C5 PFHxA	*105*		*40 - 130*
13C4 PFHpA	*104*		*40 - 130*
13C8 PFOA	*90.9*		*40 - 130*
13C9 PFNA	*81.9*		*40 - 130*
13C6 PFDA	*92.3*		*40 - 130*
13C7 PFUnA	*91.4*		*40 - 130*
13C2 PFDoA	*92.9*		*40 - 130*
13C2 PFTeDA	*80.9*		*20 - 130*
13C3 PFBS	*78.4*		*40 - 135*
13C3 PFHxS	*102*		*40 - 130*
13C8 PFOS	*85.9*		*40 - 130*
13C8 FOSA	*84.8*		*40 - 130*
d3-NMeFOSAA	*94.8*		*40 - 135*
d5-NEtFOSAA	*94.1*		*40 - 150*
13C2 4:2 FTS	*96.3*		*40 - 165*
13C2 6:2 FTS	*83.1*		*40 - 215*
13C2 8:2 FTS	*88.1*		*40 - 275*
13C3 HFPO-DA	*105*		*40 - 130*
d7-N-MeFOSE-M	*78.6*		*20 - 130*
d9-N-EtFOSE-M	*70.6*		*15 - 130*
d5-NEtPFOSA	*60.9*		*10 - 130*
d3-NMePFOSA	*56.9*		*10 - 130*

Lab Sample ID: LLCS 320-835593/2-A
Matrix: Solid
Analysis Batch: 836020

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835593

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.714		ug/Kg		89	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.397		ug/Kg		99	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.316		ug/Kg		79	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-835593/2-A
Matrix: Solid
Analysis Batch: 836020

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835593

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.369		ug/Kg		92	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.393		ug/Kg		98	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.423		ug/Kg		106	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.423		ug/Kg		106	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.403		ug/Kg		101	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.384		ug/Kg		96	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.402		ug/Kg		101	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.414		ug/Kg		103	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.404		ug/Kg		114	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.302		ug/Kg		80	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.333		ug/Kg		91	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.397		ug/Kg		104	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.357		ug/Kg		96	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.389		ug/Kg		101	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.332		ug/Kg		86	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.329		ug/Kg		85	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.721		ug/Kg		96	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.726		ug/Kg		95	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.791		ug/Kg		103	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.413		ug/Kg		103	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.459		ug/Kg		115	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.396		ug/Kg		99	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.362		ug/Kg		90	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.386		ug/Kg		97	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.88		ug/Kg		94	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.01		ug/Kg		100	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.296		ug/Kg		99	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.305		ug/Kg		80	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.402		ug/Kg		101	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-835593/2-A
Matrix: Solid
Analysis Batch: 836020

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835593

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.456		ug/Kg		114	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.340		ug/Kg		85	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.325		ug/Kg		87	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.295		ug/Kg		78	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.290		ug/Kg		81	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.877		ug/Kg		110	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	1.53		ug/Kg		76	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	1.57		ug/Kg		78	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*111*		*8 - 130*
13C5 PFPeA	*79.2*		*35 - 130*
13C5 PFHxA	*107*		*40 - 130*
13C4 PFHpA	*96.9*		*40 - 130*
13C8 PFOA	*87.9*		*40 - 130*
13C9 PFNA	*78.7*		*40 - 130*
13C6 PFDA	*90.2*		*40 - 130*
13C7 PFUnA	*86.5*		*40 - 130*
13C2 PFDoA	*85.9*		*40 - 130*
13C2 PFTeDA	*76.2*		*20 - 130*
13C3 PFBS	*82.8*		*40 - 135*
13C3 PFHxS	*98.6*		*40 - 130*
13C8 PFOS	*77.2*		*40 - 130*
13C8 FOSA	*76.1*		*40 - 130*
d3-NMeFOSAA	*88.1*		*40 - 135*
d5-NEtFOSAA	*87.1*		*40 - 150*
13C2 4:2 FTS	*89.8*		*40 - 165*
13C2 6:2 FTS	*86.7*		*40 - 215*
13C2 8:2 FTS	*86.3*		*40 - 275*
13C3 HFPO-DA	*94.4*		*40 - 130*
d7-N-MeFOSE-M	*69.5*		*20 - 130*
d9-N-EtFOSE-M	*64.7*		*15 - 130*
d5-NEtPFOSA	*57.2*		*10 - 130*
d3-NMePFOSA	*51.8*		*10 - 130*

LCMS

Prep Batch: 835593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118499-1	RTA-002-N-S000-01202025	Total/NA	Solid	1633 Shake	
320-118499-4	RTA-002-N-S006-01202025	Total/NA	Solid	1633 Shake	
320-118499-14	PDW-002-N-S000-01202025	Total/NA	Solid	1633 Shake	
320-118499-17	PDW-002-N-S006-01202025	Total/NA	Solid	1633 Shake	
320-118499-27	PDW-001-N-S006-01202025	Total/NA	Solid	1633 Shake	
MB 320-835593/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-835593/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-835593/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-835593/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 835755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118499-1	RTA-002-N-S000-01202025	Total/NA	Solid	1633	835593
320-118499-4	RTA-002-N-S006-01202025	Total/NA	Solid	1633	835593
320-118499-14	PDW-002-N-S000-01202025	Total/NA	Solid	1633	835593
320-118499-17	PDW-002-N-S006-01202025	Total/NA	Solid	1633	835593
320-118499-27	PDW-001-N-S006-01202025	Total/NA	Solid	1633	835593

Analysis Batch: 836020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-835593/1-A	Method Blank	Total/NA	Solid	1633	835593
LCS 320-835593/3-A	Lab Control Sample	Total/NA	Solid	1633	835593
LCSD 320-835593/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	835593
LLCS 320-835593/2-A	Lab Control Sample	Total/NA	Solid	1633	835593

General Chemistry

Analysis Batch: 834661

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118499-1	RTA-002-N-S000-01202025	Total/NA	Solid	1633	
320-118499-4	RTA-002-N-S006-01202025	Total/NA	Solid	1633	
320-118499-14	PDW-002-N-S000-01202025	Total/NA	Solid	1633	
320-118499-17	PDW-002-N-S006-01202025	Total/NA	Solid	1633	
320-118499-27	PDW-001-N-S006-01202025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-2

Client Sample ID: RTA-002-N-S000-01202025
Lab Sample ID: 320-118499-1
Date Collected: 01/20/25 08:25
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834661	02/20/25 14:31	CFR	EET SAC

Client Sample ID: RTA-002-N-S000-01202025
Lab Sample ID: 320-118499-1
Date Collected: 01/20/25 08:25
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 92.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.23 g	5.0 mL	835593	02/25/25 12:35	WVD	EET SAC
Total/NA	Analysis	1633		1			835755	02/26/25 03:14	AJM	EET SAC

Client Sample ID: RTA-002-N-S006-01202025
Lab Sample ID: 320-118499-4
Date Collected: 01/20/25 09:01
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834661	02/20/25 14:31	CFR	EET SAC

Client Sample ID: RTA-002-N-S006-01202025
Lab Sample ID: 320-118499-4
Date Collected: 01/20/25 09:01
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 94.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.15 g	5.0 mL	835593	02/25/25 12:35	WVD	EET SAC
Total/NA	Analysis	1633		1			835755	02/26/25 03:31	AJM	EET SAC

Client Sample ID: PDW-002-N-S000-01202025
Lab Sample ID: 320-118499-14
Date Collected: 01/20/25 14:10
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834661	02/20/25 14:31	CFR	EET SAC

Client Sample ID: PDW-002-N-S000-01202025
Lab Sample ID: 320-118499-14
Date Collected: 01/20/25 14:10
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 83.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.42 g	5.0 mL	835593	02/25/25 12:35	WVD	EET SAC
Total/NA	Analysis	1633		1			835755	02/26/25 03:47	AJM	EET SAC

Client Sample ID: PDW-002-N-S006-01202025
Lab Sample ID: 320-118499-17
Date Collected: 01/20/25 14:30
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834661	02/20/25 14:31	CFR	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118499-2
Project/Site: Spokane International Airport

Client Sample ID: PDW-002-N-S006-01202025
Lab Sample ID: 320-118499-17

Date Collected: 01/20/25 14:30
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 89.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.21 g	5.0 mL	835593	02/25/25 12:35	WVD	EET SAC
Total/NA	Analysis	1633		1			835755	02/26/25 04:37	AJM	EET SAC

Client Sample ID: PDW-001-N-S006-01202025
Lab Sample ID: 320-118499-27

Date Collected: 01/20/25 16:45
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834661	02/20/25 14:31	CFR	EET SAC

Client Sample ID: PDW-001-N-S006-01202025
Lab Sample ID: 320-118499-27

Date Collected: 01/20/25 16:45
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 83.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.48 g	5.0 mL	835593	02/25/25 12:35	WVD	EET SAC
Total/NA	Analysis	1633		1			835755	02/26/25 04:53	AJM	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118499-2
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-2

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118499-1	RTA-002-N-S000-01202025	Solid	01/20/25 08:25	01/23/25 09:55
320-118499-4	RTA-002-N-S006-01202025	Solid	01/20/25 09:01	01/23/25 09:55
320-118499-14	PDW-002-N-S000-01202025	Solid	01/20/25 14:10	01/23/25 09:55
320-118499-17	PDW-002-N-S006-01202025	Solid	01/20/25 14:30	01/23/25 09:55
320-118499-27	PDW-001-N-S006-01202025	Solid	01/20/25 16:45	01/23/25 09:55

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington

DELIVERY DATE:
TURNAROUND TIME:
PROJECT MANAGER: Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
RTA-002-N-S000-01202025	1/20/2025	8:25	Soil					X	1
RTA-002-N-S001-01202025		8:37		X					
RTA-002-N-S003-01202025		8:49		X					
RTA-002-N-S006-01202025		9:01						X	
RTA-002-N-S010-01202025		9:08						X	
RTA-002-N-S015-01202025		9:23						X	
RTA-001-N-S000-01202025		10:53						X	
RTA-001-N-S001-01202025		11:05		X					
RTA-001-N-S003-01202025		11:10		X					
RTA-001-N-S006-01202025		11:25						X	

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.
– TOC: Total Organic Carbon

320-118499 Chain of Custody

2.4c 2.8c IR006

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date
Relinquished by	**Received by**
Sign [signature]	Sign [signature]
Print Lindsay Chute	Print Jonny Pace
Firm Haley Aldrich	Firm ESA Spokane
Date 1/21/25 Time 11 00	Date 1/21/25 1105
Relinquished by	**Received by**
Sign [signature]	Sign [signature]
Print Macky Moms	Print Sullivan
Firm EBL&P	Firm ESA
Date 1/21/25 Time 1611	Date 1/23/25 0955

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections.

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.
_____
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ RC-S2 ☐ RC-GW1 ☐ RC-GW2
☐ S1 ☐ S2 ☐ S3
☐ GW1 ☐ GW2 ☐ GW3

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

5.3c

2/27/2025

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE		TURNAROUND TIME	
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
RTA-001-N-S010-01202025	1/20/2025	11:31	Soil					X	1
RTA-001-FD-S010-01202025		11 40						X	
RTA-001-N-S012-01202025		12:00						X	
PDW-002-N-S000-01202025		14.10						X	
PDW-002-N-S001-01202025		14:15		X					
PDW-002-N-S003-01202025		14:25		X					
PDW-002-N-S006-01202025		14:30						X	
PDW-002-N-S010-01202025		14.40						X	
PDW-002-N-S015-01202025		14:45						X	
PDW-002-N-S020-01202025		14:50						X	

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.
– TOC: Total Organic Carbon

2.4°C 2.8°C IR06L

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date
Relinquished by	**Received by**
Sign [signature]	Sign [signature]
Print Lindsay Chutas	Print Sidney Pardo
Firm Haley & Aldrich	Firm Eurofins
Date 1/21/25 Time 11:20	Date 1/21/25 1105
Relinquished by	**Received by**
Sign [signature]	Sign [signature]
Print Macky Morris	Print Samantha Simpson
Firm HALEY	Firm Eurofins
Date 1/21/25 Time 1611	Date 1/21/25 0955

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

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_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ RC-S2 ☐ RC-GW1 ☐ RC-GW2
☐ S1 ☐ S2 ☐ S3
☐ GW1 ☐ GW2 ☐ GW3

WHITE Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

5.3°C

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE		TURNAROUND TIME	
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
PDW-002-N-S025-01202025	1/20/2025	14:55	Soil					X	1
PDW-002-N-S029-01202025		15:00						X	
PDW-001-N-S000-01202025		16:20						X	
PDW-001-N-S001-01202025		16:25		X					
PDW-001-N-S003-01202025		16.35		X					
PDW-001-FD-S003-01202025-LC		16:40		X				~~X~~ ic	
PDW-001-N-S006-01202025		16:45						X	
PDW-001-N-S010-01202025		16:50						X	
PDW-001-N-S015-01202025		16:55						X	
PDW-001-N-S020-01202025		17:00						X	

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

– run sample

2.4c 2.8c IR00L

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

Relinquished by	Received by
Sign [signature]	Sign [signature]
Print Lindsay Chuter	Print Jerry Parker
Firm Haley & Aldrich	Firm CTA Spokane
Date 1/21/25 Time 11:00	Date 1/21/25 1105

Relinquished by	Received by
Sign [signature]	Sign [signature]
Print Macky Morris	Print [illegible]
Firm EET SPO	Firm EET Spo
Date 1/21/25 Time 1614	Date 1/23/25 0955

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

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_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ RC-S2 ☐ RC-GW1 ☐ RC-GW2

☐ S1 ☐ S2 ☐ S3

☐ GW1 ☐ GW2 ☐ GW3

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory 5.3c

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave. Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE		TURNAROUND TIME	
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
PDW-001-N-S025-01202025	1/20/2025	17:05	Soil					X	1
PDW-001-N-S030-01202025		17:10						X	
PDW-001-N-S034-01202025		17:15						X	
EB-01202025		17:30	H2O	X					3
FB-01202025		—	H2O	X					2

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

24c 2.8c I2006

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

Relinquished by	Received by
Sign	Sign
Print Lindsay Chuntas	Print Jenny Pace
Firm Haley & Aldrich	Firm CTA Spokane
Date 1/21/25 Time 11:00	Date 1/21/25 1605

Relinquished by	Received by
Sign	Sign
Print Mackey Mon.E	Print Salvador Gomez
Firm HA	Firm EUTSP
Date 1/21/25 Time 1604	Date 1/23/25 0955

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections.

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_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

5.3°c

November 2024

Form 3003

eurofins | Environment Testing

Loc: 320
118499

Sacramento Sample Receiving Notes (SSRN)

Tracking # 4242 5693 0335

Job _____ _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID COY Corr Factor (+/-) 0.0 °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: 2691566

Cooler ID —

Temp Observed: 5.3 °C Corrected: 5.3 °C

From Temp Blank ☐ Sandwich ☐ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials SO Date 1/23/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☑	☐
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials JF Date 1/23/25

Notes:_____

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials JF Date 1/23/25

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 2/5/2025 1:43:37 PM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118499-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

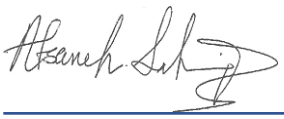
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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2/5/2025 1:43:37 PM

Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118499-1
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118499-1 — Eurofins Sacramento

Job Narrative
320-118499-1

Receipt
The samples were received on 1/23/2025 9:55 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 5.3º C.

Receipt Exceptions

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): RTA-001-FD-S010-01202025 (320-118499-12). The container labels list DUP-01, while the COC lists RTA-001-FD-SO10-01202025.

LCMS
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-1

Client Sample ID: RTA-002-N-S001-01202025 — Lab Sample ID: 320-118499-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.44		0.20	0.050	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: RTA-002-N-S003-01202025 — Lab Sample ID: 320-118499-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.21		0.19	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: RTA-001-N-S001-01202025 — Lab Sample ID: 320-118499-8

No Detections.

Client Sample ID: RTA-001-N-S003-01202025 — Lab Sample ID: 320-118499-9

No Detections.

Client Sample ID: PDW-002-N-S001-01202025 — Lab Sample ID: 320-118499-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.070	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanoic acid (PFBA) - RA	0.12	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: PDW-002-N-S003-01202025 — Lab Sample ID: 320-118499-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.084	J	0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.44		0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: PDW-001-N-S001-01202025 — Lab Sample ID: 320-118499-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	0.24		0.20	0.050	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: PDW-001-N-S003-01202025 — Lab Sample ID: 320-118499-25

No Detections.

Client Sample ID: PDW-001-FD-S003-01202025 — Lab Sample ID: 320-118499-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.064	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.10	J	0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.12	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.32		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA	0.18	J	0.39	0.098	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: EB-01202025 — Lab Sample ID: 320-118499-34

No Detections.

Client Sample ID: FB-01202025 — Lab Sample ID: 320-118499-35

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-1

Client Sample ID: RTA-002-N-S001-01202025
Date Collected: 01/20/25 08:37
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-2
Matrix: Solid
Percent Solids: 85.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
Perfluorooctanesulfonic acid (PFOS)	**0.44**		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 19:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*99.2*		*35 - 130*	*01/30/25 04:13*	*01/30/25 19:58*	*1*
13C5 PFHxA	*88.3*		*40 - 130*	*01/30/25 04:13*	*01/30/25 19:58*	*1*
13C4 PFHpA	*98.5*		*40 - 130*	*01/30/25 04:13*	*01/30/25 19:58*	*1*
13C8 PFOA	*95.2*		*40 - 130*	*01/30/25 04:13*	*01/30/25 19:58*	*1*
13C9 PFNA	*96.8*		*40 - 130*	*01/30/25 04:13*	*01/30/25 19:58*	*1*
13C6 PFDA	*96.9*		*40 - 130*	*01/30/25 04:13*	*01/30/25 19:58*	*1*
13C7 PFUnA	*86.2*		*40 - 130*	*01/30/25 04:13*	*01/30/25 19:58*	*1*
13C2 PFDoA	*85.6*		*40 - 130*	*01/30/25 04:13*	*01/30/25 19:58*	*1*
13C2 PFTeDA	*92.9*		*20 - 130*	*01/30/25 04:13*	*01/30/25 19:58*	*1*
13C3 PFBS	*92.9*		*40 - 135*	*01/30/25 04:13*	*01/30/25 19:58*	*1*
13C3 PFHxS	*93.0*		*40 - 130*	*01/30/25 04:13*	*01/30/25 19:58*	*1*
13C8 PFOS	*93.8*		*40 - 130*	*01/30/25 04:13*	*01/30/25 19:58*	*1*

Client Sample ID: RTA-002-N-S001-01202025
Date Collected: 01/20/25 08:37
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-2
Matrix: Solid
Percent Solids: 85.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	82.2		40 - 130	01/30/25 04:13	01/30/25 19:58	1
d3-NMeFOSAA	83.5		40 - 135	01/30/25 04:13	01/30/25 19:58	1
d5-NEtFOSAA	87.5		40 - 150	01/30/25 04:13	01/30/25 19:58	1
d5-NEtPFOSA	84.0		10 - 130	01/30/25 04:13	01/30/25 19:58	1
d3-NMePFOSA	81.3		10 - 130	01/30/25 04:13	01/30/25 19:58	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.099	ug/Kg	☼	01/30/25 04:13	02/03/25 14:28	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	01/30/25 04:13	02/03/25 14:28	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.099	ug/Kg	☼	01/30/25 04:13	02/03/25 14:28	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.099	ug/Kg	☼	01/30/25 04:13	02/03/25 14:28	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 14:28	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 14:28	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	02/03/25 14:28	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	02/03/25 14:28	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	02/03/25 14:28	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	01/30/25 04:13	02/03/25 14:28	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.099	ug/Kg	☼	01/30/25 04:13	02/03/25 14:28	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 14:28	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 14:28	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	96.3		8 - 130	01/30/25 04:13	02/03/25 14:28	1
13C5 PFPeA	107		35 - 130	01/30/25 04:13	02/03/25 14:28	1
13C5 PFHxA	96.3		40 - 130	01/30/25 04:13	02/03/25 14:28	1
13C2 4:2 FTS	98.1		40 - 165	01/30/25 04:13	02/03/25 14:28	1
13C2 6:2 FTS	85.6		40 - 215	01/30/25 04:13	02/03/25 14:28	1
13C2 8:2 FTS	80.6		40 - 275	01/30/25 04:13	02/03/25 14:28	1
13C3 HFPO-DA	102		40 - 130	01/30/25 04:13	02/03/25 14:28	1
d7-N-MeFOSE-M	83.3		20 - 130	01/30/25 04:13	02/03/25 14:28	1
d9-N-EtFOSE-M	73.1		15 - 130	01/30/25 04:13	02/03/25 14:28	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	14		0.10	0.10	%			01/24/25 11:27	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-1

Client Sample ID: RTA-002-N-S003-01202025
Date Collected: 01/20/25 08:49
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-3
Matrix: Solid
Percent Solids: 95.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.060	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
Perfluorooctanesulfonic acid (PFOS)	**0.21**		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*95.3*		*35 - 130*	*01/30/25 04:13*	*01/30/25 20:14*	*1*
13C5 PFHxA	*99.2*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:14*	*1*
13C4 PFHpA	*102*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:14*	*1*
13C8 PFOA	*99.5*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:14*	*1*
13C9 PFNA	*101*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:14*	*1*
13C6 PFDA	*97.5*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:14*	*1*
13C7 PFUnA	*92.5*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:14*	*1*
13C2 PFDoA	*102*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:14*	*1*
13C2 PFTeDA	*101*		*20 - 130*	*01/30/25 04:13*	*01/30/25 20:14*	*1*
13C3 PFBS	*88.3*		*40 - 135*	*01/30/25 04:13*	*01/30/25 20:14*	*1*
13C3 PFHxS	*91.9*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:14*	*1*
13C8 PFOS	*103*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:14*	*1*

Client Sample ID: RTA-002-N-S003-01202025
Date Collected: 01/20/25 08:49
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-3
Matrix: Solid
Percent Solids: 95.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	95.2		40 - 130	01/30/25 04:13	01/30/25 20:14	1
d3-NMeFOSAA	93.6		40 - 135	01/30/25 04:13	01/30/25 20:14	1
d5-NEtFOSAA	91.3		40 - 150	01/30/25 04:13	01/30/25 20:14	1
d5-NEtPFOSA	92.5		10 - 130	01/30/25 04:13	01/30/25 20:14	1
d3-NMePFOSA	94.1		10 - 130	01/30/25 04:13	01/30/25 20:14	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.097	ug/Kg	☼	01/30/25 04:13	02/03/25 14:44	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/30/25 04:13	02/03/25 14:44	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/30/25 04:13	02/03/25 14:44	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/30/25 04:13	02/03/25 14:44	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	01/30/25 04:13	02/03/25 14:44	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	01/30/25 04:13	02/03/25 14:44	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 14:44	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 14:44	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 14:44	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.073	ug/Kg	☼	01/30/25 04:13	02/03/25 14:44	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	01/30/25 04:13	02/03/25 14:44	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	01/30/25 04:13	02/03/25 14:44	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	01/30/25 04:13	02/03/25 14:44	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	98.1		8 - 130	01/30/25 04:13	02/03/25 14:44	1
13C5 PFPeA	110		35 - 130	01/30/25 04:13	02/03/25 14:44	1
13C5 PFHxA	103		40 - 130	01/30/25 04:13	02/03/25 14:44	1
13C2 4:2 FTS	101		40 - 165	01/30/25 04:13	02/03/25 14:44	1
13C2 6:2 FTS	86.9		40 - 215	01/30/25 04:13	02/03/25 14:44	1
13C2 8:2 FTS	82.7		40 - 275	01/30/25 04:13	02/03/25 14:44	1
13C3 HFPO-DA	113		40 - 130	01/30/25 04:13	02/03/25 14:44	1
d7-N-MeFOSE-M	91.2		20 - 130	01/30/25 04:13	02/03/25 14:44	1
d9-N-EtFOSE-M	82.8		15 - 130	01/30/25 04:13	02/03/25 14:44	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	4.8		0.10	0.10	%			01/24/25 11:27	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-1

Client Sample ID: RTA-001-N-S001-01202025
Date Collected: 01/20/25 11:05
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-8
Matrix: Solid
Percent Solids: 87.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*101*		*35 - 130*	*01/30/25 04:13*	*01/30/25 20:31*	*1*
13C5 PFHxA	*95.2*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:31*	*1*
13C4 PFHpA	*97.2*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:31*	*1*
13C8 PFOA	*94.6*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:31*	*1*
13C9 PFNA	*90.5*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:31*	*1*
13C6 PFDA	*78.9*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:31*	*1*
13C7 PFUnA	*60.7*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:31*	*1*
13C2 PFDoA	*63.5*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:31*	*1*
13C2 PFTeDA	*77.7*		*20 - 130*	*01/30/25 04:13*	*01/30/25 20:31*	*1*
13C3 PFBS	*89.8*		*40 - 135*	*01/30/25 04:13*	*01/30/25 20:31*	*1*
13C3 PFHxS	*93.6*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:31*	*1*
13C8 PFOS	*85.2*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:31*	*1*
13C8 FOSA	*73.0*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:31*	*1*

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-1

Client Sample ID: RTA-001-N-S001-01202025
Date Collected: 01/20/25 11:05
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-8
Matrix: Solid
Percent Solids: 87.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMeFOSAA	68.8		40 - 135	01/30/25 04:13	01/30/25 20:31	1
d5-NEtFOSAA	65.7		40 - 150	01/30/25 04:13	01/30/25 20:31	1
d5-NEtPFOSA	53.2		10 - 130	01/30/25 04:13	01/30/25 20:31	1
d3-NMePFOSA	49.8		10 - 130	01/30/25 04:13	01/30/25 20:31	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	01/30/25 04:13	02/03/25 15:01	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/30/25 04:13	02/03/25 15:01	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/30/25 04:13	02/03/25 15:01	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/30/25 04:13	02/03/25 15:01	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.24	ug/Kg	☼	01/30/25 04:13	02/03/25 15:01	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.24	ug/Kg	☼	01/30/25 04:13	02/03/25 15:01	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 15:01	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 15:01	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 15:01	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.073	ug/Kg	☼	01/30/25 04:13	02/03/25 15:01	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	01/30/25 04:13	02/03/25 15:01	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	01/30/25 04:13	02/03/25 15:01	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	01/30/25 04:13	02/03/25 15:01	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	92.4		8 - 130	01/30/25 04:13	02/03/25 15:01	1
13C5 PFPeA	109		35 - 130	01/30/25 04:13	02/03/25 15:01	1
13C5 PFHxA	100		40 - 130	01/30/25 04:13	02/03/25 15:01	1
13C2 4:2 FTS	86.8		40 - 165	01/30/25 04:13	02/03/25 15:01	1
13C2 6:2 FTS	85.9		40 - 215	01/30/25 04:13	02/03/25 15:01	1
13C2 8:2 FTS	60.2		40 - 275	01/30/25 04:13	02/03/25 15:01	1
13C3 HFPO-DA	109		40 - 130	01/30/25 04:13	02/03/25 15:01	1
d7-N-MeFOSE-M	64.0		20 - 130	01/30/25 04:13	02/03/25 15:01	1
d9-N-EtFOSE-M	52.0		15 - 130	01/30/25 04:13	02/03/25 15:01	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	12		0.10	0.10	%			01/24/25 11:27	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-1

Client Sample ID: RTA-001-N-S003-01202025
Date Collected: 01/20/25 11:10
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-9
Matrix: Solid
Percent Solids: 94.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 20:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*95.6*		*35 - 130*	*01/30/25 04:13*	*01/30/25 20:47*	*1*
13C5 PFHxA	*101*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:47*	*1*
13C4 PFHpA	*113*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:47*	*1*
13C8 PFOA	*101*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:47*	*1*
13C9 PFNA	*99.8*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:47*	*1*
13C6 PFDA	*97.1*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:47*	*1*
13C7 PFUnA	*91.1*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:47*	*1*
13C2 PFDoA	*91.1*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:47*	*1*
13C2 PFTeDA	*95.0*		*20 - 130*	*01/30/25 04:13*	*01/30/25 20:47*	*1*
13C3 PFBS	*87.6*		*40 - 135*	*01/30/25 04:13*	*01/30/25 20:47*	*1*
13C3 PFHxS	*94.7*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:47*	*1*
13C8 PFOS	*93.3*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:47*	*1*
13C8 FOSA	*89.2*		*40 - 130*	*01/30/25 04:13*	*01/30/25 20:47*	*1*

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-1

Client Sample ID: RTA-001-N-S003-01202025
Date Collected: 01/20/25 11:10
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-9
Matrix: Solid
Percent Solids: 94.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMeFOSAA	86.2		40 - 135	01/30/25 04:13	01/30/25 20:47	1
d5-NEtFOSAA	88.3		40 - 150	01/30/25 04:13	01/30/25 20:47	1
d5-NEtPFOSA	73.3		10 - 130	01/30/25 04:13	01/30/25 20:47	1
d3-NMePFOSA	80.2		10 - 130	01/30/25 04:13	01/30/25 20:47	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	01/30/25 04:13	02/03/25 15:17	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/30/25 04:13	02/03/25 15:17	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/30/25 04:13	02/03/25 15:17	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/30/25 04:13	02/03/25 15:17	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 15:17	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 15:17	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 15:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 15:17	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 15:17	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	01/30/25 04:13	02/03/25 15:17	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	01/30/25 04:13	02/03/25 15:17	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 15:17	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 15:17	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	91.5		8 - 130	01/30/25 04:13	02/03/25 15:17	1
13C5 PFPeA	112		35 - 130	01/30/25 04:13	02/03/25 15:17	1
13C5 PFHxA	96.7		40 - 130	01/30/25 04:13	02/03/25 15:17	1
13C2 4:2 FTS	90.9		40 - 165	01/30/25 04:13	02/03/25 15:17	1
13C2 6:2 FTS	86.0		40 - 215	01/30/25 04:13	02/03/25 15:17	1
13C2 8:2 FTS	75.5		40 - 275	01/30/25 04:13	02/03/25 15:17	1
13C3 HFPO-DA	110		40 - 130	01/30/25 04:13	02/03/25 15:17	1
d7-N-MeFOSE-M	73.7		20 - 130	01/30/25 04:13	02/03/25 15:17	1
d9-N-EtFOSE-M	61.9		15 - 130	01/30/25 04:13	02/03/25 15:17	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	5.1		0.10	0.10	%			01/24/25 11:27	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-1

Client Sample ID: PDW-002-N-S001-01202025
Date Collected: 01/20/25 14:15
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-15
Matrix: Solid
Percent Solids: 86.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
Perfluorooctanesulfonic acid (PFOS)	**0.070**	**J**	0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 21:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*88.7*		*35 - 130*	*01/30/25 04:13*	*01/30/25 21:37*	*1*
13C5 PFHxA	*95.6*		*40 - 130*	*01/30/25 04:13*	*01/30/25 21:37*	*1*
13C4 PFHpA	*94.0*		*40 - 130*	*01/30/25 04:13*	*01/30/25 21:37*	*1*
13C8 PFOA	*92.4*		*40 - 130*	*01/30/25 04:13*	*01/30/25 21:37*	*1*
13C9 PFNA	*88.8*		*40 - 130*	*01/30/25 04:13*	*01/30/25 21:37*	*1*
13C6 PFDA	*87.5*		*40 - 130*	*01/30/25 04:13*	*01/30/25 21:37*	*1*
13C7 PFUnA	*81.4*		*40 - 130*	*01/30/25 04:13*	*01/30/25 21:37*	*1*
13C2 PFDoA	*81.7*		*40 - 130*	*01/30/25 04:13*	*01/30/25 21:37*	*1*
13C2 PFTeDA	*97.5*		*20 - 130*	*01/30/25 04:13*	*01/30/25 21:37*	*1*
13C3 PFBS	*87.6*		*40 - 135*	*01/30/25 04:13*	*01/30/25 21:37*	*1*
13C3 PFHxS	*85.7*		*40 - 130*	*01/30/25 04:13*	*01/30/25 21:37*	*1*
13C8 PFOS	*87.5*		*40 - 130*	*01/30/25 04:13*	*01/30/25 21:37*	*1*

Client Sample ID: PDW-002-N-S001-01202025

Date Collected: 01/20/25 14:15
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-15

Matrix: Solid
Percent Solids: 86.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	73.5		40 - 130	01/30/25 04:13	01/30/25 21:37	1
d3-NMeFOSAA	74.6		40 - 135	01/30/25 04:13	01/30/25 21:37	1
d5-NEtFOSAA	80.2		40 - 150	01/30/25 04:13	01/30/25 21:37	1
d5-NEtPFOSA	68.0		10 - 130	01/30/25 04:13	01/30/25 21:37	1
d3-NMePFOSA	67.2		10 - 130	01/30/25 04:13	01/30/25 21:37	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.12**	**J**	0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 15:34	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 15:34	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 15:34	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 15:34	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 15:34	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 15:34	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	02/03/25 15:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	02/03/25 15:34	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	02/03/25 15:34	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	01/30/25 04:13	02/03/25 15:34	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 15:34	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 15:34	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 15:34	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	92.1		8 - 130	01/30/25 04:13	02/03/25 15:34	1
13C5 PFPeA	105		35 - 130	01/30/25 04:13	02/03/25 15:34	1
13C5 PFHxA	103		40 - 130	01/30/25 04:13	02/03/25 15:34	1
13C2 4:2 FTS	90.6		40 - 165	01/30/25 04:13	02/03/25 15:34	1
13C2 6:2 FTS	82.0		40 - 215	01/30/25 04:13	02/03/25 15:34	1
13C2 8:2 FTS	68.7		40 - 275	01/30/25 04:13	02/03/25 15:34	1
13C3 HFPO-DA	109		40 - 130	01/30/25 04:13	02/03/25 15:34	1
d7-N-MeFOSE-M	76.7		20 - 130	01/30/25 04:13	02/03/25 15:34	1
d9-N-EtFOSE-M	68.5		15 - 130	01/30/25 04:13	02/03/25 15:34	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**14**		0.10	0.10	%			01/24/25 11:27	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-1

Client Sample ID: PDW-002-N-S003-01202025
Date Collected: 01/20/25 14:25
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-16
Matrix: Solid
Percent Solids: 85.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
Perfluorooctanoic acid (PFOA)	**0.084**	**J**	0.20	0.061	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
Perfluorooctanesulfonic acid (PFOS)	**0.44**		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 21:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*85.4*		*35 - 130*	*01/30/25 04:13*	*01/30/25 21:53*	*1*
13C5 PFHxA	*94.9*		*40 - 130*	*01/30/25 04:13*	*01/30/25 21:53*	*1*
13C4 PFHpA	*98.5*		*40 - 130*	*01/30/25 04:13*	*01/30/25 21:53*	*1*
13C8 PFOA	*97.4*		*40 - 130*	*01/30/25 04:13*	*01/30/25 21:53*	*1*
13C9 PFNA	*93.7*		*40 - 130*	*01/30/25 04:13*	*01/30/25 21:53*	*1*
13C6 PFDA	*93.5*		*40 - 130*	*01/30/25 04:13*	*01/30/25 21:53*	*1*
13C7 PFUnA	*81.8*		*40 - 130*	*01/30/25 04:13*	*01/30/25 21:53*	*1*
13C2 PFDoA	*83.8*		*40 - 130*	*01/30/25 04:13*	*01/30/25 21:53*	*1*
13C2 PFTeDA	*93.8*		*20 - 130*	*01/30/25 04:13*	*01/30/25 21:53*	*1*
13C3 PFBS	*84.7*		*40 - 135*	*01/30/25 04:13*	*01/30/25 21:53*	*1*
13C3 PFHxS	*90.3*		*40 - 130*	*01/30/25 04:13*	*01/30/25 21:53*	*1*
13C8 PFOS	*86.5*		*40 - 130*	*01/30/25 04:13*	*01/30/25 21:53*	*1*

Client Sample ID: PDW-002-N-S003-01202025

Date Collected: 01/20/25 14:25
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-16

Matrix: Solid
Percent Solids: 85.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	72.4		40 - 130	01/30/25 04:13	01/30/25 21:53	1
d3-NMeFOSAA	77.2		40 - 135	01/30/25 04:13	01/30/25 21:53	1
d5-NEtFOSAA	78.6		40 - 150	01/30/25 04:13	01/30/25 21:53	1
d5-NEtPFOSA	62.5		10 - 130	01/30/25 04:13	01/30/25 21:53	1
d3-NMePFOSA	61.3		10 - 130	01/30/25 04:13	01/30/25 21:53	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.099	ug/Kg	☼	01/30/25 04:13	02/03/25 15:50	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.099	ug/Kg	☼	01/30/25 04:13	02/03/25 15:50	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.099	ug/Kg	☼	01/30/25 04:13	02/03/25 15:50	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.099	ug/Kg	☼	01/30/25 04:13	02/03/25 15:50	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 15:50	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 15:50	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 15:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 15:50	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 15:50	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	01/30/25 04:13	02/03/25 15:50	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.099	ug/Kg	☼	01/30/25 04:13	02/03/25 15:50	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 15:50	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 15:50	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	92.3		8 - 130	01/30/25 04:13	02/03/25 15:50	1
13C5 PFPeA	105		35 - 130	01/30/25 04:13	02/03/25 15:50	1
13C5 PFHxA	101		40 - 130	01/30/25 04:13	02/03/25 15:50	1
13C2 4:2 FTS	96.5		40 - 165	01/30/25 04:13	02/03/25 15:50	1
13C2 6:2 FTS	76.6		40 - 215	01/30/25 04:13	02/03/25 15:50	1
13C2 8:2 FTS	60.1		40 - 275	01/30/25 04:13	02/03/25 15:50	1
13C3 HFPO-DA	108		40 - 130	01/30/25 04:13	02/03/25 15:50	1
d7-N-MeFOSE-M	72.9		20 - 130	01/30/25 04:13	02/03/25 15:50	1
d9-N-EtFOSE-M	69.5		15 - 130	01/30/25 04:13	02/03/25 15:50	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	14		0.10	0.10	%			01/24/25 11:27	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-1

Client Sample ID: PDW-001-N-S001-01202025
Date Collected: 01/20/25 16:25
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-24
Matrix: Solid
Percent Solids: 82.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
Perfluorobutanesulfonic acid (PFBS)	**0.24**		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/30/25 22:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*87.9*		*35 - 130*	*01/30/25 04:13*	*01/30/25 22:09*	*1*
13C5 PFHxA	*98.5*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:09*	*1*
13C4 PFHpA	*110*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:09*	*1*
13C8 PFOA	*96.9*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:09*	*1*
13C9 PFNA	*104*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:09*	*1*
13C6 PFDA	*89.7*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:09*	*1*
13C7 PFUnA	*83.0*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:09*	*1*
13C2 PFDoA	*88.9*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:09*	*1*
13C2 PFTeDA	*95.6*		*20 - 130*	*01/30/25 04:13*	*01/30/25 22:09*	*1*
13C3 PFBS	*94.6*		*40 - 135*	*01/30/25 04:13*	*01/30/25 22:09*	*1*
13C3 PFHxS	*91.3*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:09*	*1*
13C8 PFOS	*92.2*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:09*	*1*

Client Sample ID: PDW-001-N-S001-01202025
Date Collected: 01/20/25 16:25
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-24
Matrix: Solid
Percent Solids: 82.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	77.3		40 - 130	01/30/25 04:13	01/30/25 22:09	1
d3-NMeFOSAA	80.4		40 - 135	01/30/25 04:13	01/30/25 22:09	1
d5-NEtFOSAA	79.9		40 - 150	01/30/25 04:13	01/30/25 22:09	1
d5-NEtPFOSA	57.8		10 - 130	01/30/25 04:13	01/30/25 22:09	1
d3-NMePFOSA	62.2		10 - 130	01/30/25 04:13	01/30/25 22:09	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 20:13	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 20:13	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 20:13	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 20:13	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 20:13	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 20:13	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	02/03/25 20:13	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	02/03/25 20:13	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	02/03/25 20:13	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	01/30/25 04:13	02/03/25 20:13	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 20:13	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 20:13	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 20:13	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	96.8		8 - 130	01/30/25 04:13	02/03/25 20:13	1
13C5 PFPeA	110		35 - 130	01/30/25 04:13	02/03/25 20:13	1
13C5 PFHxA	105		40 - 130	01/30/25 04:13	02/03/25 20:13	1
13C2 4:2 FTS	108		40 - 165	01/30/25 04:13	02/03/25 20:13	1
13C2 6:2 FTS	90.3		40 - 215	01/30/25 04:13	02/03/25 20:13	1
13C2 8:2 FTS	77.0		40 - 275	01/30/25 04:13	02/03/25 20:13	1
13C3 HFPO-DA	99.1		40 - 130	01/30/25 04:13	02/03/25 20:13	1
d7-N-MeFOSE-M	75.7		20 - 130	01/30/25 04:13	02/03/25 20:13	1
d9-N-EtFOSE-M	79.9		15 - 130	01/30/25 04:13	02/03/25 20:13	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	18		0.10	0.10	%			01/24/25 11:27	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-1

Client Sample ID: PDW-001-N-S003-01202025
Date Collected: 01/20/25 16:35
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-25
Matrix: Solid
Percent Solids: 94.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*99.5*		*35 - 130*	*01/30/25 04:13*	*01/30/25 22:26*	*1*
13C5 PFHxA	*101*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:26*	*1*
13C4 PFHpA	*93.7*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:26*	*1*
13C8 PFOA	*99.3*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:26*	*1*
13C9 PFNA	*97.8*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:26*	*1*
13C6 PFDA	*92.7*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:26*	*1*
13C7 PFUnA	*82.8*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:26*	*1*
13C2 PFDoA	*85.9*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:26*	*1*
13C2 PFTeDA	*87.1*		*20 - 130*	*01/30/25 04:13*	*01/30/25 22:26*	*1*
13C3 PFBS	*83.3*		*40 - 135*	*01/30/25 04:13*	*01/30/25 22:26*	*1*
13C3 PFHxS	*91.5*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:26*	*1*
13C8 PFOS	*86.4*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:26*	*1*
13C8 FOSA	*80.4*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:26*	*1*

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-1

Client Sample ID: PDW-001-N-S003-01202025
Date Collected: 01/20/25 16:35
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-25
Matrix: Solid
Percent Solids: 94.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMeFOSAA	83.5		40 - 135	01/30/25 04:13	01/30/25 22:26	1
d5-NEtFOSAA	88.2		40 - 150	01/30/25 04:13	01/30/25 22:26	1
d5-NEtPFOSA	58.7		10 - 130	01/30/25 04:13	01/30/25 22:26	1
d3-NMePFOSA	61.8		10 - 130	01/30/25 04:13	01/30/25 22:26	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.099	ug/Kg	☼	01/30/25 04:13	02/03/25 20:29	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.099	ug/Kg	☼	01/30/25 04:13	02/03/25 20:29	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.099	ug/Kg	☼	01/30/25 04:13	02/03/25 20:29	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.099	ug/Kg	☼	01/30/25 04:13	02/03/25 20:29	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 20:29	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 20:29	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 20:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 20:29	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 20:29	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	01/30/25 04:13	02/03/25 20:29	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.099	ug/Kg	☼	01/30/25 04:13	02/03/25 20:29	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 20:29	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 20:29	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	94.7		8 - 130	01/30/25 04:13	02/03/25 20:29	1
13C5 PFPeA	99.2		35 - 130	01/30/25 04:13	02/03/25 20:29	1
13C5 PFHxA	101		40 - 130	01/30/25 04:13	02/03/25 20:29	1
13C2 4:2 FTS	83.5		40 - 165	01/30/25 04:13	02/03/25 20:29	1
13C2 6:2 FTS	80.6		40 - 215	01/30/25 04:13	02/03/25 20:29	1
13C2 8:2 FTS	72.6		40 - 275	01/30/25 04:13	02/03/25 20:29	1
13C3 HFPO-DA	105		40 - 130	01/30/25 04:13	02/03/25 20:29	1
d7-N-MeFOSE-M	76.3		20 - 130	01/30/25 04:13	02/03/25 20:29	1
d9-N-EtFOSE-M	80.7		15 - 130	01/30/25 04:13	02/03/25 20:29	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	5.6		0.10	0.10	%			01/24/25 11:27	1

Client Sample ID: PDW-001-FD-S003-01202025

Date Collected: 01/20/25 16:40
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-26

Matrix: Solid
Percent Solids: 94.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
Perfluorohexanoic acid (PFHxA)	**0.064**	**J**	0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
Perfluorooctanoic acid (PFOA)	**0.10**	**J**	0.20	0.061	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
Perfluorohexanesulfonic acid (PFHxS)	**0.12**	**J**	0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
Perfluorooctanesulfonic acid (PFOS)	**0.32**		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	01/30/25 22:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*104*		*35 - 130*	*01/30/25 04:13*	*01/30/25 22:42*	*1*
13C5 PFHxA	*94.1*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:42*	*1*
13C4 PFHpA	*113*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:42*	*1*
13C8 PFOA	*94.5*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:42*	*1*
13C9 PFNA	*98.1*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:42*	*1*
13C6 PFDA	*91.4*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:42*	*1*
13C7 PFUnA	*85.1*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:42*	*1*
13C2 PFDoA	*85.7*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:42*	*1*
13C2 PFTeDA	*92.8*		*20 - 130*	*01/30/25 04:13*	*01/30/25 22:42*	*1*
13C3 PFBS	*86.6*		*40 - 135*	*01/30/25 04:13*	*01/30/25 22:42*	*1*
13C3 PFHxS	*89.4*		*40 - 130*	*01/30/25 04:13*	*01/30/25 22:42*	*1*

Client Sample ID: PDW-001-FD-S003-01202025
Date Collected: 01/20/25 16:40
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-26
Matrix: Solid
Percent Solids: 94.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	83.8		40 - 130	01/30/25 04:13	01/30/25 22:42	1
13C8 FOSA	80.6		40 - 130	01/30/25 04:13	01/30/25 22:42	1
d3-NMeFOSAA	89.3		40 - 135	01/30/25 04:13	01/30/25 22:42	1
d5-NEtFOSAA	88.3		40 - 150	01/30/25 04:13	01/30/25 22:42	1
d5-NEtPFOSA	60.8		10 - 130	01/30/25 04:13	01/30/25 22:42	1
d3-NMePFOSA	64.2		10 - 130	01/30/25 04:13	01/30/25 22:42	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	01/30/25 04:13	02/03/25 20:46	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/30/25 04:13	02/03/25 20:46	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.18**	**J**	0.39	0.098	ug/Kg	☼	01/30/25 04:13	02/03/25 20:46	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/30/25 04:13	02/03/25 20:46	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 20:46	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 20:46	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 20:46	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 20:46	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/30/25 04:13	02/03/25 20:46	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	01/30/25 04:13	02/03/25 20:46	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	01/30/25 04:13	02/03/25 20:46	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 20:46	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 20:46	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	94.6		8 - 130	01/30/25 04:13	02/03/25 20:46	1
13C5 PFPeA	106		35 - 130	01/30/25 04:13	02/03/25 20:46	1
13C5 PFHxA	101		40 - 130	01/30/25 04:13	02/03/25 20:46	1
13C2 4:2 FTS	83.4		40 - 165	01/30/25 04:13	02/03/25 20:46	1
13C2 6:2 FTS	81.4		40 - 215	01/30/25 04:13	02/03/25 20:46	1
13C2 8:2 FTS	66.6		40 - 275	01/30/25 04:13	02/03/25 20:46	1
13C3 HFPO-DA	101		40 - 130	01/30/25 04:13	02/03/25 20:46	1
d7-N-MeFOSE-M	80.5		20 - 130	01/30/25 04:13	02/03/25 20:46	1
d9-N-EtFOSE-M	79.9		15 - 130	01/30/25 04:13	02/03/25 20:46	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**5.2**		0.10	0.10	%			01/24/25 11:27	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-1

Client Sample ID: EB-01202025
Date Collected: 01/20/25 17:30
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-34
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.5	0.87	ng/L		01/28/25 04:11	02/03/25 16:35	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.43	ng/L		01/28/25 04:11	02/03/25 16:35	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.43	ng/L		01/28/25 04:11	02/03/25 16:35	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.43	ng/L		01/28/25 04:11	02/03/25 16:35	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.43	ng/L		01/28/25 04:11	02/03/25 16:35	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.43	ng/L		01/28/25 04:11	02/03/25 16:35	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.43	ng/L		01/28/25 04:11	02/03/25 16:35	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		01/28/25 04:11	02/03/25 16:35	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.48	ng/L		01/28/25 04:11	02/03/25 16:35	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.50	ng/L		01/28/25 04:11	02/03/25 16:35	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.70	ng/L		01/28/25 04:11	02/03/25 16:35	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.43	ng/L		01/28/25 04:11	02/03/25 16:35	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.43	ng/L		01/28/25 04:11	02/03/25 16:35	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.43	ng/L		01/28/25 04:11	02/03/25 16:35	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.43	ng/L		01/28/25 04:11	02/03/25 16:35	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.43	ng/L		01/28/25 04:11	02/03/25 16:35	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.43	ng/L		01/28/25 04:11	02/03/25 16:35	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.43	ng/L		01/28/25 04:11	02/03/25 16:35	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.46	ng/L		01/28/25 04:11	02/03/25 16:35	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.5	0.87	ng/L		01/28/25 04:11	02/03/25 16:35	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.5	0.87	ng/L		01/28/25 04:11	02/03/25 16:35	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.5	0.87	ng/L		01/28/25 04:11	02/03/25 16:35	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.43	ng/L		01/28/25 04:11	02/03/25 16:35	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.43	ng/L		01/28/25 04:11	02/03/25 16:35	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.43	ng/L		01/28/25 04:11	02/03/25 16:35	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.43	ng/L		01/28/25 04:11	02/03/25 16:35	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.43	ng/L		01/28/25 04:11	02/03/25 16:35	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.7	2.2	ng/L		01/28/25 04:11	02/03/25 16:35	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.7	2.2	ng/L		01/28/25 04:11	02/03/25 16:35	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.34	ng/L		01/28/25 04:11	02/03/25 16:35	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.43	ng/L		01/28/25 04:11	02/03/25 16:35	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.43	ng/L		01/28/25 04:11	02/03/25 16:35	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.43	ng/L		01/28/25 04:11	02/03/25 16:35	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.62	ng/L		01/28/25 04:11	02/03/25 16:35	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.50	ng/L		01/28/25 04:11	02/03/25 16:35	1

Client Sample ID: EB-01202025

Date Collected: 01/20/25 17:30
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-34

Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.43	ng/L		01/28/25 04:11	02/03/25 16:35	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.43	ng/L		01/28/25 04:11	02/03/25 16:35	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.5	0.87	ng/L		01/28/25 04:11	02/03/25 16:35	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.7	2.2	ng/L		01/28/25 04:11	02/03/25 16:35	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.7	2.2	ng/L		01/28/25 04:11	02/03/25 16:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*102*		*5 - 130*	*01/28/25 04:11*	*02/03/25 16:35*	*1*
13C5 PFPeA	*92.8*		*40 - 130*	*01/28/25 04:11*	*02/03/25 16:35*	*1*
13C5 PFHxA	*100*		*40 - 130*	*01/28/25 04:11*	*02/03/25 16:35*	*1*
13C4 PFHpA	*112*		*40 - 130*	*01/28/25 04:11*	*02/03/25 16:35*	*1*
13C8 PFOA	*105*		*40 - 130*	*01/28/25 04:11*	*02/03/25 16:35*	*1*
13C9 PFNA	*86.9*		*40 - 130*	*01/28/25 04:11*	*02/03/25 16:35*	*1*
13C6 PFDA	*85.2*		*40 - 130*	*01/28/25 04:11*	*02/03/25 16:35*	*1*
13C7 PFUnA	*77.2*		*30 - 130*	*01/28/25 04:11*	*02/03/25 16:35*	*1*
13C2 PFDoA	*83.3*		*10 - 130*	*01/28/25 04:11*	*02/03/25 16:35*	*1*
13C2 PFTeDA	*67.2*		*10 - 130*	*01/28/25 04:11*	*02/03/25 16:35*	*1*
13C3 PFBS	*95.6*		*40 - 135*	*01/28/25 04:11*	*02/03/25 16:35*	*1*
13C3 PFHxS	*95.6*		*40 - 130*	*01/28/25 04:11*	*02/03/25 16:35*	*1*
13C8 PFOS	*95.4*		*40 - 130*	*01/28/25 04:11*	*02/03/25 16:35*	*1*
13C8 FOSA	*83.4*		*40 - 130*	*01/28/25 04:11*	*02/03/25 16:35*	*1*
d3-NMeFOSAA	*104*		*40 - 170*	*01/28/25 04:11*	*02/03/25 16:35*	*1*
d5-NEtFOSAA	*94.7*		*25 - 135*	*01/28/25 04:11*	*02/03/25 16:35*	*1*
13C2 4:2 FTS	*92.1*		*40 - 200*	*01/28/25 04:11*	*02/03/25 16:35*	*1*
13C2 6:2 FTS	*98.9*		*40 - 200*	*01/28/25 04:11*	*02/03/25 16:35*	*1*
13C2 8:2 FTS	*91.0*		*40 - 300*	*01/28/25 04:11*	*02/03/25 16:35*	*1*
13C3 HFPO-DA	*107*		*40 - 130*	*01/28/25 04:11*	*02/03/25 16:35*	*1*
d7-N-MeFOSE-M	*82.6*		*10 - 130*	*01/28/25 04:11*	*02/03/25 16:35*	*1*
d9-N-EtFOSE-M	*78.2*		*10 - 130*	*01/28/25 04:11*	*02/03/25 16:35*	*1*
d5-NEtPFOSA	*85.6*		*10 - 130*	*01/28/25 04:11*	*02/03/25 16:35*	*1*
d3-NMePFOSA	*85.4*		*10 - 130*	*01/28/25 04:11*	*02/03/25 16:35*	*1*

Client Sample ID: FB-01202025

Date Collected: 01/20/25 00:00
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-35

Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.2	0.80	ng/L		01/28/25 04:11	02/03/25 17:25	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.40	ng/L		01/28/25 04:11	02/03/25 17:25	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.40	ng/L		01/28/25 04:11	02/03/25 17:25	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.40	ng/L		01/28/25 04:11	02/03/25 17:25	1
Perfluorooctanoic acid (PFOA)	ND		1.6	0.40	ng/L		01/28/25 04:11	02/03/25 17:25	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.40	ng/L		01/28/25 04:11	02/03/25 17:25	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.40	ng/L		01/28/25 04:11	02/03/25 17:25	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.40	ng/L		01/28/25 04:11	02/03/25 17:25	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.44	ng/L		01/28/25 04:11	02/03/25 17:25	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-1

Client Sample ID: FB-01202025
Date Collected: 01/20/25 00:00
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-35
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTrDA)	ND		1.6	0.46	ng/L		01/28/25 04:11	02/03/25 17:25	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.6	0.65	ng/L		01/28/25 04:11	02/03/25 17:25	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.40	ng/L		01/28/25 04:11	02/03/25 17:25	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.6	0.40	ng/L		01/28/25 04:11	02/03/25 17:25	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.40	ng/L		01/28/25 04:11	02/03/25 17:25	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.40	ng/L		01/28/25 04:11	02/03/25 17:25	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.40	ng/L		01/28/25 04:11	02/03/25 17:25	1
Perfluorononanesulfonic acid (PFNS)	ND		1.6	0.40	ng/L		01/28/25 04:11	02/03/25 17:25	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.40	ng/L		01/28/25 04:11	02/03/25 17:25	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.6	0.42	ng/L		01/28/25 04:11	02/03/25 17:25	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.2	0.80	ng/L		01/28/25 04:11	02/03/25 17:25	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.2	0.80	ng/L		01/28/25 04:11	02/03/25 17:25	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.2	0.80	ng/L		01/28/25 04:11	02/03/25 17:25	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.40	ng/L		01/28/25 04:11	02/03/25 17:25	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.6	0.40	ng/L		01/28/25 04:11	02/03/25 17:25	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.6	0.40	ng/L		01/28/25 04:11	02/03/25 17:25	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.6	0.40	ng/L		01/28/25 04:11	02/03/25 17:25	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.6	0.40	ng/L		01/28/25 04:11	02/03/25 17:25	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.0	2.0	ng/L		01/28/25 04:11	02/03/25 17:25	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.0	2.0	ng/L		01/28/25 04:11	02/03/25 17:25	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.2	0.31	ng/L		01/28/25 04:11	02/03/25 17:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.6	0.40	ng/L		01/28/25 04:11	02/03/25 17:25	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.6	0.40	ng/L		01/28/25 04:11	02/03/25 17:25	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.6	0.40	ng/L		01/28/25 04:11	02/03/25 17:25	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.6	0.58	ng/L		01/28/25 04:11	02/03/25 17:25	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.6	0.46	ng/L		01/28/25 04:11	02/03/25 17:25	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.6	0.40	ng/L		01/28/25 04:11	02/03/25 17:25	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.6	0.40	ng/L		01/28/25 04:11	02/03/25 17:25	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.2	0.80	ng/L		01/28/25 04:11	02/03/25 17:25	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.0	2.0	ng/L		01/28/25 04:11	02/03/25 17:25	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.0	2.0	ng/L		01/28/25 04:11	02/03/25 17:25	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-1

Client Sample ID: FB-01202025
Date Collected: 01/20/25 00:00
Date Received: 01/23/25 09:55

Lab Sample ID: 320-118499-35
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	101		5 - 130	01/28/25 04:11	02/03/25 17:25	1
13C5 PFPeA	99.6		40 - 130	01/28/25 04:11	02/03/25 17:25	1
13C5 PFHxA	114		40 - 130	01/28/25 04:11	02/03/25 17:25	1
13C4 PFHpA	115		40 - 130	01/28/25 04:11	02/03/25 17:25	1
13C8 PFOA	90.6		40 - 130	01/28/25 04:11	02/03/25 17:25	1
13C9 PFNA	94.2		40 - 130	01/28/25 04:11	02/03/25 17:25	1
13C6 PFDA	87.8		40 - 130	01/28/25 04:11	02/03/25 17:25	1
13C7 PFUnA	83.2		30 - 130	01/28/25 04:11	02/03/25 17:25	1
13C2 PFDoA	85.7		10 - 130	01/28/25 04:11	02/03/25 17:25	1
13C2 PFTeDA	72.7		10 - 130	01/28/25 04:11	02/03/25 17:25	1
13C3 PFBS	105		40 - 135	01/28/25 04:11	02/03/25 17:25	1
13C3 PFHxS	97.1		40 - 130	01/28/25 04:11	02/03/25 17:25	1
13C8 PFOS	112		40 - 130	01/28/25 04:11	02/03/25 17:25	1
13C8 FOSA	94.0		40 - 130	01/28/25 04:11	02/03/25 17:25	1
d3-NMeFOSAA	112		40 - 170	01/28/25 04:11	02/03/25 17:25	1
d5-NEtFOSAA	107		25 - 135	01/28/25 04:11	02/03/25 17:25	1
13C2 4:2 FTS	90.5		40 - 200	01/28/25 04:11	02/03/25 17:25	1
13C2 6:2 FTS	115		40 - 200	01/28/25 04:11	02/03/25 17:25	1
13C2 8:2 FTS	90.6		40 - 300	01/28/25 04:11	02/03/25 17:25	1
13C3 HFPO-DA	108		40 - 130	01/28/25 04:11	02/03/25 17:25	1
d7-N-MeFOSE-M	92.0		10 - 130	01/28/25 04:11	02/03/25 17:25	1
d9-N-EtFOSE-M	96.3		10 - 130	01/28/25 04:11	02/03/25 17:25	1
d5-NEtPFOSA	96.8		10 - 130	01/28/25 04:11	02/03/25 17:25	1
d3-NMePFOSA	95.5		10 - 130	01/28/25 04:11	02/03/25 17:25	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFPeA (35-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (40-130)	PFDoA (40-130)
320-118499-2	RTA-002-N-S001-01202025	99.2	88.3	98.5	95.2	96.8	96.9	86.2	85.6
320-118499-3	RTA-002-N-S003-01202025	95.3	99.2	102	99.5	101	97.5	92.5	102
320-118499-8	RTA-001-N-S001-01202025	101	95.2	97.2	94.6	90.5	78.9	60.7	63.5
320-118499-9	RTA-001-N-S003-01202025	95.6	101	113	101	99.8	97.1	91.1	91.1
320-118499-15	PDW-002-N-S001-01202025	88.7	95.6	94.0	92.4	88.8	87.5	81.4	81.7
320-118499-16	PDW-002-N-S003-01202025	85.4	94.9	98.5	97.4	93.7	93.5	81.8	83.8
320-118499-24	PDW-001-N-S001-01202025	87.9	98.5	110	96.9	104	89.7	83.0	88.9
320-118499-25	PDW-001-N-S003-01202025	99.5	101	93.7	99.3	97.8	92.7	82.8	85.9
320-118499-26	PDW-001-FD-S003-01202025	104	94.1	113	94.5	98.1	91.4	85.1	85.7
LCS 320-830277/3-A	Lab Control Sample	99.2	104	110	103	89.3	90.1	81.7	80.9
LCSD 320-830277/4-A	Lab Control Sample Dup	98.9	104	101	94.3	94.7	92.9	90.8	97.1
LLCS 320-830277/2-A	Lab Control Sample	93.5	89.3	101	103	99.8	88.3	73.6	75.9
MB 320-830277/1-A	Method Blank	89.9	96.0	96.8	96.1	102	93.3	89.8	93.4

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFTDA (20-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-135)	d5NEFOS (40-150)	d5NPFSA (10-130)
320-118499-2	RTA-002-N-S001-01202025	92.9	92.9	93.0	93.8	82.2	83.5	87.5	84.0
320-118499-3	RTA-002-N-S003-01202025	101	88.3	91.9	103	95.2	93.6	91.3	92.5
320-118499-8	RTA-001-N-S001-01202025	77.7	89.8	93.6	85.2	73.0	68.8	65.7	53.2
320-118499-9	RTA-001-N-S003-01202025	95.0	87.6	94.7	93.3	89.2	86.2	88.3	73.3
320-118499-15	PDW-002-N-S001-01202025	97.5	87.6	85.7	87.5	73.5	74.6	80.2	68.0
320-118499-16	PDW-002-N-S003-01202025	93.8	84.7	90.3	86.5	72.4	77.2	78.6	62.5
320-118499-24	PDW-001-N-S001-01202025	95.6	94.6	91.3	92.2	77.3	80.4	79.9	57.8
320-118499-25	PDW-001-N-S003-01202025	87.1	83.3	91.5	86.4	80.4	83.5	88.2	58.7
320-118499-26	PDW-001-FD-S003-01202025	92.8	86.6	89.4	83.8	80.6	89.3	88.3	60.8
LCS 320-830277/3-A	Lab Control Sample	89.7	92.1	95.2	103	82.3	86.6	88.6	59.0
LCSD 320-830277/4-A	Lab Control Sample Dup	101	93.9	97.8	102	88.3	88.8	90.8	63.1
LLCS 320-830277/2-A	Lab Control Sample	85.0	91.3	97.4	93.4	75.1	82.6	77.8	57.9
MB 320-830277/1-A	Method Blank	96.8	99.4	96.4	97.5	82.5	91.5	80.4	64.7

		Percent Isotope Dilution Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	d3NMFSA (10-130)
320-118499-2	RTA-002-N-S001-01202025	81.3
320-118499-3	RTA-002-N-S003-01202025	94.1
320-118499-8	RTA-001-N-S001-01202025	49.8
320-118499-9	RTA-001-N-S003-01202025	80.2
320-118499-15	PDW-002-N-S001-01202025	67.2
320-118499-16	PDW-002-N-S003-01202025	61.3
320-118499-24	PDW-001-N-S001-01202025	62.2
320-118499-25	PDW-001-N-S003-01202025	61.8
320-118499-26	PDW-001-FD-S003-01202025	64.2
LCS 320-830277/3-A	Lab Control Sample	53.7
LCSD 320-830277/4-A	Lab Control Sample Dup	62.1
LLCS 320-830277/2-A	Lab Control Sample	56.4
MB 320-830277/1-A	Method Blank	65.0

Surrogate Legend

PFPeA = 13C5 PFPeA

13C5PHA = 13C5 PFHxA

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118499-1
Project/Site: Spokane International Airport

C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (8-130)	PFPeA (35-130)	13C5PHA (40-130)	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)
320-118499-2 - RA	RTA-002-N-S001-01202025	96.3	107	96.3	98.1	85.6	80.6	102	83.3
320-118499-3 - RA	RTA-002-N-S003-01202025	98.1	110	103	101	86.9	82.7	113	91.2
320-118499-8 - RA	RTA-001-N-S001-01202025	92.4	109	100	86.8	85.9	60.2	109	64.0
320-118499-9 - RA	RTA-001-N-S003-01202025	91.5	112	96.7	90.9	86.0	75.5	110	73.7
320-118499-15 - RA	PDW-002-N-S001-01202025	92.1	105	103	90.6	82.0	68.7	109	76.7
320-118499-16 - RA	PDW-002-N-S003-01202025	92.3	105	101	96.5	76.6	60.1	108	72.9
320-118499-24 - RA	PDW-001-N-S001-01202025	96.8	110	105	108	90.3	77.0	99.1	75.7
320-118499-25 - RA	PDW-001-N-S003-01202025	94.7	99.2	101	83.5	80.6	72.6	105	76.3
320-118499-26 - RA	PDW-001-FD-S003-01202025	94.6	106	101	83.4	81.4	66.6	101	80.5
LCS 320-830277/3-A - RA	Lab Control Sample	92.3	116	94.0	103	93.9	75.8	114	81.2
LCSD 320-830277/4-A - RA	Lab Control Sample Dup	94.6	112	97.2	101	91.4	80.1	115	83.3
LLCS 320-830277/2-A - RA	Lab Control Sample	91.6	109	98.0	101	87.9	74.6	107	70.7
MB 320-830277/1-A - RA	Method Blank	97.8	112	101	106	91.8	77.7	115	77.5

		Percent Isotope Dilution Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	NEFM (15-130)
320-118499-2 - RA	RTA-002-N-S001-01202025	73.1
320-118499-3 - RA	RTA-002-N-S003-01202025	82.8
320-118499-8 - RA	RTA-001-N-S001-01202025	52.0
320-118499-9 - RA	RTA-001-N-S003-01202025	61.9
320-118499-15 - RA	PDW-002-N-S001-01202025	68.5
320-118499-16 - RA	PDW-002-N-S003-01202025	69.5
320-118499-24 - RA	PDW-001-N-S001-01202025	79.9
320-118499-25 - RA	PDW-001-N-S003-01202025	80.7
320-118499-26 - RA	PDW-001-FD-S003-01202025	79.9
LCS 320-830277/3-A - RA	Lab Control Sample	72.1
LCSD 320-830277/4-A - RA	Lab Control Sample Dup	74.9
LLCS 320-830277/2-A - RA	Lab Control Sample	63.6
MB 320-830277/1-A - RA	Method Blank	70.5

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
M242FTS = 13C2 4:2 FTS

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118499-1
Project/Site: Spokane International Airport

M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(5-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(30-130)
320-118499-34	EB-01202025	102	92.8	100	112	105	86.9	85.2	77.2
320-118499-35	FB-01202025	101	99.6	114	115	90.6	94.2	87.8	83.2
LCS 320-829796/3-A	Lab Control Sample	101	85.7	89.8	81.3	68.5	62.1	55.3	51.8
LCS 320-829796/3-A - RA	Lab Control Sample								
LCSD 320-829796/4-A	Lab Control Sample Dup	97.5	91.4	94.4	96.7	85.2	76.6	75.9	68.2
LCSD 320-829796/4-A - RA	Lab Control Sample Dup								
LLCS 320-829796/2-A	Lab Control Sample	107	103	101	101	105	85.9	80.0	80.4
MB 320-829796/1-A	Method Blank	100	96.3	108	101	92.9	76.1	74.7	73.2

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(10-130)	(10-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-170)	(25-135)
320-118499-34	EB-01202025	83.3	67.2	95.6	95.6	95.4	83.4	104	94.7
320-118499-35	FB-01202025	85.7	72.7	105	97.1	112	94.0	112	107
LCS 320-829796/3-A	Lab Control Sample	62.8	51.0	72.2	67.2	59.1	69.7	75.0	73.3
LCS 320-829796/3-A - RA	Lab Control Sample								
LCSD 320-829796/4-A	Lab Control Sample Dup	74.6	63.6	95.5	79.4	80.0	77.9	91.5	82.1
LCSD 320-829796/4-A - RA	Lab Control Sample Dup								
LLCS 320-829796/2-A	Lab Control Sample	82.8	75.8	101	93.2	84.5	80.3	92.4	86.8
MB 320-829796/1-A	Method Blank	75.6	71.1	90.8	96.5	92.2	83.5	103	91.6

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-200)	(40-200)	(40-300)	(40-130)	(10-130)	(10-130)	(10-130)	(10-130)
320-118499-34	EB-01202025	92.1	98.9	91.0	107	82.6	78.2	85.6	85.4
320-118499-35	FB-01202025	90.5	115	90.6	108	92.0	96.3	96.8	95.5
LCS 320-829796/3-A	Lab Control Sample	87.5	94.0	65.2	90.2	85.4	89.2	76.4	75.0
LCS 320-829796/3-A - RA	Lab Control Sample				89.8				
LCSD 320-829796/4-A	Lab Control Sample Dup	95.9	99.2	75.3	95.0	87.8	86.1	77.3	73.0
LCSD 320-829796/4-A - RA	Lab Control Sample Dup				98.5				
LLCS 320-829796/2-A	Lab Control Sample	105	118	87.6	104	88.6	84.9	78.2	76.0
MB 320-829796/1-A	Method Blank	101	107	91.6	101	91.3	91.5	85.1	82.2

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118499-1
Project/Site: Spokane International Airport

C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-829796/1-A
Matrix: Water
Analysis Batch: 830986

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 829796

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.0	1.0	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.58	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorotetradecanoic acid (PFTeDA)	ND		2.0	0.81	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.53	ng/L		01/28/25 04:11	02/03/25 14:07	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		4.0	1.0	ng/L		01/28/25 04:11	02/03/25 14:07	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		4.0	1.0	ng/L		01/28/25 04:11	02/03/25 14:07	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		4.0	1.0	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		10	2.5	ng/L		01/28/25 04:11	02/03/25 14:07	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		10	2.5	ng/L		01/28/25 04:11	02/03/25 14:07	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.5	0.39	ng/L		01/28/25 04:11	02/03/25 14:07	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	0.72	ng/L		01/28/25 04:11	02/03/25 14:07	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		2.0	0.58	ng/L		01/28/25 04:11	02/03/25 14:07	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-829796/1-A
Matrix: Water
Analysis Batch: 830986

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 829796

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		4.0	1.0	ng/L		01/28/25 04:11	02/03/25 14:07	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		10	2.5	ng/L		01/28/25 04:11	02/03/25 14:07	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		10	2.5	ng/L		01/28/25 04:11	02/03/25 14:07	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*100*		*5 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C5 PFPeA	*96.3*		*40 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C5 PFHxA	*108*		*40 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C4 PFHpA	*101*		*40 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C8 PFOA	*92.9*		*40 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C9 PFNA	*76.1*		*40 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C6 PFDA	*74.7*		*40 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C7 PFUnA	*73.2*		*30 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C2 PFDoA	*75.6*		*10 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C2 PFTeDA	*71.1*		*10 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C3 PFBS	*90.8*		*40 - 135*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C3 PFHxS	*96.5*		*40 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C8 PFOS	*92.2*		*40 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C8 FOSA	*83.5*		*40 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
d3-NMeFOSAA	*103*		*40 - 170*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
d5-NEtFOSAA	*91.6*		*25 - 135*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C2 4:2 FTS	*101*		*40 - 200*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C2 6:2 FTS	*107*		*40 - 200*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C2 8:2 FTS	*91.6*		*40 - 300*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C3 HFPO-DA	*101*		*40 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
d7-N-MeFOSE-M	*91.3*		*10 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
d9-N-EtFOSE-M	*91.5*		*10 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
d5-NEtPFOSA	*85.1*		*10 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
d3-NMePFOSA	*82.2*		*10 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*

Lab Sample ID: LCS 320-829796/3-A
Matrix: Water
Analysis Batch: 830986

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829796

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	79.4		ng/L		99	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	46.0		ng/L		115	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	40.0		ng/L		100	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	43.6		ng/L		109	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	46.3		ng/L		116	70 - 150
Perfluorononanoic acid (PFNA)	40.0	41.4		ng/L		103	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	38.8		ng/L		97	70 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-829796/3-A
Matrix: Water
Analysis Batch: 830986

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829796

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	40.0	44.5		ng/L		111	70 - 145
Perfluorododecanoic acid (PFDoA)	40.0	39.5		ng/L		99	70 - 140
Perfluorotridecanoic acid (PFTrDA)	40.0	43.2		ng/L		108	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	40.0	35.5		ng/L		89	60 - 140
Perfluorobutanesulfonic acid (PFBS)	35.5	40.3		ng/L		113	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	42.1		ng/L		112	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	40.3		ng/L		110	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	43.7		ng/L		115	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	39.5		ng/L		106	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	40.5		ng/L		105	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	42.1		ng/L		109	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	44.1		ng/L		114	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	98.5		ng/L		131	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	80.8		ng/L		106	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	90.8		ng/L		118	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	42.8		ng/L		107	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	42.8		ng/L		107	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	39.3		ng/L		98	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	43.2		ng/L		108	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	50.4		ng/L		126	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	209		ng/L		104	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	196		ng/L		98	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	32.6		ng/L		109	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	38.5		ng/L		102	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	52.9		ng/L		132	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	45.4		ng/L		113	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	36.7		ng/L		92	50 - 150

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-829796/3-A
Matrix: Water
Analysis Batch: 830986

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829796

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	29.3		ng/L		78	55 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	35.2		ng/L		99	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	92.9		ng/L		116	65 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	172		ng/L		86	70 - 135		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	143		ng/L		71	50 - 145		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*101*		*5 - 130*
13C5 PFPeA	*85.7*		*40 - 130*
13C5 PFHxA	*89.8*		*40 - 130*
13C4 PFHpA	*81.3*		*40 - 130*
13C8 PFOA	*68.5*		*40 - 130*
13C9 PFNA	*62.1*		*40 - 130*
13C6 PFDA	*55.3*		*40 - 130*
13C7 PFUnA	*51.8*		*30 - 130*
13C2 PFDoA	*62.8*		*10 - 130*
13C2 PFTeDA	*51.0*		*10 - 130*
13C3 PFBS	*72.2*		*40 - 135*
13C3 PFHxS	*67.2*		*40 - 130*
13C8 PFOS	*59.1*		*40 - 130*
13C8 FOSA	*69.7*		*40 - 130*
d3-NMeFOSAA	*75.0*		*40 - 170*
d5-NEtFOSAA	*73.3*		*25 - 135*
13C2 4:2 FTS	*87.5*		*40 - 200*
13C2 6:2 FTS	*94.0*		*40 - 200*
13C2 8:2 FTS	*65.2*		*40 - 300*
13C3 HFPO-DA	*90.2*		*40 - 130*
d7-N-MeFOSE-M	*85.4*		*10 - 130*
d9-N-EtFOSE-M	*89.2*		*10 - 130*
d5-NEtPFOSA	*76.4*		*10 - 130*
d3-NMePFOSA	*75.0*		*10 - 130*

Lab Sample ID: LCSD 320-829796/4-A
Matrix: Water
Analysis Batch: 830986

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829796

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			80.0	84.2		ng/L		105	70 - 140	6	30
Perfluoropentanoic acid (PFPeA)			40.0	46.2		ng/L		115	65 - 135	0	30
Perfluorohexanoic acid (PFHxA)			40.0	42.8		ng/L		107	70 - 145	7	30
Perfluoroheptanoic acid (PFHpA)			40.0	44.9		ng/L		112	70 - 150	3	30
Perfluorooctanoic acid (PFOA)			40.0	44.0		ng/L		110	70 - 150	5	30
Perfluorononanoic acid (PFNA)			40.0	43.0		ng/L		107	70 - 150	4	30
Perfluorodecanoic acid (PFDA)			40.0	37.7		ng/L		94	70 - 140	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-829796/4-A
Matrix: Water
Analysis Batch: 830986

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829796

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoroundecanoic acid (PFUnA)			40.0	45.7		ng/L		114	70 - 145	3	30
Perfluorododecanoic acid (PFDoA)			40.0	42.1		ng/L		105	70 - 140	6	30
Perfluorotridecanoic acid (PFTrDA)			40.0	41.0		ng/L		103	65 - 140	5	30
Perfluorotetradecanoic acid (PFTeDA)			40.0	33.9		ng/L		85	60 - 140	5	30
Perfluorobutanesulfonic acid (PFBS)			35.5	37.2		ng/L		105	60 - 145	8	30
Perfluoropentanesulfonic acid (PFPeS)			37.6	43.8		ng/L		117	65 - 140	4	30
Perfluorohexanesulfonic acid (PFHxS)			36.5	40.8		ng/L		112	65 - 145	1	30
Perfluoroheptanesulfonic acid (PFHpS)			38.2	41.3		ng/L		108	70 - 150	6	30
Perfluorooctanesulfonic acid (PFOS)			37.2	42.0		ng/L		113	55 - 150	6	30
Perfluorononanesulfonic acid (PFNS)			38.5	40.8		ng/L		106	65 - 145	1	30
Perfluorodecanesulfonic acid (PFDS)			38.6	42.1		ng/L		109	60 - 145	0	30
Perfluorododecanesulfonic acid (PFDoS)			38.8	41.0		ng/L		106	50 - 145	7	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			75.0	75.6		ng/L		101	70 - 145	26	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			76.2	83.2		ng/L		109	65 - 155	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)			76.8	87.6		ng/L		114	60 - 150	4	30
Perfluorooctanesulfonamide (PFOSA)			40.0	42.5		ng/L		106	70 - 145	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)			40.0	45.1		ng/L		113	60 - 150	5	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)			40.0	41.0		ng/L		102	65 - 145	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			40.0	42.7		ng/L		107	50 - 140	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			40.0	52.5		ng/L		131	70 - 145	4	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)			200	201		ng/L		101	70 - 145	4	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)			200	200		ng/L		100	70 - 135	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)			30.0	31.1		ng/L		104	70 - 140	5	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.8	42.1		ng/L		111	65 - 145	9	30
Perfluoro-3-methoxypropanoic acid (PFMPA)			40.0	50.0		ng/L		125	55 - 140	6	30
Perfluoro-4-methoxybutanoic acid (PFMBA)			40.0	42.5		ng/L		106	60 - 150	7	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			40.0	49.3		ng/L		123	50 - 150	29	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-829796/4-A
Matrix: Water
Analysis Batch: 830986

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829796

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	33.4		ng/L		88	55 - 160	13	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	39.2		ng/L		110	70 - 140	11	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	82.6		ng/L		103	65 - 130	12	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	170		ng/L		85	70 - 135	1	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	163		ng/L		81	50 - 145	13	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*97.5*		*5 - 130*
13C5 PFPeA	*91.4*		*40 - 130*
13C5 PFHxA	*94.4*		*40 - 130*
13C4 PFHpA	*96.7*		*40 - 130*
13C8 PFOA	*85.2*		*40 - 130*
13C9 PFNA	*76.6*		*40 - 130*
13C6 PFDA	*75.9*		*40 - 130*
13C7 PFUnA	*68.2*		*30 - 130*
13C2 PFDoA	*74.6*		*10 - 130*
13C2 PFTeDA	*63.6*		*10 - 130*
13C3 PFBS	*95.5*		*40 - 135*
13C3 PFHxS	*79.4*		*40 - 130*
13C8 PFOS	*80.0*		*40 - 130*
13C8 FOSA	*77.9*		*40 - 130*
d3-NMeFOSAA	*91.5*		*40 - 170*
d5-NEtFOSAA	*82.1*		*25 - 135*
13C2 4:2 FTS	*95.9*		*40 - 200*
13C2 6:2 FTS	*99.2*		*40 - 200*
13C2 8:2 FTS	*75.3*		*40 - 300*
13C3 HFPO-DA	*95.0*		*40 - 130*
d7-N-MeFOSE-M	*87.8*		*10 - 130*
d9-N-EtFOSE-M	*86.1*		*10 - 130*
d5-NEtPFOSA	*77.3*		*10 - 130*
d3-NMePFOSA	*73.0*		*10 - 130*

Lab Sample ID: LLCS 320-829796/2-A
Matrix: Water
Analysis Batch: 830986

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829796

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			8.00	9.34		ng/L		117	70 - 140
Perfluoropentanoic acid (PFPeA)			4.00	5.07		ng/L		127	65 - 135
Perfluorohexanoic acid (PFHxA)			4.00	5.24		ng/L		131	70 - 145
Perfluoroheptanoic acid (PFHpA)			4.00	5.50		ng/L		137	70 - 150
Perfluorooctanoic acid (PFOA)			4.00	4.96		ng/L		124	70 - 150
Perfluorononanoic acid (PFNA)			4.00	4.59		ng/L		115	70 - 150
Perfluorodecanoic acid (PFDA)			4.00	4.61		ng/L		115	70 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-829796/2-A
Matrix: Water
Analysis Batch: 830986

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829796

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	4.00	4.97		ng/L		124	70 - 145
Perfluorododecanoic acid (PFDoA)	4.00	4.91		ng/L		123	70 - 140
Perfluorotridecanoic acid (PFTrDA)	4.00	4.84		ng/L		121	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	4.00	4.45		ng/L		111	60 - 140
Perfluorobutanesulfonic acid (PFBS)	3.55	4.38		ng/L		123	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.76	5.14		ng/L		137	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	3.65	4.50		ng/L		123	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.82	4.67		ng/L		122	70 - 150
Perfluorooctanesulfonic acid (PFOS)	3.72	4.43		ng/L		119	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.85	4.55		ng/L		118	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.86	4.59		ng/L		119	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.88	5.04		ng/L		130	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	7.50	9.74		ng/L		130	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.62	8.99		ng/L		118	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.68	10.1		ng/L		132	60 - 150
Perfluorooctanesulfonamide (PFOSA)	4.00	4.89		ng/L		122	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	4.00	4.99		ng/L		125	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	4.00	4.75		ng/L		119	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.00	5.00		ng/L		125	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.00	5.51		ng/L		138	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	20.0	22.6		ng/L		113	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	20.0	23.7		ng/L		118	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.00	3.71		ng/L		124	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	4.62		ng/L		122	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.00	5.45		ng/L		136	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.00	4.64		ng/L		116	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.00	5.92		ng/L		148	50 - 150

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-829796/2-A
Matrix: Water
Analysis Batch: 830986

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829796

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			3.74	4.22		ng/L		113	70 - 155		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			3.78	3.99		ng/L		106	55 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			3.57	4.34		ng/L		122	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			8.00	9.07		ng/L		113	65 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			20.0	20.1		ng/L		100	70 - 135		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			20.0	18.1		ng/L		90	50 - 145		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*107*		*5 - 130*
13C5 PFPeA	*103*		*40 - 130*
13C5 PFHxA	*101*		*40 - 130*
13C4 PFHpA	*101*		*40 - 130*
13C8 PFOA	*105*		*40 - 130*
13C9 PFNA	*85.9*		*40 - 130*
13C6 PFDA	*80.0*		*40 - 130*
13C7 PFUnA	*80.4*		*30 - 130*
13C2 PFDoA	*82.8*		*10 - 130*
13C2 PFTeDA	*75.8*		*10 - 130*
13C3 PFBS	*101*		*40 - 135*
13C3 PFHxS	*93.2*		*40 - 130*
13C8 PFOS	*84.5*		*40 - 130*
13C8 FOSA	*80.3*		*40 - 130*
d3-NMeFOSAA	*92.4*		*40 - 170*
d5-NEtFOSAA	*86.8*		*25 - 135*
13C2 4:2 FTS	*105*		*40 - 200*
13C2 6:2 FTS	*118*		*40 - 200*
13C2 8:2 FTS	*87.6*		*40 - 300*
13C3 HFPO-DA	*104*		*40 - 130*
d7-N-MeFOSE-M	*88.6*		*10 - 130*
d9-N-EtFOSE-M	*84.9*		*10 - 130*
d5-NEtPFOSA	*78.2*		*10 - 130*
d3-NMePFOSA	*76.0*		*10 - 130*

Lab Sample ID: MB 320-830277/1-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830277

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-830277/1-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830277

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*89.9*		*35 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C5 PFHxA	*96.0*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C4 PFHpA	*96.8*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C8 PFOA	*96.1*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C9 PFNA	*102*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C6 PFDA	*93.3*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C7 PFUnA	*89.8*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C2 PFDoA	*93.4*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C2 PFTeDA	*96.8*		*20 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C3 PFBS	*99.4*		*40 - 135*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C3 PFHxS	*96.4*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C8 PFOS	*97.5*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C8 FOSA	*82.5*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
d3-NMeFOSAA	*91.5*		*40 - 135*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
d5-NEtFOSAA	*80.4*		*40 - 150*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
d5-NEtPFOSA	*64.7*		*10 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-830277/1-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830277

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMePFOSA	65.0		10 - 130	01/30/25 04:13	01/30/25 18:52	1

Lab Sample ID: LCS 320-830277/3-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830277

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanoic acid (PFPeA)	2.50	2.50		ug/Kg		100	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.41		ug/Kg		96	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.55		ug/Kg		102	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.56		ug/Kg		102	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.95		ug/Kg		118	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.46		ug/Kg		98	70 - 155
Perfluoroundecanoic acid (PFUnA)	2.50	2.73		ug/Kg		109	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.61		ug/Kg		104	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.49		ug/Kg		100	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.51		ug/Kg		100	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.20		ug/Kg		99	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.46		ug/Kg		105	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.03		ug/Kg		89	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.45		ug/Kg		103	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.36		ug/Kg		101	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.21		ug/Kg		92	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.15		ug/Kg		89	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.50		ug/Kg		103	25 - 160
Perfluorooctanesulfonamide (PFOSA)	2.50	2.50		ug/Kg		100	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.52		ug/Kg		101	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.33		ug/Kg		93	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.71		ug/Kg		109	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.64		ug/Kg		106	65 - 165
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.52		ug/Kg		101	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.56		ug/Kg		103	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.10		ug/Kg		84	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-830277/3-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830277

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.77		ug/Kg		124	70 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C5 PFPeA	*99.2*		*35 - 130*
13C5 PFHxA	*104*		*40 - 130*
13C4 PFHpA	*110*		*40 - 130*
13C8 PFOA	*103*		*40 - 130*
13C9 PFNA	*89.3*		*40 - 130*
13C6 PFDA	*90.1*		*40 - 130*
13C7 PFUnA	*81.7*		*40 - 130*
13C2 PFDoA	*80.9*		*40 - 130*
13C2 PFTeDA	*89.7*		*20 - 130*
13C3 PFBS	*92.1*		*40 - 135*
13C3 PFHxS	*95.2*		*40 - 130*
13C8 PFOS	*103*		*40 - 130*
13C8 FOSA	*82.3*		*40 - 130*
d3-NMeFOSAA	*86.6*		*40 - 135*
d5-NEtFOSAA	*88.6*		*40 - 150*
d5-NEtPFOSA	*59.0*		*10 - 130*
d3-NMePFOSA	*53.7*		*10 - 130*

Lab Sample ID: LCSD 320-830277/4-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830277

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanoic acid (PFPeA)			2.50	2.72		ug/Kg		109	60 - 150	8	30
Perfluorohexanoic acid (PFHxA)			2.50	2.35		ug/Kg		94	65 - 140	3	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.70		ug/Kg		108	65 - 145	6	30
Perfluorooctanoic acid (PFOA)			2.50	2.48		ug/Kg		99	70 - 150	3	30
Perfluorononanoic acid (PFNA)			2.50	2.76		ug/Kg		110	70 - 155	7	30
Perfluorodecanoic acid (PFDA)			2.50	2.45		ug/Kg		98	70 - 155	0	30
Perfluoroundecanoic acid (PFUnA)			2.50	2.76		ug/Kg		111	70 - 155	1	30
Perfluorododecanoic acid (PFDoA)			2.50	2.51		ug/Kg		100	70 - 150	4	30
Perfluorotridecanoic acid (PFTrDA)			2.50	2.42		ug/Kg		97	65 - 150	3	30
Perfluorotetradecanoic acid (PFTeDA)			2.50	2.39		ug/Kg		96	65 - 150	5	30
Perfluorobutanesulfonic acid (PFBS)			2.22	2.32		ug/Kg		104	65 - 145	5	30
Perfluoropentanesulfonic acid (PFPeS)			2.35	2.37		ug/Kg		101	55 - 160	4	30
Perfluorohexanesulfonic acid (PFHxS)			2.28	2.00		ug/Kg		88	60 - 150	1	30
Perfluoroheptanesulfonic acid (PFHpS)			2.39	2.49		ug/Kg		104	65 - 155	2	30
Perfluorooctanesulfonic acid (PFOS)			2.33	2.32		ug/Kg		100	65 - 160	1	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-830277/4-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830277

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanesulfonic acid (PFNS)			2.41	2.28		ug/Kg		95	55 - 140	3	30
Perfluorodecanesulfonic acid (PFDS)			2.41	2.28		ug/Kg		95	40 - 155	6	30
Perfluorododecanesulfonic acid (PFDoS)			2.43	2.53		ug/Kg		105	25 - 160	2	30
Perfluorooctanesulfonamide (PFOSA)			2.50	2.48		ug/Kg		99	70 - 140	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)			2.50	2.50		ug/Kg		100	70 - 155	1	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)			2.50	2.38		ug/Kg		95	70 - 140	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			2.50	2.80		ug/Kg		112	65 - 155	3	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			2.50	2.62		ug/Kg		105	65 - 165	1	30
Perfluoro-3-methoxypropanoic acid (PFMPA)			2.50	2.45		ug/Kg		98	30 - 140	3	30
Perfluoro-4-methoxybutanoic acid (PFMBA)			2.50	2.28		ug/Kg		91	60 - 150	12	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.40		ug/Kg		96	60 - 155	14	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.63		ug/Kg		118	70 - 140	5	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C5 PFPeA	*98.9*		*35 - 130*
13C5 PFHxA	*104*		*40 - 130*
13C4 PFHpA	*101*		*40 - 130*
13C8 PFOA	*94.3*		*40 - 130*
13C9 PFNA	*94.7*		*40 - 130*
13C6 PFDA	*92.9*		*40 - 130*
13C7 PFUnA	*90.8*		*40 - 130*
13C2 PFDoA	*97.1*		*40 - 130*
13C2 PFTeDA	*101*		*20 - 130*
13C3 PFBS	*93.9*		*40 - 135*
13C3 PFHxS	*97.8*		*40 - 130*
13C8 PFOS	*102*		*40 - 130*
13C8 FOSA	*88.3*		*40 - 130*
d3-NMeFOSAA	*88.8*		*40 - 135*
d5-NEtFOSAA	*90.8*		*40 - 150*
d5-NEtPFOSA	*63.1*		*10 - 130*
d3-NMePFOSA	*62.1*		*10 - 130*

Lab Sample ID: LLCS 320-830277/2-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830277

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanoic acid (PFPeA)			0.400	0.404		ug/Kg		101	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.405		ug/Kg		101	65 - 140
Perfluoroheptanoic acid (PFHpA)			0.400	0.415		ug/Kg		104	65 - 145

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-830277/2-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830277

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanoic acid (PFOA)	0.400	0.379		ug/Kg		95	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.438		ug/Kg		110	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.415		ug/Kg		104	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.477		ug/Kg		119	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.403		ug/Kg		101	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.395		ug/Kg		99	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.398		ug/Kg		100	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.335		ug/Kg		94	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.406		ug/Kg		108	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.324		ug/Kg		89	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.394		ug/Kg		103	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.439		ug/Kg		118	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.370		ug/Kg		96	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.323		ug/Kg		84	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.406		ug/Kg		105	25 - 160
Perfluorooctanesulfonamide (PFOSA)	0.400	0.445		ug/Kg		111	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.423		ug/Kg		106	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.399		ug/Kg		100	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.440		ug/Kg		110	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.428		ug/Kg		107	65 - 165
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.391		ug/Kg		98	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.400	0.372		ug/Kg		93	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.400	0.381		ug/Kg		95	60 - 155
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.357	0.412		ug/Kg		116	70 - 140

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C5 PFPeA	*93.5*		*35 - 130*
13C5 PFHxA	*89.3*		*40 - 130*
13C4 PFHpA	*101*		*40 - 130*
13C8 PFOA	*103*		*40 - 130*
13C9 PFNA	*99.8*		*40 - 130*
13C6 PFDA	*88.3*		*40 - 130*
13C7 PFUnA	*73.6*		*40 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-830277/2-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830277

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C2 PFDoA	*75.9*		*40 - 130*
13C2 PFTeDA	*85.0*		*20 - 130*
13C3 PFBS	*91.3*		*40 - 135*
13C3 PFHxS	*97.4*		*40 - 130*
13C8 PFOS	*93.4*		*40 - 130*
13C8 FOSA	*75.1*		*40 - 130*
d3-NMeFOSAA	*82.6*		*40 - 135*
d5-NEtFOSAA	*77.8*		*40 - 150*
d5-NEtPFOSA	*57.9*		*10 - 130*
d3-NMePFOSA	*56.4*		*10 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Lab Sample ID: LCS 320-829796/3-A
Matrix: Water
Analysis Batch: 831398

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829796

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) - RA			37.4	26.7		ng/L		71	70 - 155		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA - RA	*89.8*		*40 - 130*

Lab Sample ID: LCSD 320-829796/4-A
Matrix: Water
Analysis Batch: 831398

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829796

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) - RA			37.4	34.0		ng/L		91	70 - 155	24	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA - RA	*98.5*		*40 - 130*

Lab Sample ID: MB 320-830277/1-A
Matrix: Solid
Analysis Batch: 830984

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830277

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA) - RA	ND		0.40	0.10	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) - RA	ND		0.40	0.10	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA	ND		0.40	0.10	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA	ND		0.40	0.10	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE) - RA	ND		1.0	0.25	ug/Kg		01/30/25 04:13	02/03/25 13:22	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Lab Sample ID: MB 320-830277/1-A
Matrix: Solid
Analysis Batch: 830984

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830277

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE) - RA	ND		1.0	0.25	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) - RA	ND		0.20	0.050	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA	ND		0.20	0.050	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) - RA	ND		0.20	0.050	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) - RA	ND		0.20	0.075	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
3-Perfluoropropylpropanoic acid (3:3 FTCA) - RA	ND		0.40	0.10	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
3-Perfluoropentylpropanoic acid (5:3 FTCA) - RA	ND		1.0	0.25	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA) - RA	ND		1.0	0.25	ug/Kg		01/30/25 04:13	02/03/25 13:22	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA - RA	*97.8*		*8 - 130*	*01/30/25 04:13*	*02/03/25 13:22*	*1*
13C5 PFPeA - RA	*112*		*35 - 130*	*01/30/25 04:13*	*02/03/25 13:22*	*1*
13C5 PFHxA - RA	*101*		*40 - 130*	*01/30/25 04:13*	*02/03/25 13:22*	*1*
13C2 4:2 FTS - RA	*106*		*40 - 165*	*01/30/25 04:13*	*02/03/25 13:22*	*1*
13C2 6:2 FTS - RA	*91.8*		*40 - 215*	*01/30/25 04:13*	*02/03/25 13:22*	*1*
13C2 8:2 FTS - RA	*77.7*		*40 - 275*	*01/30/25 04:13*	*02/03/25 13:22*	*1*
13C3 HFPO-DA - RA	*115*		*40 - 130*	*01/30/25 04:13*	*02/03/25 13:22*	*1*
d7-N-MeFOSE-M - RA	*77.5*		*20 - 130*	*01/30/25 04:13*	*02/03/25 13:22*	*1*
d9-N-EtFOSE-M - RA	*70.5*		*15 - 130*	*01/30/25 04:13*	*02/03/25 13:22*	*1*

Lab Sample ID: LCS 320-830277/3-A
Matrix: Solid
Analysis Batch: 830984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830277

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA) - RA	5.00	4.99		ug/Kg		100	70 - 140
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) - RA	4.69	4.55		ug/Kg		97	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA	4.76	4.52		ug/Kg		95	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA	4.80	5.01		ug/Kg		104	70 - 150
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE) - RA	12.5	12.0		ug/Kg		96	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE) - RA	12.5	12.4		ug/Kg		99	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) - RA	1.88	2.01		ug/Kg		107	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA	2.37	2.03		ug/Kg		86	70 - 160

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Lab Sample ID: LCS 320-830277/3-A
Matrix: Solid
Analysis Batch: 830984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830277

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) - RA			2.34	2.07		ug/Kg		89	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) - RA			2.36	1.96		ug/Kg		83	45 - 160		
3-Perfluoropropylpropanoic acid (3:3 FTCA) - RA			5.00	4.40		ug/Kg		88	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA) - RA			12.5	10.9		ug/Kg		87	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA) - RA			12.5	10.8		ug/Kg		87	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA - RA	*92.3*		*8 - 130*
13C5 PFPeA - RA	*116*		*35 - 130*
13C5 PFHxA - RA	*94.0*		*40 - 130*
13C2 4:2 FTS - RA	*103*		*40 - 165*
13C2 6:2 FTS - RA	*93.9*		*40 - 215*
13C2 8:2 FTS - RA	*75.8*		*40 - 275*
13C3 HFPO-DA - RA	*114*		*40 - 130*
d7-N-MeFOSE-M - RA	*81.2*		*20 - 130*
d9-N-EtFOSE-M - RA	*72.1*		*15 - 130*

Lab Sample ID: LCSD 320-830277/4-A
Matrix: Solid
Analysis Batch: 830984

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830277

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA) - RA			5.00	4.68		ug/Kg		94	70 - 140	6	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) - RA			4.69	4.84		ug/Kg		103	60 - 150	6	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA			4.76	4.65		ug/Kg		98	55 - 200	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA			4.80	4.72		ug/Kg		98	70 - 150	6	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE) - RA			12.5	12.5		ug/Kg		100	70 - 140	4	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE) - RA			12.5	12.6		ug/Kg		101	70 - 135	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) - RA			1.88	2.00		ug/Kg		107	70 - 145	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA			2.37	1.95		ug/Kg		83	70 - 160	4	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) - RA			2.34	2.11		ug/Kg		90	70 - 150	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) - RA			2.36	1.95		ug/Kg		82	45 - 160	1	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Lab Sample ID: LCSD 320-830277/4-A
Matrix: Solid
Analysis Batch: 830984

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830277

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
3-Perfluoropropylpropanoic acid (3:3 FTCA) - RA			5.00	4.69		ug/Kg		94	45 - 130	6	30
3-Perfluoropentylpropanoic acid (5:3 FTCA) - RA			12.5	10.8		ug/Kg		86	60 - 130	1	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA) - RA			12.5	10.5		ug/Kg		84	60 - 150	3	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA - RA	*94.6*		*8 - 130*
13C5 PFPeA - RA	*112*		*35 - 130*
13C5 PFHxA - RA	*97.2*		*40 - 130*
13C2 4:2 FTS - RA	*101*		*40 - 165*
13C2 6:2 FTS - RA	*91.4*		*40 - 215*
13C2 8:2 FTS - RA	*80.1*		*40 - 275*
13C3 HFPO-DA - RA	*115*		*40 - 130*
d7-N-MeFOSE-M - RA	*83.3*		*20 - 130*
d9-N-EtFOSE-M - RA	*74.9*		*15 - 130*

Lab Sample ID: LLCS 320-830277/2-A
Matrix: Solid
Analysis Batch: 830984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830277

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluorobutanoic acid (PFBA) - RA			0.800	0.861		ug/Kg		108	70 - 140		
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) - RA			0.750	0.820		ug/Kg		109	60 - 150		
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA			0.762	0.813		ug/Kg		107	55 - 200		
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA			0.768	0.864		ug/Kg		113	70 - 150		
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE) - RA			2.00	2.07		ug/Kg		104	70 - 140		
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE) - RA			2.00	2.18		ug/Kg		109	70 - 135		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) - RA			0.300	0.347		ug/Kg		116	70 - 145		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA			0.378	0.391		ug/Kg		103	70 - 160		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) - RA			0.374	0.349		ug/Kg		94	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) - RA			0.378	0.299		ug/Kg		79	45 - 160		
3-Perfluoropropylpropanoic acid (3:3 FTCA) - RA			0.800	0.730		ug/Kg		91	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA) - RA			2.00	1.82		ug/Kg		91	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA) - RA			2.00	1.60		ug/Kg		80	60 - 150		

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Isotope Dilution	LLCS %Recovery	LLCS Qualifier	Limits
13C4 PFBA - RA	91.6		8 - 130
13C5 PFPeA - RA	109		35 - 130
13C5 PFHxA - RA	98.0		40 - 130
13C2 4:2 FTS - RA	101		40 - 165
13C2 6:2 FTS - RA	87.9		40 - 215
13C2 8:2 FTS - RA	74.6		40 - 275
13C3 HFPO-DA - RA	107		40 - 130
d7-N-MeFOSE-M - RA	70.7		20 - 130
d9-N-EtFOSE-M - RA	63.6		15 - 130

LCMS

Prep Batch: 829796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118499-34	EB-01202025	Total/NA	Water	1633	
320-118499-35	FB-01202025	Total/NA	Water	1633	
MB 320-829796/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-829796/3-A	Lab Control Sample	Total/NA	Water	1633	
LCS 320-829796/3-A - RA	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-829796/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LCSD 320-829796/4-A - RA	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-829796/2-A	Lab Control Sample	Total/NA	Water	1633	

Prep Batch: 830277

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118499-2	RTA-002-N-S001-01202025	Total/NA	Solid	1633 Shake	
320-118499-2 - RA	RTA-002-N-S001-01202025	Total/NA	Solid	1633 Shake	
320-118499-3	RTA-002-N-S003-01202025	Total/NA	Solid	1633 Shake	
320-118499-3 - RA	RTA-002-N-S003-01202025	Total/NA	Solid	1633 Shake	
320-118499-8	RTA-001-N-S001-01202025	Total/NA	Solid	1633 Shake	
320-118499-8 - RA	RTA-001-N-S001-01202025	Total/NA	Solid	1633 Shake	
320-118499-9	RTA-001-N-S003-01202025	Total/NA	Solid	1633 Shake	
320-118499-9 - RA	RTA-001-N-S003-01202025	Total/NA	Solid	1633 Shake	
320-118499-15	PDW-002-N-S001-01202025	Total/NA	Solid	1633 Shake	
320-118499-15 - RA	PDW-002-N-S001-01202025	Total/NA	Solid	1633 Shake	
320-118499-16	PDW-002-N-S003-01202025	Total/NA	Solid	1633 Shake	
320-118499-16 - RA	PDW-002-N-S003-01202025	Total/NA	Solid	1633 Shake	
320-118499-24	PDW-001-N-S001-01202025	Total/NA	Solid	1633 Shake	
320-118499-24 - RA	PDW-001-N-S001-01202025	Total/NA	Solid	1633 Shake	
320-118499-25	PDW-001-N-S003-01202025	Total/NA	Solid	1633 Shake	
320-118499-25 - RA	PDW-001-N-S003-01202025	Total/NA	Solid	1633 Shake	
320-118499-26	PDW-001-FD-S003-01202025	Total/NA	Solid	1633 Shake	
320-118499-26 - RA	PDW-001-FD-S003-01202025	Total/NA	Solid	1633 Shake	
MB 320-830277/1-A	Method Blank	Total/NA	Solid	1633 Shake	
MB 320-830277/1-A - RA	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-830277/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCS 320-830277/3-A - RA	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-830277/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LCSD 320-830277/4-A - RA	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-830277/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LLCS 320-830277/2-A - RA	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 830530

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118499-2	RTA-002-N-S001-01202025	Total/NA	Solid	1633	830277
320-118499-3	RTA-002-N-S003-01202025	Total/NA	Solid	1633	830277
320-118499-8	RTA-001-N-S001-01202025	Total/NA	Solid	1633	830277
320-118499-9	RTA-001-N-S003-01202025	Total/NA	Solid	1633	830277
320-118499-15	PDW-002-N-S001-01202025	Total/NA	Solid	1633	830277
320-118499-16	PDW-002-N-S003-01202025	Total/NA	Solid	1633	830277
320-118499-24	PDW-001-N-S001-01202025	Total/NA	Solid	1633	830277
320-118499-25	PDW-001-N-S003-01202025	Total/NA	Solid	1633	830277
320-118499-26	PDW-001-FD-S003-01202025	Total/NA	Solid	1633	830277
MB 320-830277/1-A	Method Blank	Total/NA	Solid	1633	830277
LCS 320-830277/3-A	Lab Control Sample	Total/NA	Solid	1633	830277

LCMS (Continued)

Analysis Batch: 830530 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 320-830277/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	830277
LLCS 320-830277/2-A	Lab Control Sample	Total/NA	Solid	1633	830277

Analysis Batch: 830984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118499-2 - RA	RTA-002-N-S001-01202025	Total/NA	Solid	1633	830277
320-118499-3 - RA	RTA-002-N-S003-01202025	Total/NA	Solid	1633	830277
320-118499-8 - RA	RTA-001-N-S001-01202025	Total/NA	Solid	1633	830277
320-118499-9 - RA	RTA-001-N-S003-01202025	Total/NA	Solid	1633	830277
320-118499-15 - RA	PDW-002-N-S001-01202025	Total/NA	Solid	1633	830277
320-118499-16 - RA	PDW-002-N-S003-01202025	Total/NA	Solid	1633	830277
MB 320-830277/1-A - RA	Method Blank	Total/NA	Solid	1633	830277
LCS 320-830277/3-A - RA	Lab Control Sample	Total/NA	Solid	1633	830277
LCSD 320-830277/4-A - RA	Lab Control Sample Dup	Total/NA	Solid	1633	830277
LLCS 320-830277/2-A - RA	Lab Control Sample	Total/NA	Solid	1633	830277

Analysis Batch: 830986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118499-34	EB-01202025	Total/NA	Water	1633	829796
320-118499-35	FB-01202025	Total/NA	Water	1633	829796
MB 320-829796/1-A	Method Blank	Total/NA	Water	1633	829796
LCS 320-829796/3-A	Lab Control Sample	Total/NA	Water	1633	829796
LCSD 320-829796/4-A	Lab Control Sample Dup	Total/NA	Water	1633	829796
LLCS 320-829796/2-A	Lab Control Sample	Total/NA	Water	1633	829796

Analysis Batch: 830988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118499-24 - RA	PDW-001-N-S001-01202025	Total/NA	Solid	1633	830277
320-118499-25 - RA	PDW-001-N-S003-01202025	Total/NA	Solid	1633	830277
320-118499-26 - RA	PDW-001-FD-S003-01202025	Total/NA	Solid	1633	830277

Analysis Batch: 831398

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 320-829796/3-A - RA	Lab Control Sample	Total/NA	Water	1633	829796
LCSD 320-829796/4-A - RA	Lab Control Sample Dup	Total/NA	Water	1633	829796

General Chemistry

Analysis Batch: 829380

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118499-2	RTA-002-N-S001-01202025	Total/NA	Solid	1633	
320-118499-3	RTA-002-N-S003-01202025	Total/NA	Solid	1633	
320-118499-8	RTA-001-N-S001-01202025	Total/NA	Solid	1633	
320-118499-9	RTA-001-N-S003-01202025	Total/NA	Solid	1633	
320-118499-15	PDW-002-N-S001-01202025	Total/NA	Solid	1633	
320-118499-16	PDW-002-N-S003-01202025	Total/NA	Solid	1633	
320-118499-24	PDW-001-N-S001-01202025	Total/NA	Solid	1633	
320-118499-25	PDW-001-N-S003-01202025	Total/NA	Solid	1633	
320-118499-26	PDW-001-FD-S003-01202025	Total/NA	Solid	1633	

Client Sample ID: RTA-002-N-S001-01202025
Lab Sample ID: 320-118499-2
Date Collected: 01/20/25 08:37
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829380	01/24/25 11:27	CFR	EET SAC

Client Sample ID: RTA-002-N-S001-01202025
Lab Sample ID: 320-118499-2
Date Collected: 01/20/25 08:37
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 85.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.36 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633		1			830530	01/30/25 19:58	K1S	EET SAC
Total/NA	Prep	1633 Shake	RA		2.36 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830984	02/03/25 14:28	K1S	EET SAC

Client Sample ID: RTA-002-N-S003-01202025
Lab Sample ID: 320-118499-3
Date Collected: 01/20/25 08:49
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829380	01/24/25 11:27	CFR	EET SAC

Client Sample ID: RTA-002-N-S003-01202025
Lab Sample ID: 320-118499-3
Date Collected: 01/20/25 08:49
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 95.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.16 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633		1			830530	01/30/25 20:14	K1S	EET SAC
Total/NA	Prep	1633 Shake	RA		2.16 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830984	02/03/25 14:44	K1S	EET SAC

Client Sample ID: RTA-001-N-S001-01202025
Lab Sample ID: 320-118499-8
Date Collected: 01/20/25 11:05
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829380	01/24/25 11:27	CFR	EET SAC

Client Sample ID: RTA-001-N-S001-01202025
Lab Sample ID: 320-118499-8
Date Collected: 01/20/25 11:05
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 87.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.33 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633		1			830530	01/30/25 20:31	K1S	EET SAC
Total/NA	Prep	1633 Shake	RA		2.33 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830984	02/03/25 15:01	K1S	EET SAC

Client Sample ID: RTA-001-N-S003-01202025
Lab Sample ID: 320-118499-9
Date Collected: 01/20/25 11:10
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829380	01/24/25 11:27	CFR	EET SAC

Client Sample ID: RTA-001-N-S003-01202025
Lab Sample ID: 320-118499-9
Date Collected: 01/20/25 11:10
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 94.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.15 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633		1			830530	01/30/25 20:47	K1S	EET SAC
Total/NA	Prep	1633 Shake	RA		2.15 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830984	02/03/25 15:17	K1S	EET SAC

Client Sample ID: PDW-002-N-S001-01202025
Lab Sample ID: 320-118499-15
Date Collected: 01/20/25 14:15
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829380	01/24/25 11:27	CFR	EET SAC

Client Sample ID: PDW-002-N-S001-01202025
Lab Sample ID: 320-118499-15
Date Collected: 01/20/25 14:15
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 86.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.31 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633		1			830530	01/30/25 21:37	K1S	EET SAC
Total/NA	Prep	1633 Shake	RA		2.31 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830984	02/03/25 15:34	K1S	EET SAC

Client Sample ID: PDW-002-N-S003-01202025
Lab Sample ID: 320-118499-16
Date Collected: 01/20/25 14:25
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829380	01/24/25 11:27	CFR	EET SAC

Client Sample ID: PDW-002-N-S003-01202025
Lab Sample ID: 320-118499-16
Date Collected: 01/20/25 14:25
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 85.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.37 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633		1			830530	01/30/25 21:53	K1S	EET SAC
Total/NA	Prep	1633 Shake	RA		2.37 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830984	02/03/25 15:50	K1S	EET SAC

Client Sample ID: PDW-001-N-S001-01202025
Lab Sample ID: 320-118499-24
Date Collected: 01/20/25 16:25
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829380	01/24/25 11:27	CFR	EET SAC

Client Sample ID: PDW-001-N-S001-01202025
Lab Sample ID: 320-118499-24
Date Collected: 01/20/25 16:25
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 82.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.41 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633		1			830530	01/30/25 22:09	K1S	EET SAC
Total/NA	Prep	1633 Shake	RA		2.41 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830988	02/03/25 20:13	C1P	EET SAC

Client Sample ID: PDW-001-N-S003-01202025
Lab Sample ID: 320-118499-25
Date Collected: 01/20/25 16:35
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829380	01/24/25 11:27	CFR	EET SAC

Client Sample ID: PDW-001-N-S003-01202025
Lab Sample ID: 320-118499-25
Date Collected: 01/20/25 16:35
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 94.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.15 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633		1			830530	01/30/25 22:26	K1S	EET SAC
Total/NA	Prep	1633 Shake	RA		2.15 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830988	02/03/25 20:29	C1P	EET SAC

Client Sample ID: PDW-001-FD-S003-01202025
Lab Sample ID: 320-118499-26
Date Collected: 01/20/25 16:40
Matrix: Solid
Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829380	01/24/25 11:27	CFR	EET SAC

Client Sample ID: PDW-001-FD-S003-01202025
Lab Sample ID: 320-118499-26
Date Collected: 01/20/25 16:40
Matrix: Solid
Date Received: 01/23/25 09:55
Percent Solids: 94.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.15 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633		1			830530	01/30/25 22:42	K1S	EET SAC
Total/NA	Prep	1633 Shake	RA		2.15 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830988	02/03/25 20:46	C1P	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-1

Client Sample ID: EB-01202025

Lab Sample ID: 320-118499-34

Date Collected: 01/20/25 17:30

Matrix: Water

Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			144.4 mL	5.0 mL	829796	01/28/25 04:11	RMF	EET SAC
Total/NA	Analysis	1633		1			830986	02/03/25 16:35	N1K	EET SAC

Client Sample ID: FB-01202025

Lab Sample ID: 320-118499-35

Date Collected: 01/20/25 00:00

Matrix: Water

Date Received: 01/23/25 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			156.1 mL	5.0 mL	829796	01/28/25 04:11	RMF	EET SAC
Total/NA	Analysis	1633		1			830986	02/03/25 17:25	N1K	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118499-1
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-1

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633	Solid-Phase Extraction (SPE)	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118499-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118499-2	RTA-002-N-S001-01202025	Solid	01/20/25 08:37	01/23/25 09:55
320-118499-3	RTA-002-N-S003-01202025	Solid	01/20/25 08:49	01/23/25 09:55
320-118499-8	RTA-001-N-S001-01202025	Solid	01/20/25 11:05	01/23/25 09:55
320-118499-9	RTA-001-N-S003-01202025	Solid	01/20/25 11:10	01/23/25 09:55
320-118499-15	PDW-002-N-S001-01202025	Solid	01/20/25 14:15	01/23/25 09:55
320-118499-16	PDW-002-N-S003-01202025	Solid	01/20/25 14:25	01/23/25 09:55
320-118499-24	PDW-001-N-S001-01202025	Solid	01/20/25 16:25	01/23/25 09:55
320-118499-25	PDW-001-N-S003-01202025	Solid	01/20/25 16:35	01/23/25 09:55
320-118499-26	PDW-001-FD-S003-01202025	Solid	01/20/25 16:40	01/23/25 09:55
320-118499-34	EB-01202025	Water	01/20/25 17:30	01/23/25 09:55
320-118499-35	FB-01202025	Water	01/20/25 00:00	01/23/25 09:55

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington

DELIVERY DATE:
TURNAROUND TIME:
PROJECT MANAGER: Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
RTA-002-N-S000-01202025	1/20/2025	8:25	Soil					X	1
RTA-002-N-S001-01202025		8:37		X					
RTA-002-N-S003-01202025		8:49		X					
RTA-002-N-S006-01202025		9:01						X	
RTA-002-N-S010-01202025		9:08						X	
RTA-002-N-S015-01202025		9:23						X	
RTA-001-N-S000-01202025		10:53						X	
RTA-001-N-S001-01202025		11:05		X					
RTA-001-N-S003-01202025		11:10		X					
RTA-001-N-S006-01202025		11:25						X	

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118499 Chain of Custody

2.4C 2.8C IR006

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date
Relinquished by	**Received by**
Sign	Sign
Print Lindsay Chute	Print Jamey Pace
Firm Haley & Aldrich	Firm STA Spokane
Date 1/21/25 Time 11 00	Date 1/21/25 1105
Relinquished by	**Received by**
Sign	Sign
Print Macky Moms	Print Sullivan
Firm EBL&P	Firm STA
Date 1/21/25 Time 1611	Date 1/23/25 0955

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections.

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ RC-S2 ☐ RC-GW1 ☐ RC-GW2 ☐ S1 ☐ S2 ☐ S3 ☐ GW1 ☐ GW2 ☐ GW3

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

5.3C

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2/5/2025

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE		TURNAROUND TIME	
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
RTA-001-N-S010-01202025	1/20/2025	11:31	Soil					X	1
RTA-001-FD-S010-01202025		11 40						X	
RTA-001-N-S012-01202025		12:00						X	
PDW-002-N-S000-01202025		14.10						X	
PDW-002-N-S001-01202025		14:15		X					
PDW-002-N-S003-01202025		14:25		X					
PDW-002-N-S006-01202025		14:30						X	
PDW-002-N-S010-01202025		14.40						X	
PDW-002-N-S015-01202025		14:45						X	
PDW-002-N-S020-01202025		14:50						X	

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.
– TOC: Total Organic Carbon

2.4°C 2.8°C IR06L

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date
Relinquished by	**Received by**
Sign Lindsay Chutas	Sign [illegible]
Print Lindsay Chutas	Print [illegible]
Firm Haley & Aldrich	Firm [illegible]
Date 1/21/25 Time 11:20	Date 1/21/25 1105
Relinquished by	**Received by**
Sign [illegible]	Sign [illegible]
Print Macky Morris	Print [illegible]
Firm HALEY	Firm [illegible]
Date 1/21/25 Time 1611	Date 1/21/25 0955

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

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_____

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Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ RC-S2 ☐ RC-GW1 ☐ RC-GW2
☐ S1 ☐ S2 ☐ S3
☐ GW1 ☐ GW2 ☐ GW3

WHITE Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

5.3°C

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE		TURNAROUND TIME	
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
PDW-002-N-S025-01202025	1/20/2025	14:55	Soil					X	1
PDW-002-N-S029-01202025		15:00						X	
PDW-001-N-S000-01202025		16:20						X	
PDW-001-N-S001-01202025		16:25		X					
PDW-001-N-S003-01202025		16.35		X					
PDW-001-FD-S003-01202025-LC		16:40		X				~~X~~ ic	
PDW-001-N-S006-01202025		16:45						X	
PDW-001-N-S010-01202025		16:50						X	
PDW-001-N-S015-01202025		16:55						X	
PDW-001-N-S020-01202025		17:00						X	

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

run sample

2.4c 2.8c IR001

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

Relinquished by	Received by
Sign [signature]	Sign [signature]
Print Lindsay Chuter	Print Jerry Parker
Firm Haley & Aldrich	Firm CTASpike
Date 1/21/25 Time 11:00	Date 1/21/25 1105

Relinquished by	Received by
Sign [signature]	Sign [signature]
Print Macky Morris	Print [illegible]
Firm EET SPO	Firm EET Spo
Date 1/21/25 Time 1614	Date 1/23/25 0955

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections·

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ RC-S2 ☐ RC-GW1 ☐ RC-GW2
☐ S1 ☐ S2 ☐ S3
☐ GW1 ☐ GW2 ☐ GW3

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory 5.3c

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave. Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE		TURNAROUND TIME	
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
PDW-001-N-S025-01202025	1/20/2025	17:05	Soil					X	1
PDW-001-N-S030-01202025		17:10						X	
PDW-001-N-S034-01202025		17:15						X	
EB-01202025		17:30	H2O	X					3
FB-01202025		—	H2O	X					2

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

24c 2.8c I2006

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

Relinquished by	Received by
Sign	Sign
Print Lindsay Chuntas	Print Jenny Pace
Firm Haley & Aldrich	Firm CTA Spokane
Date 1/21/25 Time 11:00	Date 1/21/25 1605

Relinquished by	Received by
Sign	Sign
Print Mackey Mon.E	Print Salvador Gomez
Firm H&A	Firm Eurofins
Date 1/21/25 Time 1604	Date 1/23/25 0955

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections.

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

5.3°c

November 2024

Form 3003

eurofins | Environment Testing

Loc: 320
118499

Sacramento Sample Receiving Notes (SSRN)

Tracking # 4242 5693 0335

Job _____ _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID COY Corr Factor (+/-) 0.0 °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: 2691566

Cooler ID —

Temp Observed: 5.3 °C Corrected: 5.3 °C

From Temp Blank ☐ Sandwich ☐ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials SO Date 1/23/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☑	☐
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials JF Date 1/23/25

Notes:_____

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials JF Date 1/23/25

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1 2 3 4 5 6 7 8 9 10 11 12 13 14

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 6/3/2025 9:22:20 AM Revision 1

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118424-5

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

myEOL

Eurofins Sacramento

Job Notes

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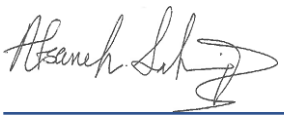
The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Revision 1

Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118424-5
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
*3	ISTD response or retention time outside acceptable limits.
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118424-5 — Eurofins Sacramento

Job Narrative
320-118424-5

Revised on 6/3/2025 to add sample JTA-009-N-S030-01172025 .

Receipt
The samples were received on 1/21/2025 11:15 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.8º C.

LCMS
Method 1633: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-845047 and analytical batch 320-846428 recovered outside control limits for the following analytes: Nonafluoro-3,6-dioxaheptanoic acid (NFDHA).

Method 1633: The low level laboratory control sample (LLCS), the laboratory control sample (LCS) and The laboratory control sample duplicate (LCSD) for preparation batch 320-845047 and analytical batch 320-846428 recovered outside control limits for the following analytes: 3-Perfluoropropylpropanoic acid (3:3 FTCA). The associated samples were re-prepared outside holding time. Both sets of data are reported.JTA-008-N-S017-01172025 (320-118424-14), JTA-009-N-S020-01172025 (320-118424-22), (LCS 320-845047/3-A), (LCSD 320-845047/4-A) and (LLCS 320-845047/2-A).

Method 1633: Results for sample JTA-008-N-S017-01172025 (320-118424-14) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 28 days. The request for the analysis of the following samples in analytical batch 320-844782 occurred outside this time period: JTA-008-N-S017-01172025 (320-118424-14), JTA-009-N-S020-01172025 (320-118424-22) and JTA-009-N-S030-01172025 (320-118424-23).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 1633 Shake: The following samples were re-prepared outside of preparation holding time due to low 3:3 FTCA in QCs: JTA-008-N-S017-01172025 (320-118424-14), JTA-009-N-S020-01172025 (320-118424-22) and JTA-009-N-S030-01172025 (320-118424-23).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-5

Client Sample ID: JTA-008-N-S017-01172025 — Lab Sample ID: 320-118424-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.18	J	0.39	0.098	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.45		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	3.2		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.24		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	1.3		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.064	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.97		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	1.2		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	17		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.41		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	37		2.0	0.49	ug/Kg	10	☼	1633	Total/NA

Client Sample ID: JTA-009-N-S020-01172025 — Lab Sample ID: 320-118424-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.051	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-009-N-S030-01172025 — Lab Sample ID: 320-118424-23

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-5

Client Sample ID: JTA-008-N-S017-01172025
Date Collected: 01/17/25 11:30
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-14
Matrix: Solid
Percent Solids: 96.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.18**	**J**	0.39	0.098	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluoropentanoic acid (PFPeA)	**0.45**		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorohexanoic acid (PFHxA)	**3.2**		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluoroheptanoic acid (PFHpA)	**0.24**		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorooctanoic acid (PFOA)	**1.3**		0.20	0.061	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorononanoic acid (PFNA)	**0.064**	**J**	0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorobutanesulfonic acid (PFBS)	**0.97**		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluoropentanesulfonic acid (PFPeS)	**1.2**		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorohexanesulfonic acid (PFHxS)	**17**		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.41**		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.24	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.24	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.20	0.061	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-5

Client Sample ID: JTA-008-N-S017-01172025
Date Collected: 01/17/25 11:30
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-14
Matrix: Solid
Percent Solids: 96.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.073	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND	*-	0.39	0.098	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*21.6*		*8 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C5 PFPeA	*80.7*		*35 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C5 PFHxA	*71.9*		*40 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C4 PFHpA	*77.3*		*40 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C8 PFOA	*84.0*		*40 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C9 PFNA	*69.6*		*40 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C6 PFDA	*75.0*		*40 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C7 PFUnA	*70.6*		*40 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C2 PFDoA	*74.0*		*40 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C2 PFTeDA	*56.7*		*20 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C3 PFBS	*69.8*		*40 - 135*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C3 PFHxS	*62.3*		*40 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C8 PFOS	*68.6*		*40 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C8 FOSA	*82.8*		*40 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
d3-NMeFOSAA	*85.7*		*40 - 135*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
d5-NEtFOSAA	*85.6*		*40 - 150*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C2 4:2 FTS	*71.5*		*40 - 165*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C2 6:2 FTS	*64.4*		*40 - 215*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C2 8:2 FTS	*68.2*		*40 - 275*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C3 HFPO-DA	*71.7*		*40 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
d7-N-MeFOSE-M	*66.6*		*20 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
d9-N-EtFOSE-M	*64.0*		*15 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
d5-NEtPFOSA	*73.8*		*10 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
d3-NMePFOSA	*64.0*		*10 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**37**		2.0	0.49	ug/Kg	☼	04/09/25 11:54	04/30/25 00:27	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*80.7*	*3	*40 - 130*	*04/09/25 11:54*	*04/30/25 00:27*	*10*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND	H	0.40	0.099	ug/Kg	☼	04/21/25 04:10	04/22/25 12:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*92.7*		*35 - 130*	*04/21/25 04:10*	*04/22/25 12:58*	*1*

Client Sample ID: JTA-008-N-S017-01172025
Lab Sample ID: 320-118424-14

Date Collected: 01/17/25 11:30
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 96.4

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**3.6**	**H**	0.10	0.10	%			04/08/25 12:26	1
Percent Solids (EPA 1633)	**96**	**H**	0.10	0.10	%			04/08/25 12:26	1

Client Sample ID: JTA-009-N-S020-01172025
Lab Sample ID: 320-118424-22

Date Collected: 01/17/25 12:10
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 85.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorooctanesulfonic acid (PFOS)	**0.051**	**J**	0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.25	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.25	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1

Client Sample ID: JTA-009-N-S020-01172025
Date Collected: 01/17/25 12:10
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-22
Matrix: Solid
Percent Solids: 85.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.20	0.061	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND	*-	0.39	0.098	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*16.3*		*8 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C5 PFPeA	*69.6*		*35 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C5 PFHxA	*68.8*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C4 PFHpA	*81.0*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C8 PFOA	*74.1*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C9 PFNA	*67.5*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C6 PFDA	*78.6*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C7 PFUnA	*71.6*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C2 PFDoA	*73.2*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C2 PFTeDA	*56.4*		*20 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C3 PFBS	*59.8*		*40 - 135*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C3 PFHxS	*62.3*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C8 PFOS	*64.5*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C8 FOSA	*74.9*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
d3-NMeFOSAA	*76.0*		*40 - 135*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
d5-NEtFOSAA	*72.9*		*40 - 150*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C2 4:2 FTS	*65.3*		*40 - 165*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C2 6:2 FTS	*59.0*		*40 - 215*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C2 8:2 FTS	*52.1*		*40 - 275*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C3 HFPO-DA	*72.8*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
d7-N-MeFOSE-M	*52.5*		*20 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
d9-N-EtFOSE-M	*52.3*		*15 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
d5-NEtPFOSA	*66.4*		*10 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
d3-NMePFOSA	*59.2*		*10 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND	H	0.40	0.10	ug/Kg	☼	04/21/25 04:10	04/22/25 13:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*89.4*		*35 - 130*	*04/21/25 04:10*	*04/22/25 13:15*	*1*

Client Sample ID: JTA-009-N-S020-01172025

Lab Sample ID: 320-118424-22
Date Collected: 01/17/25 12:10
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 85.7

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	14	H	0.10	0.10	%			04/08/25 12:26	1
Percent Solids (EPA 1633)	86	H	0.10	0.10	%			04/08/25 12:26	1

Client Sample ID: JTA-009-N-S030-01172025

Lab Sample ID: 320-118424-23
Date Collected: 01/17/25 12:15
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 83.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.099	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.099	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.099	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1

Client Sample ID: JTA-009-N-S030-01172025
Date Collected: 01/17/25 12:15
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-23
Matrix: Solid
Percent Solids: 83.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.20	0.061	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND	*-	0.40	0.099	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	04/09/25 11:54	04/15/25 13:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*20.8*		*8 - 130*	*04/09/25 11:54*	*04/15/25 13:16*	*1*
13C5 PFPeA	*71.1*		*35 - 130*	*04/09/25 11:54*	*04/15/25 13:16*	*1*
13C5 PFHxA	*60.8*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:16*	*1*
13C4 PFHpA	*66.4*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:16*	*1*
13C8 PFOA	*71.7*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:16*	*1*
13C9 PFNA	*65.9*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:16*	*1*
13C6 PFDA	*70.7*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:16*	*1*
13C7 PFUnA	*69.5*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:16*	*1*
13C2 PFDoA	*73.3*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:16*	*1*
13C2 PFTeDA	*59.5*		*20 - 130*	*04/09/25 11:54*	*04/15/25 13:16*	*1*
13C3 PFBS	*62.4*		*40 - 135*	*04/09/25 11:54*	*04/15/25 13:16*	*1*
13C3 PFHxS	*58.3*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:16*	*1*
13C8 PFOS	*67.7*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:16*	*1*
13C8 FOSA	*72.3*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:16*	*1*
d3-NMeFOSAA	*74.4*		*40 - 135*	*04/09/25 11:54*	*04/15/25 13:16*	*1*
d5-NEtFOSAA	*69.9*		*40 - 150*	*04/09/25 11:54*	*04/15/25 13:16*	*1*
13C2 4:2 FTS	*62.1*		*40 - 165*	*04/09/25 11:54*	*04/15/25 13:16*	*1*
13C2 6:2 FTS	*63.6*		*40 - 215*	*04/09/25 11:54*	*04/15/25 13:16*	*1*
13C2 8:2 FTS	*63.7*		*40 - 275*	*04/09/25 11:54*	*04/15/25 13:16*	*1*
13C3 HFPO-DA	*67.7*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:16*	*1*
d7-N-MeFOSE-M	*65.9*		*20 - 130*	*04/09/25 11:54*	*04/15/25 13:16*	*1*
d9-N-EtFOSE-M	*59.3*		*15 - 130*	*04/09/25 11:54*	*04/15/25 13:16*	*1*
d5-NEtPFOSA	*63.2*		*10 - 130*	*04/09/25 11:54*	*04/15/25 13:16*	*1*
d3-NMePFOSA	*55.4*		*10 - 130*	*04/09/25 11:54*	*04/15/25 13:16*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND	H	0.40	0.099	ug/Kg	☼	04/21/25 04:10	04/22/25 13:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*80.2*		*35 - 130*	*04/21/25 04:10*	*04/22/25 13:31*	*1*

Client Sample Results

Client: GSI Environmental Inc
Job ID: 320-118424-5
Project/Site: Spokane International Airport

Client Sample ID: JTA-009-N-S030-01172025
Lab Sample ID: 320-118424-23
Date Collected: 01/17/25 12:15
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 83.7

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	16	H	0.10	0.10	%			04/08/25 12:26	1
Percent Solids (EPA 1633)	84	H	0.10	0.10	%			04/08/25 12:26	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-5

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(8-130)	(35-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)
320-118424-14	JTA-008-N-S017-01172025	21.6	80.7	71.9	77.3	84.0	69.6	75.0	70.6
320-118424-14 - RE	JTA-008-N-S017-01172025		92.7						
320-118424-14 - DL	JTA-008-N-S017-01172025								
320-118424-22	JTA-009-N-S020-01172025	16.3	69.6	68.8	81.0	74.1	67.5	78.6	71.6
320-118424-22 - RE	JTA-009-N-S020-01172025		89.4						
320-118424-23	JTA-009-N-S030-01172025	20.8	71.1	60.8	66.4	71.7	65.9	70.7	69.5
320-118424-23 - RE	JTA-009-N-S030-01172025		80.2						
LCS 320-845047/3-A	Lab Control Sample	16.6	54.2	55.1	55.0	53.7	49.7	59.8	55.0
LCS 320-847070/3-A	Lab Control Sample		91.4						
LCSD 320-845047/4-A	Lab Control Sample Dup	24.1	85.2	86.0	94.6	86.2	76.3	80.7	80.1
LCSD 320-847070/4-A	Lab Control Sample Dup		92.7						
LLCS 320-845047/2-A	Lab Control Sample	19.4	83.5	68.7	87.0	78.6	67.1	76.1	76.7
LLCS 320-847070/2-A	Lab Control Sample		84.2						
MB 320-845047/1-A	Method Blank	16.9	74.2	74.7	80.9	76.6	66.8	78.3	70.6
MB 320-847070/1-A	Method Blank		89.4						

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(40-130)	(20-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-135)	(40-150)
320-118424-14	JTA-008-N-S017-01172025	74.0	56.7	69.8	62.3	68.6	82.8	85.7	85.6
320-118424-14 - RE	JTA-008-N-S017-01172025								
320-118424-14 - DL	JTA-008-N-S017-01172025					80.7 *3			
320-118424-22	JTA-009-N-S020-01172025	73.2	56.4	59.8	62.3	64.5	74.9	76.0	72.9
320-118424-22 - RE	JTA-009-N-S020-01172025								
320-118424-23	JTA-009-N-S030-01172025	73.3	59.5	62.4	58.3	67.7	72.3	74.4	69.9
320-118424-23 - RE	JTA-009-N-S030-01172025								
LCS 320-845047/3-A	Lab Control Sample	61.3	51.4	50.5	46.2	48.8	54.1	61.4	55.6
LCS 320-847070/3-A	Lab Control Sample								
LCSD 320-845047/4-A	Lab Control Sample Dup	88.4	73.3	74.7	71.0	77.8	81.4	93.9	88.8
LCSD 320-847070/4-A	Lab Control Sample Dup								
LLCS 320-845047/2-A	Lab Control Sample	78.0	70.8	68.5	58.7	72.2	77.7	87.4	80.0
LLCS 320-847070/2-A	Lab Control Sample								
MB 320-845047/1-A	Method Blank	77.1	68.8	64.6	62.9	61.8	71.6	80.1	78.9
MB 320-847070/1-A	Method Blank								

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-165)	(40-215)	(40-275)	(40-130)	(20-130)	(15-130)	(10-130)	(10-130)
320-118424-14	JTA-008-N-S017-01172025	71.5	64.4	68.2	71.7	66.6	64.0	73.8	64.0
320-118424-14 - RE	JTA-008-N-S017-01172025								
320-118424-14 - DL	JTA-008-N-S017-01172025								
320-118424-22	JTA-009-N-S020-01172025	65.3	59.0	52.1	72.8	52.5	52.3	66.4	59.2
320-118424-22 - RE	JTA-009-N-S020-01172025								
320-118424-23	JTA-009-N-S030-01172025	62.1	63.6	63.7	67.7	65.9	59.3	63.2	55.4
320-118424-23 - RE	JTA-009-N-S030-01172025								
LCS 320-845047/3-A	Lab Control Sample	53.6	52.2	51.2	51.2	41.8	39.6	46.7	39.2
LCS 320-847070/3-A	Lab Control Sample								
LCSD 320-845047/4-A	Lab Control Sample Dup	78.9	72.4	73.7	84.9	73.5	74.9	79.7	71.1
LCSD 320-847070/4-A	Lab Control Sample Dup								
LLCS 320-845047/2-A	Lab Control Sample	72.9	62.1	66.7	76.8	71.8	69.3	73.8	64.5
LLCS 320-847070/2-A	Lab Control Sample								

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118424-5
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Solid
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
MB 320-845047/1-A	Method Blank	76.4	67.0	59.3	69.7	56.5	55.3	53.5	46.6
MB 320-847070/1-A	Method Blank								

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-845047/1-A
Matrix: Solid
Analysis Batch: 846428

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 845047

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-845047/1-A
Matrix: Solid
Analysis Batch: 846428

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 845047

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		04/09/25 11:54	04/15/25 11:21	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*16.9*		*8 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C5 PFPeA	*74.2*		*35 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C5 PFHxA	*74.7*		*40 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C4 PFHpA	*80.9*		*40 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C8 PFOA	*76.6*		*40 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C9 PFNA	*66.8*		*40 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C6 PFDA	*78.3*		*40 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C7 PFUnA	*70.6*		*40 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C2 PFDoA	*77.1*		*40 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C2 PFTeDA	*68.8*		*20 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C3 PFBS	*64.6*		*40 - 135*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C3 PFHxS	*62.9*		*40 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C8 PFOS	*61.8*		*40 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C8 FOSA	*71.6*		*40 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
d3-NMeFOSAA	*80.1*		*40 - 135*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
d5-NEtFOSAA	*78.9*		*40 - 150*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C2 4:2 FTS	*76.4*		*40 - 165*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C2 6:2 FTS	*67.0*		*40 - 215*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C2 8:2 FTS	*59.3*		*40 - 275*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C3 HFPO-DA	*69.7*		*40 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
d7-N-MeFOSE-M	*56.5*		*20 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
d9-N-EtFOSE-M	*55.3*		*15 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
d5-NEtPFOSA	*53.5*		*10 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
d3-NMePFOSA	*46.6*		*10 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*

Lab Sample ID: LCS 320-845047/3-A
Matrix: Solid
Analysis Batch: 846428

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 845047

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.31		ug/Kg		86	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.20		ug/Kg		88	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.30		ug/Kg		92	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.55		ug/Kg		102	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.50		ug/Kg		100	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.60		ug/Kg		104	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.37		ug/Kg		95	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-845047/3-A
Matrix: Solid
Analysis Batch: 846428

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 845047

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.60		ug/Kg		104	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.58		ug/Kg		103	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.48		ug/Kg		99	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.48		ug/Kg		99	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	1.71		ug/Kg		77	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.30		ug/Kg		98	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.02		ug/Kg		89	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.69		ug/Kg		113	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.32		ug/Kg		100	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.56		ug/Kg		107	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.43		ug/Kg		101	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.41		ug/Kg		99	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.60		ug/Kg		98	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.23		ug/Kg		89	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.68		ug/Kg		98	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.57		ug/Kg		103	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	3.00		ug/Kg		120	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.40		ug/Kg		96	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.32		ug/Kg		93	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.26		ug/Kg		91	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.2		ug/Kg		90	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	10.8		ug/Kg		86	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.75		ug/Kg		93	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.51		ug/Kg		106	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	1.24		ug/Kg		49	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.23		ug/Kg		89	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	1.78		ug/Kg		71	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-845047/3-A
Matrix: Solid
Analysis Batch: 846428

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 845047

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.45		ug/Kg		105	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.37		ug/Kg		100	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.00		ug/Kg		90	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	1.76	*-	ug/Kg		35	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.8		ug/Kg		95	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	12.4		ug/Kg		99	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*16.6*		*8 - 130*
13C5 PFPeA	*54.2*		*35 - 130*
13C5 PFHxA	*55.1*		*40 - 130*
13C4 PFHpA	*55.0*		*40 - 130*
13C8 PFOA	*53.7*		*40 - 130*
13C9 PFNA	*49.7*		*40 - 130*
13C6 PFDA	*59.8*		*40 - 130*
13C7 PFUnA	*55.0*		*40 - 130*
13C2 PFDoA	*61.3*		*40 - 130*
13C2 PFTeDA	*51.4*		*20 - 130*
13C3 PFBS	*50.5*		*40 - 135*
13C3 PFHxS	*46.2*		*40 - 130*
13C8 PFOS	*48.8*		*40 - 130*
13C8 FOSA	*54.1*		*40 - 130*
d3-NMeFOSAA	*61.4*		*40 - 135*
d5-NEtFOSAA	*55.6*		*40 - 150*
13C2 4:2 FTS	*53.6*		*40 - 165*
13C2 6:2 FTS	*52.2*		*40 - 215*
13C2 8:2 FTS	*51.2*		*40 - 275*
13C3 HFPO-DA	*51.2*		*40 - 130*
d7-N-MeFOSE-M	*41.8*		*20 - 130*
d9-N-EtFOSE-M	*39.6*		*15 - 130*
d5-NEtPFOSA	*46.7*		*10 - 130*
d3-NMePFOSA	*39.2*		*10 - 130*

Lab Sample ID: LCSD 320-845047/4-A
Matrix: Solid
Analysis Batch: 846428

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 845047

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.88		ug/Kg		98	70 - 140	12	30
Perfluoropentanoic acid (PFPeA)			2.50	2.13		ug/Kg		85	60 - 150	3	30
Perfluorohexanoic acid (PFHxA)			2.50	2.39		ug/Kg		95	65 - 140	3	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.34		ug/Kg		94	65 - 145	9	30
Perfluorooctanoic acid (PFOA)			2.50	2.63		ug/Kg		105	70 - 150	5	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-845047/4-A
Matrix: Solid
Analysis Batch: 846428

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 845047

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.53		ug/Kg		101	70 - 155	2	30
Perfluorodecanoic acid (PFDA)	2.50	2.64		ug/Kg		106	70 - 155	11	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.52		ug/Kg		101	70 - 155	3	30
Perfluorododecanoic acid (PFDoA)	2.50	2.54		ug/Kg		102	70 - 150	1	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.61		ug/Kg		104	65 - 150	5	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.91		ug/Kg		116	65 - 150	16	30
Perfluorobutanesulfonic acid (PFBS)	2.22	1.81		ug/Kg		81	65 - 145	6	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.08		ug/Kg		89	55 - 160	10	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.00		ug/Kg		88	60 - 150	1	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.37		ug/Kg		100	65 - 155	13	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.17		ug/Kg		93	65 - 160	7	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.39		ug/Kg		99	55 - 140	7	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.49		ug/Kg		103	40 - 155	3	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.61		ug/Kg		108	25 - 160	8	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.45		ug/Kg		95	60 - 150	3	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.74		ug/Kg		100	55 - 200	11	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.69		ug/Kg		98	70 - 150	0	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.54		ug/Kg		102	70 - 140	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.74		ug/Kg		110	70 - 155	9	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.29		ug/Kg		92	70 - 140	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.31		ug/Kg		92	65 - 155	0	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.22		ug/Kg		89	65 - 165	2	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.3		ug/Kg		90	70 - 140	1	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	10.6		ug/Kg		85	70 - 135	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.73		ug/Kg		92	70 - 145	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.28		ug/Kg		96	70 - 160	10	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	1.29		ug/Kg		52	30 - 140	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.40		ug/Kg		96	60 - 150	8	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-845047/4-A
Matrix: Solid
Analysis Batch: 846428

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 845047

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.51	*1	ug/Kg		100	60 - 155	34	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.21		ug/Kg		95	70 - 150	10	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.26		ug/Kg		96	45 - 160	4	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.92		ug/Kg		86	70 - 140	4	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	1.60	*-	ug/Kg		32	45 - 130	10	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	12.4		ug/Kg		99	60 - 130	4	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	12.5		ug/Kg		100	60 - 150	1	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*24.1*		*8 - 130*
13C5 PFPeA	*85.2*		*35 - 130*
13C5 PFHxA	*86.0*		*40 - 130*
13C4 PFHpA	*94.6*		*40 - 130*
13C8 PFOA	*86.2*		*40 - 130*
13C9 PFNA	*76.3*		*40 - 130*
13C6 PFDA	*80.7*		*40 - 130*
13C7 PFUnA	*80.1*		*40 - 130*
13C2 PFDoA	*88.4*		*40 - 130*
13C2 PFTeDA	*73.3*		*20 - 130*
13C3 PFBS	*74.7*		*40 - 135*
13C3 PFHxS	*71.0*		*40 - 130*
13C8 PFOS	*77.8*		*40 - 130*
13C8 FOSA	*81.4*		*40 - 130*
d3-NMeFOSAA	*93.9*		*40 - 135*
d5-NEtFOSAA	*88.8*		*40 - 150*
13C2 4:2 FTS	*78.9*		*40 - 165*
13C2 6:2 FTS	*72.4*		*40 - 215*
13C2 8:2 FTS	*73.7*		*40 - 275*
13C3 HFPO-DA	*84.9*		*40 - 130*
d7-N-MeFOSE-M	*73.5*		*20 - 130*
d9-N-EtFOSE-M	*74.9*		*15 - 130*
d5-NEtPFOSA	*79.7*		*10 - 130*
d3-NMePFOSA	*71.1*		*10 - 130*

Lab Sample ID: LLCS 320-845047/2-A
Matrix: Solid
Analysis Batch: 846428

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 845047

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.847		ug/Kg		106	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.418		ug/Kg		105	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.437		ug/Kg		109	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-845047/2-A
Matrix: Solid
Analysis Batch: 846428

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 845047

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.396		ug/Kg		99	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.425		ug/Kg		106	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.445		ug/Kg		111	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.413		ug/Kg		103	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.419		ug/Kg		105	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.423		ug/Kg		106	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.433		ug/Kg		108	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.466		ug/Kg		116	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.319		ug/Kg		90	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.378		ug/Kg		100	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.380		ug/Kg		104	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.396		ug/Kg		104	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.378		ug/Kg		102	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.426		ug/Kg		111	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.428		ug/Kg		111	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.441		ug/Kg		114	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.800		ug/Kg		107	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.847		ug/Kg		111	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.849		ug/Kg		110	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.417		ug/Kg		104	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.460		ug/Kg		115	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.368		ug/Kg		92	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.385		ug/Kg		96	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.384		ug/Kg		96	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.95		ug/Kg		97	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	1.85		ug/Kg		93	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.296		ug/Kg		99	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.372		ug/Kg		98	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.199	J	ug/Kg		50	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-845047/2-A
Matrix: Solid
Analysis Batch: 846428

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 845047

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.400	0.369		ug/Kg		92	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.400	0.415		ug/Kg		104	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	0.374	0.395		ug/Kg		106	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	0.378	0.440		ug/Kg		116	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.357	0.400		ug/Kg		112	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.800	0.213	J *-	ug/Kg		27	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	2.00	2.43		ug/Kg		121	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	2.00	2.32		ug/Kg		116	60 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*19.4*		*8 - 130*
13C5 PFPeA	*83.5*		*35 - 130*
13C5 PFHxA	*68.7*		*40 - 130*
13C4 PFHpA	*87.0*		*40 - 130*
13C8 PFOA	*78.6*		*40 - 130*
13C9 PFNA	*67.1*		*40 - 130*
13C6 PFDA	*76.1*		*40 - 130*
13C7 PFUnA	*76.7*		*40 - 130*
13C2 PFDoA	*78.0*		*40 - 130*
13C2 PFTeDA	*70.8*		*20 - 130*
13C3 PFBS	*68.5*		*40 - 135*
13C3 PFHxS	*58.7*		*40 - 130*
13C8 PFOS	*72.2*		*40 - 130*
13C8 FOSA	*77.7*		*40 - 130*
d3-NMeFOSAA	*87.4*		*40 - 135*
d5-NEtFOSAA	*80.0*		*40 - 150*
13C2 4:2 FTS	*72.9*		*40 - 165*
13C2 6:2 FTS	*62.1*		*40 - 215*
13C2 8:2 FTS	*66.7*		*40 - 275*
13C3 HFPO-DA	*76.8*		*40 - 130*
d7-N-MeFOSE-M	*71.8*		*20 - 130*
d9-N-EtFOSE-M	*69.3*		*15 - 130*
d5-NEtPFOSA	*73.8*		*10 - 130*
d3-NMePFOSA	*64.5*		*10 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-847070/1-A
Matrix: Solid
Analysis Batch: 847416

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 847070

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		04/21/25 04:10	04/22/25 11:36	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*89.4*		*35 - 130*	*04/21/25 04:10*	*04/22/25 11:36*	*1*

Lab Sample ID: LCS 320-847070/3-A
Matrix: Solid
Analysis Batch: 847416

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 847070

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.87		ug/Kg		97	45 - 130		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C5 PFPeA	*91.4*		*35 - 130*

Lab Sample ID: LCSD 320-847070/4-A
Matrix: Solid
Analysis Batch: 847416

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 847070

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.88		ug/Kg		98	45 - 130	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C5 PFPeA	*92.7*		*35 - 130*

Lab Sample ID: LLCS 320-847070/2-A
Matrix: Solid
Analysis Batch: 847416

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 847070

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.849		ug/Kg		106	45 - 130		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C5 PFPeA	*84.2*		*35 - 130*

QC Association Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-5

LCMS

Prep Batch: 845047

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-14 - DL	JTA-008-N-S017-01172025	Total/NA	Solid	1633 Shake	
320-118424-14	JTA-008-N-S017-01172025	Total/NA	Solid	1633 Shake	
320-118424-22	JTA-009-N-S020-01172025	Total/NA	Solid	1633 Shake	
320-118424-23	JTA-009-N-S030-01172025	Total/NA	Solid	1633 Shake	
MB 320-845047/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-845047/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-845047/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-845047/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 846428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-14	JTA-008-N-S017-01172025	Total/NA	Solid	1633	845047
320-118424-22	JTA-009-N-S020-01172025	Total/NA	Solid	1633	845047
320-118424-23	JTA-009-N-S030-01172025	Total/NA	Solid	1633	845047
MB 320-845047/1-A	Method Blank	Total/NA	Solid	1633	845047
LCS 320-845047/3-A	Lab Control Sample	Total/NA	Solid	1633	845047
LCSD 320-845047/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	845047
LLCS 320-845047/2-A	Lab Control Sample	Total/NA	Solid	1633	845047

Prep Batch: 847070

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-14 - RE	JTA-008-N-S017-01172025	Total/NA	Solid	1633 Shake	
320-118424-22 - RE	JTA-009-N-S020-01172025	Total/NA	Solid	1633 Shake	
320-118424-23 - RE	JTA-009-N-S030-01172025	Total/NA	Solid	1633 Shake	
MB 320-847070/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-847070/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-847070/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-847070/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 847416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-14 - RE	JTA-008-N-S017-01172025	Total/NA	Solid	1633	847070
320-118424-22 - RE	JTA-009-N-S020-01172025	Total/NA	Solid	1633	847070
320-118424-23 - RE	JTA-009-N-S030-01172025	Total/NA	Solid	1633	847070
MB 320-847070/1-A	Method Blank	Total/NA	Solid	1633	847070
LCS 320-847070/3-A	Lab Control Sample	Total/NA	Solid	1633	847070
LCSD 320-847070/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	847070
LLCS 320-847070/2-A	Lab Control Sample	Total/NA	Solid	1633	847070

Analysis Batch: 848753

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-14 - DL	JTA-008-N-S017-01172025	Total/NA	Solid	1633	845047

General Chemistry

Analysis Batch: 844782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-14	JTA-008-N-S017-01172025	Total/NA	Solid	1633	
320-118424-22	JTA-009-N-S020-01172025	Total/NA	Solid	1633	
320-118424-23	JTA-009-N-S030-01172025	Total/NA	Solid	1633	

Client Sample ID: JTA-008-N-S017-01172025
Date Collected: 01/17/25 11:30
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			844782	04/08/25 12:26	JCB	EET SAC

Client Sample ID: JTA-008-N-S017-01172025
Date Collected: 01/17/25 11:30
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-14
Matrix: Solid
Percent Solids: 96.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	RE		2.10 g	5.0 mL	847070	04/21/25 04:10	RMF	EET SAC
Total/NA	Analysis	1633	RE	1			847416	04/22/25 12:58	RS1	EET SAC
Total/NA	Prep	1633 Shake	DL		2.12 g	5.0 mL	845047	04/09/25 11:54	ATB	EET SAC
Total/NA	Analysis	1633	DL	10			848753	04/30/25 00:27	K1D	EET SAC
Total/NA	Prep	1633 Shake			2.12 g	5.0 mL	845047	04/09/25 11:54	ATB	EET SAC
Total/NA	Analysis	1633		1			846428	04/15/25 12:43	N1K	EET SAC

Client Sample ID: JTA-009-N-S020-01172025
Date Collected: 01/17/25 12:10
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-22
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			844782	04/08/25 12:26	JCB	EET SAC

Client Sample ID: JTA-009-N-S020-01172025
Date Collected: 01/17/25 12:10
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-22
Matrix: Solid
Percent Solids: 85.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	RE		2.31 g	5.0 mL	847070	04/21/25 04:10	RMF	EET SAC
Total/NA	Analysis	1633	RE	1			847416	04/22/25 13:15	RS1	EET SAC
Total/NA	Prep	1633 Shake			2.37 g	5.0 mL	845047	04/09/25 11:54	ATB	EET SAC
Total/NA	Analysis	1633		1			846428	04/15/25 13:00	N1K	EET SAC

Client Sample ID: JTA-009-N-S030-01172025
Date Collected: 01/17/25 12:15
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-23
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			844782	04/08/25 12:26	JCB	EET SAC

Client Sample ID: JTA-009-N-S030-01172025
Date Collected: 01/17/25 12:15
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-23
Matrix: Solid
Percent Solids: 83.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	RE		2.41 g	5.0 mL	847070	04/21/25 04:10	RMF	EET SAC
Total/NA	Analysis	1633	RE	1			847416	04/22/25 13:31	RS1	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118424-5
Project/Site: Spokane International Airport

Client Sample ID: JTA-009-N-S030-01172025
Lab Sample ID: 320-118424-23

Date Collected: 01/17/25 12:15
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 83.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.41 g	5.0 mL	845047	04/09/25 11:54	ATB	EET SAC
Total/NA	Analysis	1633		1			846428	04/15/25 13:16	N1K	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118424-5
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture
1633		Solid	Percent Solids

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-5

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Job ID: 320-118424-5
Project/Site: Spokane International Airport

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118424-14	JTA-008-N-S017-01172025	Solid	01/17/25 11:30	01/21/25 11:15
320-118424-22	JTA-009-N-S020-01172025	Solid	01/17/25 12:10	01/21/25 11:15
320-118424-23	JTA-009-N-S030-01172025	Solid	01/17/25 12:15	01/21/25 11:15

Afsaneh Salimpour

From: Emily K. Stashak <ekstashak@gsi-net.com>
Sent: Tuesday, April 8, 2025 9:27 AM
To: Afsaneh Salimpour
Cc: Greer, Breeyn; Caleb Grant; Kenia Whitehead; Mass, Sarah
Subject: RE: Eurofins Environment Testing Northern California, LLC sample confirmation files from 320-118424-5 Spokane International Airport

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Hello Afsaneh,

After reviewing the files your re-transmitted this morning can we update job 320-118424-5?
I originally requested the extraction for all three samples but would like to update to run 1633 for two of those samples and hold the extraction for one sample.
See the table below for details.

Lab Sample #	Client Sample ID	1633_Final
320-118424-14	JTA-008-N-S017-01172025	Run
320-118424-22	JTA-009-N-S020-01172025	Run
320-118424-23	JTA-009-N-S030-01172025	HOLD

Apologies for the hassle, please let me know if you have any questions.

Best,

Emily K. Stashak
Environmental Scientist
GSI Environmental Inc.
O 512.346.4474 | **C** 832.295.1607

From: Afsaneh Salimpour <TALS@reports.et.eurofinsus.com>
Sent: Tuesday, April 8, 2025 10:56 AM
To: Greer, Breeyn <bgreer@haleyaldrich.com>; Caleb Grant <cgrant@gsi-net.com>; Emily K. Stashak <ekstashak@gsi-net.com>; Kenia Whitehead <kwhitehead@gsienv.com>; Mass, Sarah <smass@haleyaldrich.com>
Subject: Eurofins Environment Testing Northern California, LLC sample confirmation files from 320-118424-5 Spokane International Airport

Hello,

Attached please find the sample confirmation files for job 320-118424-5; Spokane International Airport

The samples were received on 1/21/2025 11:15 AM.

Please review the attachments for accuracy and notify your Project Manager of any discrepancies as quickly as possible.

Any discrepancies not communicated in a timely fashion could result in missed holding times, TAT delays and may potentially incur additional charges.

Please feel free to contact me if you have any questions.

Thank you.

Afsaneh F Salimpour
Project Manager

Eurofins Sacramento
Phone: 925-484-1919
Mobile: 925-212-8723

E-mail: Afsaneh.Salimpour@et.eurofinsus.com
www.eurofinsus.com/env

Reference: [320-680155]
Attachments: 2

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 4/30/2025 10:29:58 AM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118424-5

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

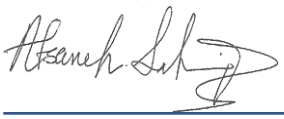
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



Generated
4/30/2025 10:29:58 AM

Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-5

Qualifiers

LCMS

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
*3	ISTD response or retention time outside acceptable limits.
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-118424-5

Receipt
The samples were received on 1/21/2025 11:15 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.8º C.

LCMS
Method 1633: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-845047 and analytical batch 320-846428 recovered outside control limits for the following analytes: Nonafluoro-3,6-dioxaheptanoic acid (NFDHA).

Method 1633: The low level laboratory control sample (LLCS), the laboratory control sample (LCS) and The laboratory control sample duplicate (LCSD) for preparation batch 320-845047 and analytical batch 320-846428 recovered outside control limits for the following analytes: 3-Perfluoropropylpropanoic acid (3:3 FTCA). The associated samples were re-prepared outside holding time. Both sets of data are reported.JTA-008-N-S017-01172025 (320-118424-14), JTA-009-N-S020-01172025 (320-118424-22), (LCS 320-845047/3-A), (LCSD 320-845047/4-A) and (LLCS 320-845047/2-A).

Method 1633: Results for sample JTA-008-N-S017-01172025 (320-118424-14) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 28 days. The request for the analysis of the following samples in analytical batch 320-844782 occurred outside this time period: JTA-008-N-S017-01172025 (320-118424-14), JTA-009-N-S020-01172025 (320-118424-22) and JTA-009-N-S030-01172025 (320-118424-23).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 1633 Shake: The following samples were re-prepared outside of preparation holding time due to low 3:3 FTCA in QCs: JTA-008-N-S017-01172025 (320-118424-14), JTA-009-N-S020-01172025 (320-118424-22) and JTA-009-N-S030-01172025 (320-118424-23).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-5

Client Sample ID: JTA-008-N-S017-01172025 — Lab Sample ID: 320-118424-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.18	J	0.39	0.098	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.45		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	3.2		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.24		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	1.3		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.064	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.97		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	1.2		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	17		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.41		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	37		2.0	0.49	ug/Kg	10	☼	1633	Total/NA

Client Sample ID: JTA-009-N-S020-01172025 — Lab Sample ID: 320-118424-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.051	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-009-N-S030-01172025 — Lab Sample ID: 320-118424-23

No Detections.

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-5

Client Sample ID: JTA-008-N-S017-01172025
Date Collected: 01/17/25 11:30
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-14
Matrix: Solid
Percent Solids: 96.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.18**	**J**	0.39	0.098	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluoropentanoic acid (PFPeA)	**0.45**		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorohexanoic acid (PFHxA)	**3.2**		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluoroheptanoic acid (PFHpA)	**0.24**		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorooctanoic acid (PFOA)	**1.3**		0.20	0.061	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorononanoic acid (PFNA)	**0.064**	**J**	0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorobutanesulfonic acid (PFBS)	**0.97**		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluoropentanesulfonic acid (PFPeS)	**1.2**		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorohexanesulfonic acid (PFHxS)	**17**		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.41**		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.24	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.24	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.20	0.061	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1

Client Sample ID: JTA-008-N-S017-01172025
Date Collected: 01/17/25 11:30
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-14
Matrix: Solid
Percent Solids: 96.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.073	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND	*-	0.39	0.098	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	04/09/25 11:54	04/15/25 12:43	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*21.6*		*8 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C5 PFPeA	*80.7*		*35 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C5 PFHxA	*71.9*		*40 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C4 PFHpA	*77.3*		*40 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C8 PFOA	*84.0*		*40 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C9 PFNA	*69.6*		*40 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C6 PFDA	*75.0*		*40 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C7 PFUnA	*70.6*		*40 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C2 PFDoA	*74.0*		*40 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C2 PFTeDA	*56.7*		*20 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C3 PFBS	*69.8*		*40 - 135*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C3 PFHxS	*62.3*		*40 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C8 PFOS	*68.6*		*40 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C8 FOSA	*82.8*		*40 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
d3-NMeFOSAA	*85.7*		*40 - 135*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
d5-NEtFOSAA	*85.6*		*40 - 150*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C2 4:2 FTS	*71.5*		*40 - 165*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C2 6:2 FTS	*64.4*		*40 - 215*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C2 8:2 FTS	*68.2*		*40 - 275*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
13C3 HFPO-DA	*71.7*		*40 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
d7-N-MeFOSE-M	*66.6*		*20 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
d9-N-EtFOSE-M	*64.0*		*15 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
d5-NEtPFOSA	*73.8*		*10 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*
d3-NMePFOSA	*64.0*		*10 - 130*	*04/09/25 11:54*	*04/15/25 12:43*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**37**		2.0	0.49	ug/Kg	☼	04/09/25 11:54	04/30/25 00:27	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*80.7*	*3	*40 - 130*	*04/09/25 11:54*	*04/30/25 00:27*	*10*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND	H	0.40	0.099	ug/Kg	☼	04/21/25 04:10	04/22/25 12:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*92.7*		*35 - 130*	*04/21/25 04:10*	*04/22/25 12:58*	*1*

Client Sample ID: JTA-008-N-S017-01172025

Lab Sample ID: 320-118424-14

Date Collected: 01/17/25 11:30
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 96.4

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**3.6**	**H**	0.10	0.10	%			04/08/25 12:26	1
Percent Solids (EPA 1633)	**96**	**H**	0.10	0.10	%			04/08/25 12:26	1

Client Sample ID: JTA-009-N-S020-01172025

Lab Sample ID: 320-118424-22

Date Collected: 01/17/25 12:10
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 85.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorooctanesulfonic acid (PFOS)	**0.051**	**J**	0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.25	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.25	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1

Client Sample ID: JTA-009-N-S020-01172025
Date Collected: 01/17/25 12:10
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-22
Matrix: Solid
Percent Solids: 85.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.20	0.061	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND	*-	0.39	0.098	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	04/09/25 11:54	04/15/25 13:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*16.3*		*8 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C5 PFPeA	*69.6*		*35 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C5 PFHxA	*68.8*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C4 PFHpA	*81.0*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C8 PFOA	*74.1*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C9 PFNA	*67.5*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C6 PFDA	*78.6*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C7 PFUnA	*71.6*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C2 PFDoA	*73.2*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C2 PFTeDA	*56.4*		*20 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C3 PFBS	*59.8*		*40 - 135*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C3 PFHxS	*62.3*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C8 PFOS	*64.5*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C8 FOSA	*74.9*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
d3-NMeFOSAA	*76.0*		*40 - 135*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
d5-NEtFOSAA	*72.9*		*40 - 150*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C2 4:2 FTS	*65.3*		*40 - 165*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C2 6:2 FTS	*59.0*		*40 - 215*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C2 8:2 FTS	*52.1*		*40 - 275*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
13C3 HFPO-DA	*72.8*		*40 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
d7-N-MeFOSE-M	*52.5*		*20 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
d9-N-EtFOSE-M	*52.3*		*15 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
d5-NEtPFOSA	*66.4*		*10 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*
d3-NMePFOSA	*59.2*		*10 - 130*	*04/09/25 11:54*	*04/15/25 13:00*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND	H	0.40	0.10	ug/Kg	☼	04/21/25 04:10	04/22/25 13:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*89.4*		*35 - 130*	*04/21/25 04:10*	*04/22/25 13:15*	*1*

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-5

Client Sample ID: JTA-009-N-S020-01172025

Lab Sample ID: 320-118424-22
Date Collected: 01/17/25 12:10
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 85.7

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	14	H	0.10	0.10	%			04/08/25 12:26	1
Percent Solids (EPA 1633)	86	H	0.10	0.10	%			04/08/25 12:26	1

Client Sample ID: JTA-009-N-S030-01172025

Lab Sample ID: 320-118424-23
Date Collected: 01/17/25 12:15
Matrix: Solid
Date Received: 01/21/25 11:15

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	16	H	0.10	0.10	%			04/08/25 12:26	1
Percent Solids (EPA 1633)	84	H	0.10	0.10	%			04/08/25 12:26	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-5

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (8-130)	PFPeA (35-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (40-130)
320-118424-14	JTA-008-N-S017-01172025	21.6	80.7	71.9	77.3	84.0	69.6	75.0	70.6
320-118424-14 - RE	JTA-008-N-S017-01172025		92.7						
320-118424-14 - DL	JTA-008-N-S017-01172025								
320-118424-22	JTA-009-N-S020-01172025	16.3	69.6	68.8	81.0	74.1	67.5	78.6	71.6
320-118424-22 - RE	JTA-009-N-S020-01172025		89.4						
LCS 320-845047/3-A	Lab Control Sample	16.6	54.2	55.1	55.0	53.7	49.7	59.8	55.0
LCS 320-847070/3-A	Lab Control Sample		91.4						
LCSD 320-845047/4-A	Lab Control Sample Dup	24.1	85.2	86.0	94.6	86.2	76.3	80.7	80.1
LCSD 320-847070/4-A	Lab Control Sample Dup		92.7						
LLCS 320-845047/2-A	Lab Control Sample	19.4	83.5	68.7	87.0	78.6	67.1	76.1	76.7
LLCS 320-847070/2-A	Lab Control Sample		84.2						
MB 320-845047/1-A	Method Blank	16.9	74.2	74.7	80.9	76.6	66.8	78.3	70.6
MB 320-847070/1-A	Method Blank		89.4						

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (40-130)	PFTDA (20-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-135)	d5NEFOS (40-150)
320-118424-14	JTA-008-N-S017-01172025	74.0	56.7	69.8	62.3	68.6	82.8	85.7	85.6
320-118424-14 - RE	JTA-008-N-S017-01172025								
320-118424-14 - DL	JTA-008-N-S017-01172025					80.7 *3			
320-118424-22	JTA-009-N-S020-01172025	73.2	56.4	59.8	62.3	64.5	74.9	76.0	72.9
320-118424-22 - RE	JTA-009-N-S020-01172025								
LCS 320-845047/3-A	Lab Control Sample	61.3	51.4	50.5	46.2	48.8	54.1	61.4	55.6
LCS 320-847070/3-A	Lab Control Sample								
LCSD 320-845047/4-A	Lab Control Sample Dup	88.4	73.3	74.7	71.0	77.8	81.4	93.9	88.8
LCSD 320-847070/4-A	Lab Control Sample Dup								
LLCS 320-845047/2-A	Lab Control Sample	78.0	70.8	68.5	58.7	72.2	77.7	87.4	80.0
LLCS 320-847070/2-A	Lab Control Sample								
MB 320-845047/1-A	Method Blank	77.1	68.8	64.6	62.9	61.8	71.6	80.1	78.9
MB 320-847070/1-A	Method Blank								

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118424-14	JTA-008-N-S017-01172025	71.5	64.4	68.2	71.7	66.6	64.0	73.8	64.0
320-118424-14 - RE	JTA-008-N-S017-01172025								
320-118424-14 - DL	JTA-008-N-S017-01172025								
320-118424-22	JTA-009-N-S020-01172025	65.3	59.0	52.1	72.8	52.5	52.3	66.4	59.2
320-118424-22 - RE	JTA-009-N-S020-01172025								
LCS 320-845047/3-A	Lab Control Sample	53.6	52.2	51.2	51.2	41.8	39.6	46.7	39.2
LCS 320-847070/3-A	Lab Control Sample								
LCSD 320-845047/4-A	Lab Control Sample Dup	78.9	72.4	73.7	84.9	73.5	74.9	79.7	71.1
LCSD 320-847070/4-A	Lab Control Sample Dup								
LLCS 320-845047/2-A	Lab Control Sample	72.9	62.1	66.7	76.8	71.8	69.3	73.8	64.5
LLCS 320-847070/2-A	Lab Control Sample								
MB 320-845047/1-A	Method Blank	76.4	67.0	59.3	69.7	56.5	55.3	53.5	46.6
MB 320-847070/1-A	Method Blank								

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118424-5
Project/Site: Spokane International Airport

13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-845047/1-A
Matrix: Solid
Analysis Batch: 846428

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 845047

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-845047/1-A
Matrix: Solid
Analysis Batch: 846428

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 845047

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		04/09/25 11:54	04/15/25 11:21	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		04/09/25 11:54	04/15/25 11:21	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*16.9*		*8 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C5 PFPeA	*74.2*		*35 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C5 PFHxA	*74.7*		*40 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C4 PFHpA	*80.9*		*40 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C8 PFOA	*76.6*		*40 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C9 PFNA	*66.8*		*40 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C6 PFDA	*78.3*		*40 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C7 PFUnA	*70.6*		*40 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C2 PFDoA	*77.1*		*40 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C2 PFTeDA	*68.8*		*20 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C3 PFBS	*64.6*		*40 - 135*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C3 PFHxS	*62.9*		*40 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C8 PFOS	*61.8*		*40 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C8 FOSA	*71.6*		*40 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
d3-NMeFOSAA	*80.1*		*40 - 135*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
d5-NEtFOSAA	*78.9*		*40 - 150*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C2 4:2 FTS	*76.4*		*40 - 165*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C2 6:2 FTS	*67.0*		*40 - 215*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C2 8:2 FTS	*59.3*		*40 - 275*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
13C3 HFPO-DA	*69.7*		*40 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
d7-N-MeFOSE-M	*56.5*		*20 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
d9-N-EtFOSE-M	*55.3*		*15 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
d5-NEtPFOSA	*53.5*		*10 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*
d3-NMePFOSA	*46.6*		*10 - 130*	*04/09/25 11:54*	*04/15/25 11:21*	*1*

Lab Sample ID: LCS 320-845047/3-A
Matrix: Solid
Analysis Batch: 846428

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 845047

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.31		ug/Kg		86	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.20		ug/Kg		88	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.30		ug/Kg		92	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.55		ug/Kg		102	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.50		ug/Kg		100	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.60		ug/Kg		104	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.37		ug/Kg		95	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-845047/3-A
Matrix: Solid
Analysis Batch: 846428

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 845047

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.60		ug/Kg		104	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.58		ug/Kg		103	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.48		ug/Kg		99	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.48		ug/Kg		99	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	1.71		ug/Kg		77	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.30		ug/Kg		98	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.02		ug/Kg		89	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.69		ug/Kg		113	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.32		ug/Kg		100	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.56		ug/Kg		107	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.43		ug/Kg		101	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.41		ug/Kg		99	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.60		ug/Kg		98	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.23		ug/Kg		89	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.68		ug/Kg		98	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.57		ug/Kg		103	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	3.00		ug/Kg		120	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.40		ug/Kg		96	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.32		ug/Kg		93	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.26		ug/Kg		91	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.2		ug/Kg		90	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	10.8		ug/Kg		86	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.75		ug/Kg		93	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.51		ug/Kg		106	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	1.24		ug/Kg		49	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.23		ug/Kg		89	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	1.78		ug/Kg		71	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-845047/3-A
Matrix: Solid
Analysis Batch: 846428

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 845047

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.45		ug/Kg		105	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.37		ug/Kg		100	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.00		ug/Kg		90	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	1.76	*-	ug/Kg		35	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.8		ug/Kg		95	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	12.4		ug/Kg		99	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*16.6*		*8 - 130*
13C5 PFPeA	*54.2*		*35 - 130*
13C5 PFHxA	*55.1*		*40 - 130*
13C4 PFHpA	*55.0*		*40 - 130*
13C8 PFOA	*53.7*		*40 - 130*
13C9 PFNA	*49.7*		*40 - 130*
13C6 PFDA	*59.8*		*40 - 130*
13C7 PFUnA	*55.0*		*40 - 130*
13C2 PFDoA	*61.3*		*40 - 130*
13C2 PFTeDA	*51.4*		*20 - 130*
13C3 PFBS	*50.5*		*40 - 135*
13C3 PFHxS	*46.2*		*40 - 130*
13C8 PFOS	*48.8*		*40 - 130*
13C8 FOSA	*54.1*		*40 - 130*
d3-NMeFOSAA	*61.4*		*40 - 135*
d5-NEtFOSAA	*55.6*		*40 - 150*
13C2 4:2 FTS	*53.6*		*40 - 165*
13C2 6:2 FTS	*52.2*		*40 - 215*
13C2 8:2 FTS	*51.2*		*40 - 275*
13C3 HFPO-DA	*51.2*		*40 - 130*
d7-N-MeFOSE-M	*41.8*		*20 - 130*
d9-N-EtFOSE-M	*39.6*		*15 - 130*
d5-NEtPFOSA	*46.7*		*10 - 130*
d3-NMePFOSA	*39.2*		*10 - 130*

Lab Sample ID: LCSD 320-845047/4-A
Matrix: Solid
Analysis Batch: 846428

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 845047

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.88		ug/Kg		98	70 - 140	12	30
Perfluoropentanoic acid (PFPeA)			2.50	2.13		ug/Kg		85	60 - 150	3	30
Perfluorohexanoic acid (PFHxA)			2.50	2.39		ug/Kg		95	65 - 140	3	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.34		ug/Kg		94	65 - 145	9	30
Perfluorooctanoic acid (PFOA)			2.50	2.63		ug/Kg		105	70 - 150	5	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-845047/4-A
Matrix: Solid
Analysis Batch: 846428

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 845047

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.53		ug/Kg		101	70 - 155	2	30
Perfluorodecanoic acid (PFDA)	2.50	2.64		ug/Kg		106	70 - 155	11	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.52		ug/Kg		101	70 - 155	3	30
Perfluorododecanoic acid (PFDoA)	2.50	2.54		ug/Kg		102	70 - 150	1	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.61		ug/Kg		104	65 - 150	5	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.91		ug/Kg		116	65 - 150	16	30
Perfluorobutanesulfonic acid (PFBS)	2.22	1.81		ug/Kg		81	65 - 145	6	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.08		ug/Kg		89	55 - 160	10	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.00		ug/Kg		88	60 - 150	1	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.37		ug/Kg		100	65 - 155	13	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.17		ug/Kg		93	65 - 160	7	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.39		ug/Kg		99	55 - 140	7	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.49		ug/Kg		103	40 - 155	3	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.61		ug/Kg		108	25 - 160	8	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.45		ug/Kg		95	60 - 150	3	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.74		ug/Kg		100	55 - 200	11	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.69		ug/Kg		98	70 - 150	0	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.54		ug/Kg		102	70 - 140	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.74		ug/Kg		110	70 - 155	9	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.29		ug/Kg		92	70 - 140	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.31		ug/Kg		92	65 - 155	0	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.22		ug/Kg		89	65 - 165	2	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.3		ug/Kg		90	70 - 140	1	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	10.6		ug/Kg		85	70 - 135	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.73		ug/Kg		92	70 - 145	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.28		ug/Kg		96	70 - 160	10	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	1.29		ug/Kg		52	30 - 140	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.40		ug/Kg		96	60 - 150	8	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-845047/4-A
Matrix: Solid
Analysis Batch: 846428

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 845047

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.51	*1	ug/Kg		100	60 - 155	34	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.21		ug/Kg		95	70 - 150	10	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.26		ug/Kg		96	45 - 160	4	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.92		ug/Kg		86	70 - 140	4	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	1.60	*-	ug/Kg		32	45 - 130	10	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	12.4		ug/Kg		99	60 - 130	4	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	12.5		ug/Kg		100	60 - 150	1	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*24.1*		*8 - 130*
13C5 PFPeA	*85.2*		*35 - 130*
13C5 PFHxA	*86.0*		*40 - 130*
13C4 PFHpA	*94.6*		*40 - 130*
13C8 PFOA	*86.2*		*40 - 130*
13C9 PFNA	*76.3*		*40 - 130*
13C6 PFDA	*80.7*		*40 - 130*
13C7 PFUnA	*80.1*		*40 - 130*
13C2 PFDoA	*88.4*		*40 - 130*
13C2 PFTeDA	*73.3*		*20 - 130*
13C3 PFBS	*74.7*		*40 - 135*
13C3 PFHxS	*71.0*		*40 - 130*
13C8 PFOS	*77.8*		*40 - 130*
13C8 FOSA	*81.4*		*40 - 130*
d3-NMeFOSAA	*93.9*		*40 - 135*
d5-NEtFOSAA	*88.8*		*40 - 150*
13C2 4:2 FTS	*78.9*		*40 - 165*
13C2 6:2 FTS	*72.4*		*40 - 215*
13C2 8:2 FTS	*73.7*		*40 - 275*
13C3 HFPO-DA	*84.9*		*40 - 130*
d7-N-MeFOSE-M	*73.5*		*20 - 130*
d9-N-EtFOSE-M	*74.9*		*15 - 130*
d5-NEtPFOSA	*79.7*		*10 - 130*
d3-NMePFOSA	*71.1*		*10 - 130*

Lab Sample ID: LLCS 320-845047/2-A
Matrix: Solid
Analysis Batch: 846428

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 845047

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.847		ug/Kg		106	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.418		ug/Kg		105	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.437		ug/Kg		109	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-845047/2-A
Matrix: Solid
Analysis Batch: 846428

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 845047

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.396		ug/Kg		99	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.425		ug/Kg		106	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.445		ug/Kg		111	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.413		ug/Kg		103	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.419		ug/Kg		105	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.423		ug/Kg		106	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.433		ug/Kg		108	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.466		ug/Kg		116	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.319		ug/Kg		90	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.378		ug/Kg		100	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.380		ug/Kg		104	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.396		ug/Kg		104	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.378		ug/Kg		102	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.426		ug/Kg		111	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.428		ug/Kg		111	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.441		ug/Kg		114	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.800		ug/Kg		107	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.847		ug/Kg		111	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.849		ug/Kg		110	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.417		ug/Kg		104	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.460		ug/Kg		115	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.368		ug/Kg		92	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.385		ug/Kg		96	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.384		ug/Kg		96	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.95		ug/Kg		97	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	1.85		ug/Kg		93	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.296		ug/Kg		99	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.372		ug/Kg		98	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.199	J	ug/Kg		50	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-845047/2-A
Matrix: Solid
Analysis Batch: 846428

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 845047

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.400	0.369		ug/Kg		92	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.400	0.415		ug/Kg		104	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	0.374	0.395		ug/Kg		106	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	0.378	0.440		ug/Kg		116	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.357	0.400		ug/Kg		112	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.800	0.213	J *-	ug/Kg		27	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	2.00	2.43		ug/Kg		121	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	2.00	2.32		ug/Kg		116	60 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*19.4*		*8 - 130*
13C5 PFPeA	*83.5*		*35 - 130*
13C5 PFHxA	*68.7*		*40 - 130*
13C4 PFHpA	*87.0*		*40 - 130*
13C8 PFOA	*78.6*		*40 - 130*
13C9 PFNA	*67.1*		*40 - 130*
13C6 PFDA	*76.1*		*40 - 130*
13C7 PFUnA	*76.7*		*40 - 130*
13C2 PFDoA	*78.0*		*40 - 130*
13C2 PFTeDA	*70.8*		*20 - 130*
13C3 PFBS	*68.5*		*40 - 135*
13C3 PFHxS	*58.7*		*40 - 130*
13C8 PFOS	*72.2*		*40 - 130*
13C8 FOSA	*77.7*		*40 - 130*
d3-NMeFOSAA	*87.4*		*40 - 135*
d5-NEtFOSAA	*80.0*		*40 - 150*
13C2 4:2 FTS	*72.9*		*40 - 165*
13C2 6:2 FTS	*62.1*		*40 - 215*
13C2 8:2 FTS	*66.7*		*40 - 275*
13C3 HFPO-DA	*76.8*		*40 - 130*
d7-N-MeFOSE-M	*71.8*		*20 - 130*
d9-N-EtFOSE-M	*69.3*		*15 - 130*
d5-NEtPFOSA	*73.8*		*10 - 130*
d3-NMePFOSA	*64.5*		*10 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-847070/1-A
Matrix: Solid
Analysis Batch: 847416

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 847070

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		04/21/25 04:10	04/22/25 11:36	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*89.4*		*35 - 130*	*04/21/25 04:10*	*04/22/25 11:36*	*1*

Lab Sample ID: LCS 320-847070/3-A
Matrix: Solid
Analysis Batch: 847416

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 847070

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.87		ug/Kg		97	45 - 130		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C5 PFPeA	*91.4*		*35 - 130*

Lab Sample ID: LCSD 320-847070/4-A
Matrix: Solid
Analysis Batch: 847416

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 847070

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.88		ug/Kg		98	45 - 130	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C5 PFPeA	*92.7*		*35 - 130*

Lab Sample ID: LLCS 320-847070/2-A
Matrix: Solid
Analysis Batch: 847416

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 847070

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.849		ug/Kg		106	45 - 130		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C5 PFPeA	*84.2*		*35 - 130*

LCMS

Prep Batch: 845047

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-14 - DL	JTA-008-N-S017-01172025	Total/NA	Solid	1633 Shake	
320-118424-14	JTA-008-N-S017-01172025	Total/NA	Solid	1633 Shake	
320-118424-22	JTA-009-N-S020-01172025	Total/NA	Solid	1633 Shake	
MB 320-845047/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-845047/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-845047/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-845047/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 846428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-14	JTA-008-N-S017-01172025	Total/NA	Solid	1633	845047
320-118424-22	JTA-009-N-S020-01172025	Total/NA	Solid	1633	845047
MB 320-845047/1-A	Method Blank	Total/NA	Solid	1633	845047
LCS 320-845047/3-A	Lab Control Sample	Total/NA	Solid	1633	845047
LCSD 320-845047/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	845047
LLCS 320-845047/2-A	Lab Control Sample	Total/NA	Solid	1633	845047

Prep Batch: 847070

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-14 - RE	JTA-008-N-S017-01172025	Total/NA	Solid	1633 Shake	
320-118424-22 - RE	JTA-009-N-S020-01172025	Total/NA	Solid	1633 Shake	
MB 320-847070/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-847070/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-847070/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-847070/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 847416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-14 - RE	JTA-008-N-S017-01172025	Total/NA	Solid	1633	847070
320-118424-22 - RE	JTA-009-N-S020-01172025	Total/NA	Solid	1633	847070
MB 320-847070/1-A	Method Blank	Total/NA	Solid	1633	847070
LCS 320-847070/3-A	Lab Control Sample	Total/NA	Solid	1633	847070
LCSD 320-847070/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	847070
LLCS 320-847070/2-A	Lab Control Sample	Total/NA	Solid	1633	847070

Analysis Batch: 848753

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-14 - DL	JTA-008-N-S017-01172025	Total/NA	Solid	1633	845047

General Chemistry

Analysis Batch: 844782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-14	JTA-008-N-S017-01172025	Total/NA	Solid	1633	
320-118424-22	JTA-009-N-S020-01172025	Total/NA	Solid	1633	
320-118424-23	JTA-009-N-S030-01172025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-5

Client Sample ID: JTA-008-N-S017-01172025
Date Collected: 01/17/25 11:30
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			844782	04/08/25 12:26	JCB	EET SAC

Client Sample ID: JTA-008-N-S017-01172025
Date Collected: 01/17/25 11:30
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-14
Matrix: Solid
Percent Solids: 96.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	RE		2.10 g	5.0 mL	847070	04/21/25 04:10	RMF	EET SAC
Total/NA	Analysis	1633	RE	1			847416	04/22/25 12:58	RS1	EET SAC
Total/NA	Prep	1633 Shake	DL		2.12 g	5.0 mL	845047	04/09/25 11:54	ATB	EET SAC
Total/NA	Analysis	1633	DL	10			848753	04/30/25 00:27	K1D	EET SAC
Total/NA	Prep	1633 Shake			2.12 g	5.0 mL	845047	04/09/25 11:54	ATB	EET SAC
Total/NA	Analysis	1633		1			846428	04/15/25 12:43	N1K	EET SAC

Client Sample ID: JTA-009-N-S020-01172025
Date Collected: 01/17/25 12:10
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-22
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			844782	04/08/25 12:26	JCB	EET SAC

Client Sample ID: JTA-009-N-S020-01172025
Date Collected: 01/17/25 12:10
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-22
Matrix: Solid
Percent Solids: 85.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	RE		2.31 g	5.0 mL	847070	04/21/25 04:10	RMF	EET SAC
Total/NA	Analysis	1633	RE	1			847416	04/22/25 13:15	RS1	EET SAC
Total/NA	Prep	1633 Shake			2.37 g	5.0 mL	845047	04/09/25 11:54	ATB	EET SAC
Total/NA	Analysis	1633		1			846428	04/15/25 13:00	N1K	EET SAC

Client Sample ID: JTA-009-N-S030-01172025
Date Collected: 01/17/25 12:15
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-23
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			844782	04/08/25 12:26	JCB	EET SAC

Laboratory References:
EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118424-5
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture
1633		Solid	Percent Solids

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-5

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Job ID: 320-118424-5
Project/Site: Spokane International Airport

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118424-14	JTA-008-N-S017-01172025	Solid	01/17/25 11:30	01/21/25 11:15
320-118424-22	JTA-009-N-S020-01172025	Solid	01/17/25 12:10	01/21/25 11:15
320-118424-23	JTA-009-N-S030-01172025	Solid	01/17/25 12:15	01/21/25 11:15

Afsaneh Salimpour

From: Emily K. Stashak <ekstashak@gsi-net.com>
Sent: Tuesday, April 8, 2025 9:27 AM
To: Afsaneh Salimpour
Cc: Greer, Breeyn; Caleb Grant; Kenia Whitehead; Mass, Sarah
Subject: RE: Eurofins Environment Testing Northern California, LLC sample confirmation files from 320-118424-5 Spokane International Airport

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Hello Afsaneh,

After reviewing the files your re-transmitted this morning can we update job 320-118424-5?
I originally requested the extraction for all three samples but would like to update to run 1633 for two of those samples and hold the extraction for one sample.
See the table below for details.

Lab Sample #	Client Sample ID	1633_Final
320-118424-14	JTA-008-N-S017-01172025	Run
320-118424-22	JTA-009-N-S020-01172025	Run
320-118424-23	JTA-009-N-S030-01172025	HOLD

Apologies for the hassle, please let me know if you have any questions.

Best,

Emily K. Stashak
Environmental Scientist
GSI Environmental Inc.
O 512.346.4474 | **C** 832.295.1607

From: Afsaneh Salimpour <TALS@reports.et.eurofinsus.com>
Sent: Tuesday, April 8, 2025 10:56 AM
To: Greer, Breeyn <bgreer@haleyaldrich.com>; Caleb Grant <cgrant@gsi-net.com>; Emily K. Stashak <ekstashak@gsi-net.com>; Kenia Whitehead <kwhitehead@gsienv.com>; Mass, Sarah <smass@haleyaldrich.com>
Subject: Eurofins Environment Testing Northern California, LLC sample confirmation files from 320-118424-5 Spokane International Airport

Hello,

Attached please find the sample confirmation files for job 320-118424-5; Spokane International Airport

The samples were received on 1/21/2025 11:15 AM.

Please review the attachments for accuracy and notify your Project Manager of any discrepancies as quickly as possible.

Any discrepancies not communicated in a timely fashion could result in missed holding times, TAT delays and may potentially incur additional charges.

Please feel free to contact me if you have any questions.

Thank you.

Afsaneh F Salimpour
Project Manager

Eurofins Sacramento
Phone: 925-484-1919
Mobile: 925-212-8723

E-mail: Afsaneh.Salimpour@et.eurofinsus.com
www.eurofinsus.com/env

Reference: [320-680155]
Attachments: 2

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 4/4/2025 9:18:26 AM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118424-4

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

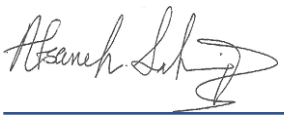
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-4

Qualifiers

LCMS

Qualifier	Qualifier Description
*3	ISTD response or retention time outside acceptable limits.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118424-4 — Eurofins Sacramento

Job Narrative
320-118424-4

Receipt
The samples were received on 1/21/2025 11:15 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.8º C.

LCMS
Method 1633: The low level continuing calibration verification (CCVL) associated with batch 320-843420 recovered above the upper control limit for Perfluoropentanoic acid (PFPeA). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: JTA-009-N-S015-01172025 (320-118424-21) and (CCVL 320-843420/2).

Method 1633: The transition mass ratio was outside of the established ratio limit for Perfluoropentanoic acid (PFPeA) and Perfluorooctanesulfonamide (PFOSA) in (CCVL 320-843420/2) associated to this data set. This is indicated by the "R" flag in the raw data. As the flagged data is in control in the low level continuing calibration verification (CCVL), there is no adverse impact to the data.

Method 1633: Internal standard (ISTD) response for the following sample was outside control limits: JTA-007-N-S013-01172025 (320-118424-7). The sample(s) was re-analyzed and ISTD response was outside control limits.

Method 1633: Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: JTA-007-N-S013-01172025 (320-118424-7). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 1633: Results for sample JTA-007-N-S013-01172025 (320-118424-7) and JTA-008-N-S015-01172025 (320-118424-13) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 28 days. The following samples in analytical batch 320-841927 were prepared and analyzed outside this time period : JTA-007-N-S013-01172025 (320-118424-7), JTA-008-N-S015-01172025 (320-118424-13) and JTA-009-N-S015-01172025 (320-118424-21).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-4

Client Sample ID: JTA-007-N-S013-01172025 — Lab Sample ID: 320-118424-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.11	J	0.39	0.098	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.29		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	2.1		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	5.0		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.55		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.082	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.067	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.13	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	5.9		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	5.9		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.49		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.13	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	1.7		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	580		9.8	2.4	ug/Kg	50	☼	1633	Total/NA

Client Sample ID: JTA-008-N-S015-01172025 — Lab Sample ID: 320-118424-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.15	J	0.39	0.099	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.32		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	1.9		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.21		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.66		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.75		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	1.2		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	4.4		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.054	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.17	J	0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA) - DL	40		3.9	1.2	ug/Kg	20	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	38		3.9	0.99	ug/Kg	20	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	120		3.9	0.99	ug/Kg	20	☼	1633	Total/NA

Client Sample ID: JTA-009-N-S015-01172025 — Lab Sample ID: 320-118424-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.068	J	0.19	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.23		0.19	0.048	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-4

Client Sample ID: JTA-007-N-S013-01172025
Date Collected: 01/17/25 10:35
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-7
Matrix: Solid
Percent Solids: 91.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.11**	**J**	0.39	0.098	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
Perfluoropentanoic acid (PFPeA)	**0.29**		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
Perfluorohexanoic acid (PFHxA)	**2.1**		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
Perfluorooctanoic acid (PFOA)	**5.0**		0.20	0.061	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
Perfluorononanoic acid (PFNA)	**0.55**		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
Perfluorodecanoic acid (PFDA)	**0.082**	**J**	0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
Perfluorobutanesulfonic acid (PFBS)	**0.067**	**J**	0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
Perfluoropentanesulfonic acid (PFPeS)	**0.13**	**J**	0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
Perfluorohexanesulfonic acid (PFHxS)	**5.9**		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
Perfluoroheptanesulfonic acid (PFHpS)	**5.9**		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
Perfluorononanesulfonic acid (PFNS)	**0.49**		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
Perfluorodecanesulfonic acid (PFDS)	**0.13**	**J**	0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
Perfluorooctanesulfonamide (PFOSA)	**1.7**		0.20	0.062	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.24	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.24	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1

Client Sample ID: JTA-007-N-S013-01172025

Date Collected: 01/17/25 10:35
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-7

Matrix: Solid
Percent Solids: 91.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.073	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	03/31/25 07:16	04/02/25 13:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*98.8*		*8 - 130*	*03/31/25 07:16*	*04/02/25 13:10*	*1*
13C5 PFPeA	*93.8*		*35 - 130*	*03/31/25 07:16*	*04/02/25 13:10*	*1*
13C5 PFHxA	*94.4*		*40 - 130*	*03/31/25 07:16*	*04/02/25 13:10*	*1*
13C4 PFHpA	*89.8*		*40 - 130*	*03/31/25 07:16*	*04/02/25 13:10*	*1*
13C8 PFOA	*96.6*		*40 - 130*	*03/31/25 07:16*	*04/02/25 13:10*	*1*
13C9 PFNA	*95.4*		*40 - 130*	*03/31/25 07:16*	*04/02/25 13:10*	*1*
13C6 PFDA	*80.7*		*40 - 130*	*03/31/25 07:16*	*04/02/25 13:10*	*1*
13C7 PFUnA	*75.7*		*40 - 130*	*03/31/25 07:16*	*04/02/25 13:10*	*1*
13C2 PFDoA	*69.8*		*40 - 130*	*03/31/25 07:16*	*04/02/25 13:10*	*1*
13C2 PFTeDA	*64.4*		*20 - 130*	*03/31/25 07:16*	*04/02/25 13:10*	*1*
13C3 PFBS	*78.8*		*40 - 135*	*03/31/25 07:16*	*04/02/25 13:10*	*1*
13C3 PFHxS	*81.0*		*40 - 130*	*03/31/25 07:16*	*04/02/25 13:10*	*1*
13C8 PFOS	*104*	**3*	*40 - 130*	*03/31/25 07:16*	*04/02/25 13:10*	*1*
13C8 FOSA	*178*	**5+ *3*	*40 - 130*	*03/31/25 07:16*	*04/02/25 13:10*	*1*
d3-NMeFOSAA	*209*	**5+ *3*	*40 - 135*	*03/31/25 07:16*	*04/02/25 13:10*	*1*
d5-NEtFOSAA	*196*	**5+ *3*	*40 - 150*	*03/31/25 07:16*	*04/02/25 13:10*	*1*
13C2 4:2 FTS	*81.8*		*40 - 165*	*03/31/25 07:16*	*04/02/25 13:10*	*1*
13C2 6:2 FTS	*81.1*		*40 - 215*	*03/31/25 07:16*	*04/02/25 13:10*	*1*
13C2 8:2 FTS	*85.7*		*40 - 275*	*03/31/25 07:16*	*04/02/25 13:10*	*1*
13C3 HFPO-DA	*98.5*		*40 - 130*	*03/31/25 07:16*	*04/02/25 13:10*	*1*
d7-N-MeFOSE-M	*151*	**5+ *3*	*20 - 130*	*03/31/25 07:16*	*04/02/25 13:10*	*1*
d9-N-EtFOSE-M	*124*	**3*	*15 - 130*	*03/31/25 07:16*	*04/02/25 13:10*	*1*
d5-NEtPFOSA	*131*	**5+ *3*	*10 - 130*	*03/31/25 07:16*	*04/02/25 13:10*	*1*
d3-NMePFOSA	*128*	**3*	*10 - 130*	*03/31/25 07:16*	*04/02/25 13:10*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**580**		9.8	2.4	ug/Kg	☼	03/31/25 07:16	04/03/25 09:27	50

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*75.4*	**3*	*40 - 130*	*03/31/25 07:16*	*04/03/25 09:27*	*50*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**8.6**	**H**	0.10	0.10	%			03/24/25 14:34	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-4

Client Sample ID: JTA-008-N-S015-01172025
Date Collected: 01/17/25 11:20
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-13
Matrix: Solid
Percent Solids: 95.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.15**	**J**	0.39	0.099	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
Perfluoropentanoic acid (PFPeA)	**0.32**		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
Perfluorohexanoic acid (PFHxA)	**1.9**		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
Perfluoroheptanoic acid (PFHpA)	**0.21**		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
Perfluorononanoic acid (PFNA)	**0.66**		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
Perfluorobutanesulfonic acid (PFBS)	**0.75**		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
Perfluoropentanesulfonic acid (PFPeS)	**1.2**		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
Perfluoroheptanesulfonic acid (PFHpS)	**4.4**		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
Perfluorononanesulfonic acid (PFNS)	**0.054**	**J**	0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.099	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.099	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.099	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
Perfluorooctanesulfonamide (PFOSA)	**0.17**	**J**	0.20	0.062	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1

Client Sample ID: JTA-008-N-S015-01172025

Date Collected: 01/17/25 11:20
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-13

Matrix: Solid
Percent Solids: 95.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.099	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	03/31/25 07:16	04/02/25 13:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*98.4*		*8 - 130*	*03/31/25 07:16*	*04/02/25 13:27*	*1*
13C5 PFPeA	*97.6*		*35 - 130*	*03/31/25 07:16*	*04/02/25 13:27*	*1*
13C5 PFHxA	*100*		*40 - 130*	*03/31/25 07:16*	*04/02/25 13:27*	*1*
13C4 PFHpA	*102*		*40 - 130*	*03/31/25 07:16*	*04/02/25 13:27*	*1*
13C9 PFNA	*88.8*		*40 - 130*	*03/31/25 07:16*	*04/02/25 13:27*	*1*
13C6 PFDA	*84.8*		*40 - 130*	*03/31/25 07:16*	*04/02/25 13:27*	*1*
13C7 PFUnA	*79.6*		*40 - 130*	*03/31/25 07:16*	*04/02/25 13:27*	*1*
13C2 PFDoA	*70.0*		*40 - 130*	*03/31/25 07:16*	*04/02/25 13:27*	*1*
13C2 PFTeDA	*70.5*		*20 - 130*	*03/31/25 07:16*	*04/02/25 13:27*	*1*
13C3 PFBS	*85.3*		*40 - 135*	*03/31/25 07:16*	*04/02/25 13:27*	*1*
13C3 PFHxS	*78.5*		*40 - 130*	*03/31/25 07:16*	*04/02/25 13:27*	*1*
13C8 PFOS	*91.7*		*40 - 130*	*03/31/25 07:16*	*04/02/25 13:27*	*1*
13C8 FOSA	*103*		*40 - 130*	*03/31/25 07:16*	*04/02/25 13:27*	*1*
d3-NMeFOSAA	*113*		*40 - 135*	*03/31/25 07:16*	*04/02/25 13:27*	*1*
d5-NEtFOSAA	*109*		*40 - 150*	*03/31/25 07:16*	*04/02/25 13:27*	*1*
13C2 4:2 FTS	*95.3*		*40 - 165*	*03/31/25 07:16*	*04/02/25 13:27*	*1*
13C2 6:2 FTS	*106*		*40 - 215*	*03/31/25 07:16*	*04/02/25 13:27*	*1*
13C2 8:2 FTS	*90.5*		*40 - 275*	*03/31/25 07:16*	*04/02/25 13:27*	*1*
13C3 HFPO-DA	*99.4*		*40 - 130*	*03/31/25 07:16*	*04/02/25 13:27*	*1*
d7-N-MeFOSE-M	*84.5*		*20 - 130*	*03/31/25 07:16*	*04/02/25 13:27*	*1*
d9-N-EtFOSE-M	*57.7*		*15 - 130*	*03/31/25 07:16*	*04/02/25 13:27*	*1*
d5-NEtPFOSA	*72.7*		*10 - 130*	*03/31/25 07:16*	*04/02/25 13:27*	*1*
d3-NMePFOSA	*70.3*		*10 - 130*	*03/31/25 07:16*	*04/02/25 13:27*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	**40**		3.9	1.2	ug/Kg	☼	03/31/25 07:16	04/03/25 13:38	20
Perfluorohexanesulfonic acid (PFHxS)	**38**		3.9	0.99	ug/Kg	☼	03/31/25 07:16	04/03/25 13:38	20
Perfluorooctanesulfonic acid (PFOS)	**120**		3.9	0.99	ug/Kg	☼	03/31/25 07:16	04/03/25 13:38	20

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOA	*101*	**3*	*40 - 130*	*03/31/25 07:16*	*04/03/25 13:38*	*20*
13C3 PFHxS	*85.9*	**3*	*40 - 130*	*03/31/25 07:16*	*04/03/25 13:38*	*20*
13C8 PFOS	*87.5*	**3*	*40 - 130*	*03/31/25 07:16*	*04/03/25 13:38*	*20*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**4.7**	**H**	0.10	0.10	%			03/24/25 14:34	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-4

Client Sample ID: JTA-009-N-S015-01172025
Date Collected: 01/17/25 12:05
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-21
Matrix: Solid
Percent Solids: 85.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.097	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
Perfluoropentanoic acid (PFPeA)	ND	^+	0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
Perfluorooctanoic acid (PFOA)	**0.068**	**J**	0.19	0.060	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
Perfluorohexanesulfonic acid (PFHxS)	**0.23**		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.097	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.097	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1

Client Sample ID: JTA-009-N-S015-01172025
Lab Sample ID: 320-118424-21

Date Collected: 01/17/25 12:05
Matrix: Solid

Date Received: 01/21/25 11:15
Percent Solids: 85.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.072	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	03/31/25 07:16	04/01/25 05:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*84.1*		*8 - 130*	*03/31/25 07:16*	*04/01/25 05:32*	*1*
13C5 PFPeA	*69.7*		*35 - 130*	*03/31/25 07:16*	*04/01/25 05:32*	*1*
13C5 PFHxA	*82.2*		*40 - 130*	*03/31/25 07:16*	*04/01/25 05:32*	*1*
13C4 PFHpA	*81.1*		*40 - 130*	*03/31/25 07:16*	*04/01/25 05:32*	*1*
13C8 PFOA	*80.7*		*40 - 130*	*03/31/25 07:16*	*04/01/25 05:32*	*1*
13C9 PFNA	*79.0*		*40 - 130*	*03/31/25 07:16*	*04/01/25 05:32*	*1*
13C6 PFDA	*67.0*		*40 - 130*	*03/31/25 07:16*	*04/01/25 05:32*	*1*
13C7 PFUnA	*55.3*		*40 - 130*	*03/31/25 07:16*	*04/01/25 05:32*	*1*
13C2 PFDoA	*44.6*		*40 - 130*	*03/31/25 07:16*	*04/01/25 05:32*	*1*
13C2 PFTeDA	*41.7*		*20 - 130*	*03/31/25 07:16*	*04/01/25 05:32*	*1*
13C3 PFBS	*71.4*		*40 - 135*	*03/31/25 07:16*	*04/01/25 05:32*	*1*
13C3 PFHxS	*70.2*		*40 - 130*	*03/31/25 07:16*	*04/01/25 05:32*	*1*
13C8 PFOS	*66.2*		*40 - 130*	*03/31/25 07:16*	*04/01/25 05:32*	*1*
13C8 FOSA	*57.7*		*40 - 130*	*03/31/25 07:16*	*04/01/25 05:32*	*1*
d3-NMeFOSAA	*51.7*		*40 - 135*	*03/31/25 07:16*	*04/01/25 05:32*	*1*
d5-NEtFOSAA	*47.6*		*40 - 150*	*03/31/25 07:16*	*04/01/25 05:32*	*1*
13C2 4:2 FTS	*52.2*		*40 - 165*	*03/31/25 07:16*	*04/01/25 05:32*	*1*
13C2 6:2 FTS	*51.9*		*40 - 215*	*03/31/25 07:16*	*04/01/25 05:32*	*1*
13C2 8:2 FTS	*51.0*		*40 - 275*	*03/31/25 07:16*	*04/01/25 05:32*	*1*
13C3 HFPO-DA	*83.0*		*40 - 130*	*03/31/25 07:16*	*04/01/25 05:32*	*1*
d7-N-MeFOSE-M	*47.1*		*20 - 130*	*03/31/25 07:16*	*04/01/25 05:32*	*1*
d9-N-EtFOSE-M	*43.1*		*15 - 130*	*03/31/25 07:16*	*04/01/25 05:32*	*1*
d5-NEtPFOSA	*40.9*		*10 - 130*	*03/31/25 07:16*	*04/01/25 05:32*	*1*
d3-NMePFOSA	*42.2*		*10 - 130*	*03/31/25 07:16*	*04/01/25 05:32*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**15**	**H**	0.10	0.10	%			03/24/25 14:34	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-4

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (8-130)	PFPeA (35-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (40-130)
320-118424-7	JTA-007-N-S013-01172025	98.8	93.8	94.4	89.8	96.6	95.4	80.7	75.7
320-118424-7 - DL	JTA-007-N-S013-01172025								
320-118424-13	JTA-008-N-S015-01172025	98.4	97.6	100	102		88.8	84.8	79.6
320-118424-13 - DL	JTA-008-N-S015-01172025					101 *3			
320-118424-21	JTA-009-N-S015-01172025	84.1	69.7	82.2	81.1	80.7	79.0	67.0	55.3
LCS 320-843241/3-A	Lab Control Sample	94.9	76.7	95.7	99.1	98.9	95.6	92.6	83.3
LCSD 320-843241/4-A	Lab Control Sample Dup	93.8	75.6	94.6	96.3	93.0	91.9	92.5	85.1
LLCS 320-843241/2-A	Lab Control Sample	97.8	76.3	96.9	99.5	92.7	95.3	89.7	81.2
MB 320-843241/1-A	Method Blank	97.4	75.7	94.0	103	97.1	94.2	89.8	75.6

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (40-130)	PFTDA (20-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-135)	d5NEFOS (40-150)
320-118424-7	JTA-007-N-S013-01172025	69.8	64.4	78.8	81.0	104 *3	178 *5+ *3	209 *5+ *3	196 *5+ *3
320-118424-7 - DL	JTA-007-N-S013-01172025					75.4 *3			
320-118424-13	JTA-008-N-S015-01172025	70.0	70.5	85.3	78.5	91.7	103	113	109
320-118424-13 - DL	JTA-008-N-S015-01172025				85.9 *3	87.5 *3			
320-118424-21	JTA-009-N-S015-01172025	44.6	41.7	71.4	70.2	66.2	57.7	51.7	47.6
LCS 320-843241/3-A	Lab Control Sample	75.0	62.2	87.1	87.5	84.3	78.1	78.6	72.3
LCSD 320-843241/4-A	Lab Control Sample Dup	82.1	68.0	92.5	83.6	82.1	87.9	81.2	77.1
LLCS 320-843241/2-A	Lab Control Sample	85.1	70.9	83.3	83.5	84.3	87.7	82.6	79.5
MB 320-843241/1-A	Method Blank	66.7	60.5	83.8	86.1	85.6	75.2	75.1	68.9

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118424-7	JTA-007-N-S013-01172025	81.8	81.1	85.7	98.5	151 *5+ *3	124 *3	131 *5+ *3	128 *3
320-118424-7 - DL	JTA-007-N-S013-01172025								
320-118424-13	JTA-008-N-S015-01172025	95.3	106	90.5	99.4	84.5	57.7	72.7	70.3
320-118424-13 - DL	JTA-008-N-S015-01172025								
320-118424-21	JTA-009-N-S015-01172025	52.2	51.9	51.0	83.0	47.1	43.1	40.9	42.2
LCS 320-843241/3-A	Lab Control Sample	74.0	68.7	70.9	105	63.7	60.2	56.5	55.6
LCSD 320-843241/4-A	Lab Control Sample Dup	70.8	70.1	76.1	104	69.2	71.3	63.4	57.4
LLCS 320-843241/2-A	Lab Control Sample	70.9	65.6	76.9	102	80.0	76.4	58.6	58.0
MB 320-843241/1-A	Method Blank	67.7	68.5	72.0	105	58.4	60.5	54.6	52.0

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118424-4
Project/Site: Spokane International Airport

PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-843241/1-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 843241

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-843241/1-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 843241

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 02:32	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*97.4*		*8 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C5 PFPeA	*75.7*		*35 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C5 PFHxA	*94.0*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C4 PFHpA	*103*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C8 PFOA	*97.1*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C9 PFNA	*94.2*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C6 PFDA	*89.8*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C7 PFUnA	*75.6*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 PFDoA	*66.7*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 PFTeDA	*60.5*		*20 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C3 PFBS	*83.8*		*40 - 135*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C3 PFHxS	*86.1*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C8 PFOS	*85.6*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C8 FOSA	*75.2*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d3-NMeFOSAA	*75.1*		*40 - 135*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d5-NEtFOSAA	*68.9*		*40 - 150*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 4:2 FTS	*67.7*		*40 - 165*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 6:2 FTS	*68.5*		*40 - 215*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 8:2 FTS	*72.0*		*40 - 275*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C3 HFPO-DA	*105*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d7-N-MeFOSE-M	*58.4*		*20 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d9-N-EtFOSE-M	*60.5*		*15 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d5-NEtPFOSA	*54.6*		*10 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d3-NMePFOSA	*52.0*		*10 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*

Lab Sample ID: LCS 320-843241/3-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.68		ug/Kg		94	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.96		ug/Kg		118	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.31		ug/Kg		92	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.48		ug/Kg		99	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.42		ug/Kg		97	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.51		ug/Kg		101	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.51		ug/Kg		101	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-843241/3-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.63		ug/Kg		105	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.51		ug/Kg		100	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.70		ug/Kg		108	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	3.03		ug/Kg		121	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.07		ug/Kg		93	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.17		ug/Kg		92	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.03		ug/Kg		89	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.53		ug/Kg		106	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.17		ug/Kg		93	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.38		ug/Kg		99	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.09		ug/Kg		87	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	1.91		ug/Kg		79	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.09		ug/Kg		87	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.54		ug/Kg		95	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.57		ug/Kg		95	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.39		ug/Kg		96	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.45		ug/Kg		98	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.26		ug/Kg		90	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.19		ug/Kg		88	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.21		ug/Kg		88	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.1		ug/Kg		97	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.5		ug/Kg		100	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.66		ug/Kg		89	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	1.87		ug/Kg		79	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.57		ug/Kg		103	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.96		ug/Kg		118	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.17		ug/Kg		87	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-843241/3-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.07		ug/Kg		89	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.70		ug/Kg		72	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.99		ug/Kg		89	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.25		ug/Kg		105	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.8		ug/Kg		86	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.4		ug/Kg		91	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*94.9*		*8 - 130*
13C5 PFPeA	*76.7*		*35 - 130*
13C5 PFHxA	*95.7*		*40 - 130*
13C4 PFHpA	*99.1*		*40 - 130*
13C8 PFOA	*98.9*		*40 - 130*
13C9 PFNA	*95.6*		*40 - 130*
13C6 PFDA	*92.6*		*40 - 130*
13C7 PFUnA	*83.3*		*40 - 130*
13C2 PFDoA	*75.0*		*40 - 130*
13C2 PFTeDA	*62.2*		*20 - 130*
13C3 PFBS	*87.1*		*40 - 135*
13C3 PFHxS	*87.5*		*40 - 130*
13C8 PFOS	*84.3*		*40 - 130*
13C8 FOSA	*78.1*		*40 - 130*
d3-NMeFOSAA	*78.6*		*40 - 135*
d5-NEtFOSAA	*72.3*		*40 - 150*
13C2 4:2 FTS	*74.0*		*40 - 165*
13C2 6:2 FTS	*68.7*		*40 - 215*
13C2 8:2 FTS	*70.9*		*40 - 275*
13C3 HFPO-DA	*105*		*40 - 130*
d7-N-MeFOSE-M	*63.7*		*20 - 130*
d9-N-EtFOSE-M	*60.2*		*15 - 130*
d5-NEtPFOSA	*56.5*		*10 - 130*
d3-NMePFOSA	*55.6*		*10 - 130*

Lab Sample ID: LCSD 320-843241/4-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.58		ug/Kg		92	70 - 140	2	30
Perfluoropentanoic acid (PFPeA)			2.50	2.90		ug/Kg		116	60 - 150	2	30
Perfluorohexanoic acid (PFHxA)			2.50	2.30		ug/Kg		92	65 - 140	0	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.49		ug/Kg		100	65 - 145	0	30
Perfluorooctanoic acid (PFOA)			2.50	2.49		ug/Kg		99	70 - 150	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-843241/4-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.57		ug/Kg		103	70 - 155	2	30
Perfluorodecanoic acid (PFDA)	2.50	2.67		ug/Kg		107	70 - 155	6	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.64		ug/Kg		105	70 - 155	0	30
Perfluorododecanoic acid (PFDoA)	2.50	2.49		ug/Kg		100	70 - 150	1	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.57		ug/Kg		103	65 - 150	5	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.95		ug/Kg		118	65 - 150	3	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.01		ug/Kg		90	65 - 145	3	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.20		ug/Kg		94	55 - 160	1	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.11		ug/Kg		93	60 - 150	4	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.62		ug/Kg		110	65 - 155	4	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.29		ug/Kg		98	65 - 160	6	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.48		ug/Kg		103	55 - 140	4	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.24		ug/Kg		93	40 - 155	7	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.09		ug/Kg		86	25 - 160	9	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.52		ug/Kg		96	60 - 150	10	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.39		ug/Kg		92	55 - 200	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.48		ug/Kg		93	70 - 150	2	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.45		ug/Kg		98	70 - 140	2	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.54		ug/Kg		101	70 - 155	3	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.18		ug/Kg		87	70 - 140	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.28		ug/Kg		91	65 - 155	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.22		ug/Kg		89	65 - 165	0	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.6		ug/Kg		101	70 - 140	4	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	11.5		ug/Kg		92	70 - 135	8	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.63		ug/Kg		87	70 - 145	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	1.84		ug/Kg		78	70 - 160	1	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.44		ug/Kg		98	30 - 140	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.77		ug/Kg		111	60 - 150	6	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-843241/4-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.22		ug/Kg		89	60 - 155	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	1.94		ug/Kg		83	70 - 150	7	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.61		ug/Kg		68	45 - 160	5	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.97		ug/Kg		88	70 - 140	1	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.17		ug/Kg		103	45 - 130	2	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.8		ug/Kg		87	60 - 130	0	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 150	1	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*93.8*		*8 - 130*
13C5 PFPeA	*75.6*		*35 - 130*
13C5 PFHxA	*94.6*		*40 - 130*
13C4 PFHpA	*96.3*		*40 - 130*
13C8 PFOA	*93.0*		*40 - 130*
13C9 PFNA	*91.9*		*40 - 130*
13C6 PFDA	*92.5*		*40 - 130*
13C7 PFUnA	*85.1*		*40 - 130*
13C2 PFDoA	*82.1*		*40 - 130*
13C2 PFTeDA	*68.0*		*20 - 130*
13C3 PFBS	*92.5*		*40 - 135*
13C3 PFHxS	*83.6*		*40 - 130*
13C8 PFOS	*82.1*		*40 - 130*
13C8 FOSA	*87.9*		*40 - 130*
d3-NMeFOSAA	*81.2*		*40 - 135*
d5-NEtFOSAA	*77.1*		*40 - 150*
13C2 4:2 FTS	*70.8*		*40 - 165*
13C2 6:2 FTS	*70.1*		*40 - 215*
13C2 8:2 FTS	*76.1*		*40 - 275*
13C3 HFPO-DA	*104*		*40 - 130*
d7-N-MeFOSE-M	*69.2*		*20 - 130*
d9-N-EtFOSE-M	*71.3*		*15 - 130*
d5-NEtPFOSA	*63.4*		*10 - 130*
d3-NMePFOSA	*57.4*		*10 - 130*

Lab Sample ID: LLCS 320-843241/2-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.807		ug/Kg		101	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.501		ug/Kg		125	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.408		ug/Kg		102	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-843241/2-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.419		ug/Kg		105	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.447		ug/Kg		112	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.441		ug/Kg		110	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.438		ug/Kg		110	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.437		ug/Kg		109	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.423		ug/Kg		106	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.473		ug/Kg		118	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.545		ug/Kg		136	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.336		ug/Kg		94	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.372		ug/Kg		99	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.349		ug/Kg		96	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.438		ug/Kg		115	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.373		ug/Kg		100	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.414		ug/Kg		107	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.379		ug/Kg		98	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.409		ug/Kg		105	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.754		ug/Kg		101	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.726		ug/Kg		95	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.738		ug/Kg		96	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.404		ug/Kg		101	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.403		ug/Kg		101	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.394		ug/Kg		98	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.399		ug/Kg		100	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.357		ug/Kg		89	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	2.01		ug/Kg		100	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.15		ug/Kg		107	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.291		ug/Kg		97	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.334		ug/Kg		88	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.436		ug/Kg		109	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-843241/2-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.484		ug/Kg		121	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.350		ug/Kg		87	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.364		ug/Kg		97	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.338		ug/Kg		90	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.319		ug/Kg		89	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.848		ug/Kg		106	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	1.81		ug/Kg		91	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	1.99		ug/Kg		100	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*97.8*		*8 - 130*
13C5 PFPeA	*76.3*		*35 - 130*
13C5 PFHxA	*96.9*		*40 - 130*
13C4 PFHpA	*99.5*		*40 - 130*
13C8 PFOA	*92.7*		*40 - 130*
13C9 PFNA	*95.3*		*40 - 130*
13C6 PFDA	*89.7*		*40 - 130*
13C7 PFUnA	*81.2*		*40 - 130*
13C2 PFDoA	*85.1*		*40 - 130*
13C2 PFTeDA	*70.9*		*20 - 130*
13C3 PFBS	*83.3*		*40 - 135*
13C3 PFHxS	*83.5*		*40 - 130*
13C8 PFOS	*84.3*		*40 - 130*
13C8 FOSA	*87.7*		*40 - 130*
d3-NMeFOSAA	*82.6*		*40 - 135*
d5-NEtFOSAA	*79.5*		*40 - 150*
13C2 4:2 FTS	*70.9*		*40 - 165*
13C2 6:2 FTS	*65.6*		*40 - 215*
13C2 8:2 FTS	*76.9*		*40 - 275*
13C3 HFPO-DA	*102*		*40 - 130*
d7-N-MeFOSE-M	*80.0*		*20 - 130*
d9-N-EtFOSE-M	*76.4*		*15 - 130*
d5-NEtPFOSA	*58.6*		*10 - 130*
d3-NMePFOSA	*58.0*		*10 - 130*

LCMS

Prep Batch: 843241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-7	JTA-007-N-S013-01172025	Total/NA	Solid	1633 Shake	
320-118424-7 - DL	JTA-007-N-S013-01172025	Total/NA	Solid	1633 Shake	
320-118424-13	JTA-008-N-S015-01172025	Total/NA	Solid	1633 Shake	
320-118424-13 - DL	JTA-008-N-S015-01172025	Total/NA	Solid	1633 Shake	
320-118424-21	JTA-009-N-S015-01172025	Total/NA	Solid	1633 Shake	
MB 320-843241/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-843241/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-843241/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-843241/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 843420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-21	JTA-009-N-S015-01172025	Total/NA	Solid	1633	843241
MB 320-843241/1-A	Method Blank	Total/NA	Solid	1633	843241
LCS 320-843241/3-A	Lab Control Sample	Total/NA	Solid	1633	843241
LCSD 320-843241/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	843241
LLCS 320-843241/2-A	Lab Control Sample	Total/NA	Solid	1633	843241

Analysis Batch: 843806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-7	JTA-007-N-S013-01172025	Total/NA	Solid	1633	843241
320-118424-13	JTA-008-N-S015-01172025	Total/NA	Solid	1633	843241

Analysis Batch: 844031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-7 - DL	JTA-007-N-S013-01172025	Total/NA	Solid	1633	843241

Analysis Batch: 844066

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-13 - DL	JTA-008-N-S015-01172025	Total/NA	Solid	1633	843241

General Chemistry

Analysis Batch: 841927

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-7	JTA-007-N-S013-01172025	Total/NA	Solid	1633	
320-118424-13	JTA-008-N-S015-01172025	Total/NA	Solid	1633	
320-118424-21	JTA-009-N-S015-01172025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118424-4
Project/Site: Spokane International Airport

Client Sample ID: JTA-007-N-S013-01172025
Lab Sample ID: 320-118424-7
Date Collected: 01/17/25 10:35
Matrix: Solid
Date Received: 01/21/25 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			841927	03/24/25 14:34	CFR	EET SAC

Client Sample ID: JTA-007-N-S013-01172025
Lab Sample ID: 320-118424-7
Date Collected: 01/17/25 10:35
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 91.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.24 g	5.0 mL	843241	03/31/25 07:16	CGL	EET SAC
Total/NA	Analysis	1633		1			843806	04/02/25 13:10	RS1	EET SAC
Total/NA	Prep	1633 Shake	DL		2.24 g	5.0 mL	843241	03/31/25 07:16	CGL	EET SAC
Total/NA	Analysis	1633	DL	50			844031	04/03/25 09:27	EMF	EET SAC

Client Sample ID: JTA-008-N-S015-01172025
Lab Sample ID: 320-118424-13
Date Collected: 01/17/25 11:20
Matrix: Solid
Date Received: 01/21/25 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			841927	03/24/25 14:34	CFR	EET SAC

Client Sample ID: JTA-008-N-S015-01172025
Lab Sample ID: 320-118424-13
Date Collected: 01/17/25 11:20
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 95.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.13 g	5.0 mL	843241	03/31/25 07:16	CGL	EET SAC
Total/NA	Analysis	1633		1			843806	04/02/25 13:27	RS1	EET SAC
Total/NA	Prep	1633 Shake	DL		2.13 g	5.0 mL	843241	03/31/25 07:16	CGL	EET SAC
Total/NA	Analysis	1633	DL	20			844066	04/03/25 13:38	EJR	EET SAC

Client Sample ID: JTA-009-N-S015-01172025
Lab Sample ID: 320-118424-21
Date Collected: 01/17/25 12:05
Matrix: Solid
Date Received: 01/21/25 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			841927	03/24/25 14:34	CFR	EET SAC

Client Sample ID: JTA-009-N-S015-01172025
Lab Sample ID: 320-118424-21
Date Collected: 01/17/25 12:05
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 85.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.43 g	5.0 mL	843241	03/31/25 07:16	CGL	EET SAC
Total/NA	Analysis	1633		1			843420	04/01/25 05:32	N1K	EET SAC

Laboratory References:
EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118424-4
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-4

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Job ID: 320-118424-4
Project/Site: Spokane International Airport

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118424-7	JTA-007-N-S013-01172025	Solid	01/17/25 10:35	01/21/25 11:15
320-118424-13	JTA-008-N-S015-01172025	Solid	01/17/25 11:20	01/21/25 11:15
320-118424-21	JTA-009-N-S015-01172025	Solid	01/17/25 12:05	01/21/25 11:15

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	1/20/25
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	standard
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	Number of Containers
JTA-007-N-S000-01172025	1/17/2025	0950	Soil		1
JTA-007-N-S001-01172025	1/17/2025	0955	Soil	x	1
JTA-007-N-S003-01172025	1/17/2025	1000	Soil	x	1
JTA-007-FD-S003-01172025	1/17/2025	1030	Soil	x	1
JTA-007-N-S006-01172025	1/17/2025	1005	Soil		1
JTA-007-N-S010-01172025	1/17/2025	1010	Soil		1
JTA-007-N-S013-01172025	1/17/2025	1035	Soil		1
JTA-008-N-S000-01172025	1/17/2025	1055	Soil		1
JTA-008-N-S001-01172025	1/17/2025	1100	Soil	x	1
JTA-008-N-S003-01172025	1/17/2025	1105	Soil	x	1

320-118424 Chain of Custody

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

- PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

- TOC: Total Organic Carbon

3.3, 3.7 cor 1R0606

0.4, 0.8 cor 1R0606

Sampled and Relinquished by	Received by
Sign Breeyn Greer	Sign
Print Breeyn Greer	Print Macky Moms
Firm HA	Firm EST SPO
Date 1/20/25 Time 0940	Date 1/20/25 840
Relinquished by	**Received by**
Sign	Sign
Print Macky Moms	Print PIOR SOTO
Firm EST SPO	Firm EETSAC
Date 1/20/25 Time 1457	Date 1/21/25 1115
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	SOLID
VOA Vial	VOA Vial
Amber Glass	Amber Glass
Plastic Bottle	Clear Glass
Preservative	Preservative
Volume	Volume

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are requir

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

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November 2024

4.8C

Form 3003

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	1/20/25
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	standard
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	Number of Containers
JTA-008-N-S006-01172025	1/17/2025	1110	Soil		1
JTA-008-N-S010-01172025	1/17/2025	1115	Soil		1
JTA-008-N-S015-01172025	1/17/2025	1120	Soil		1
JTA-008-N-S017-01172025	1/17/2025	1130	Soil		1
JTA-009-N-S000-01172025	1/17/2025	1140	Soil		1
JTA-009-N-S001-01172025	1/17/2025	1145	Soil	X	1
JTA-009-N-S003-01172025	1/17/2025	1150	Soil	X	1
JTA-009-FD-S003-01172025	1/17/2025	1220	Soil	X	1
JTA-009-N-S006-01172025	1/17/2025	1155	Soil		1
JTA-009-N-S010-01172025	1/17/2025	1200	Soil		1

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

3. 340.8 can IRODL

Sampled and Relinquished by	Received by
Sign Breeyn Greer	Sign
Print Breeyn Greer	Print Macky Morris
Firm HA	Firm EETSPO
Date 1/20/25 Time 0040	Date 1/20/25 0840
Relinquished by	**Received by**
Sign Macky Morris	Sign
Print Macky Morris	Print FLV SOTO
Firm EETSPO	Firm EETSAC
Date 1/20/25 Time 1457	Date 1/21/25 1115
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

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_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are requir

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

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November 2024

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HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	1/20/25
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	Standard
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
JTA-009-N-S015-01172025	1/17/2025	1205	Soil		1
JTA-009-N-S020-01172025	1/17/2025	1210	Soil		1
JTA-009-N-S030-01172025	1/17/2025	1215	Soil		1
RT-003-N-S000-01172025	1/17/2025	1405	Soil		1
RT-003-N-S001-01172025	1/17/2025	1410	Soil	X	1
RT-003-N-S003-01172025	1/17/2025	1415	Soil	X	1
RT-003-FD-S003-01172025	1/17/2025	1420	Soil	X	1
RT-003-N-S006-01172025	1/17/2025	1425	Soil		1
RT-003-N-S010-01172025	1/17/2025	1430	Soil		1
RT-003-N-S015-01172025	1/17/2025	1435	Soil		1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

3.7 + 0.8 con IR006

Sampled and Relinquished by	Received by
Sign Breeyn Greer	Sign
Print Breeyn Greer	Print Macky Morris
Firm HA	Firm EETSAC
Date 1/20/25 Time 0040	Date 1/20/25 840
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print MW SOTO
Firm EETSAC	Firm EETSAC
Date 1/20/25 Time 1457	Date 1/21/25 1115
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

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Required Reporting Limits and Data Quality Objectives

☐ RC-S1	☐ S1	☐ GW1
☐ RC-S2	☐ S2	☐ GW2
☐ RC-GW1	☐ S3	☐ GW3
☐ RC-GW2		

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November 2024

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Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-001
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 11922 E 1st Ave, Spokane Valley, WA 99206
CONTACT Randee Arrington

DELIVERY DATE 1/20/25
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	Number of Containers
RT-003-N-S020-01172025	1/17/2025	1440	Soil		1
RT-003-N-S030-01172025	1/17/2025	1445	Soil		1

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento
Laboratory to use applicable DEP CAM methods, unless otherwise directed.
– TOC: Total Organic Carbon

3.7 + 0.8 wet IP006

Sampled and Relinquished by	Received by
Sign Breeyn Greer	Sign
Print Breeyn Greer	Print Macky Morris
Firm HA	Firm EEI SAC
Date 1/20/25 Time 0940	Date 1/20/25 1440
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Pilar Soto
Firm EEI SAC	Firm EEI SAC
Date 1/20/25 Time 1457	Date 1/21/25 1115
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	SOLID
VOA Vial	VOA Vial
Amber Glass	Amber Glass
Plastic Bottle	Clear Glass
Preservative	Preservative
Volume	Volume

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

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_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.
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Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

4.8 C

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November 2024

Form 3003

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington

DELIVERY DATE 1/20/25
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	Number of Containers
EB-01172025	1/17/2025	0940	H20	X	3
FB-01172025	1/17/2025	all day	H20	X	2

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento
Laboratory to use applicable DEP CAM methods, unless otherwise directed.
– TOC: Total Organic Carbon
3.7 +0.8 cor IR006

Sampled and Relinquished by	Received by
Sign Breeyn Greer	Sign
Print Breeyn Greer	Print Macky Morris
Firm HA	Firm GEI SPO
Date 1/20/25 Time 0840	Date 1/20/25 840
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print FLOR SOTO
Firm GEI SPO	Firm CETSAC
Date 1/20/25 Time 1457	Date 1/21/25 1115
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

Sampling Comments: EB taken from clean driller's soil bag

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

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Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

4.8C

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Form 3003

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118424

Tracking # : 4242 5693 0243

Job:_____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Therm. ID: L-09 Corr. Factor: (+ / -) _____°C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: 26091503

Cooler ID: _____

Temp Observed: 4.8 °C Corrected: 4.8 °C

From: Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: RSH Date: 1/21/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: [signature] Date: 1.27.25

Notes:_____

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials: [signature] Date: 1.27.25

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 3/4/2025 11:04:19 AM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118424-2

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

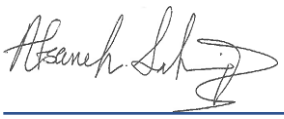
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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3/4/2025 11:04:19 AM

Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118424-2
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
*3	ISTD response or retention time outside acceptable limits.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-118424-2

Receipt
The samples were received on 1/21/2025 11:15 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.8º C.

LCMS
Method 1633: Results for samples JTA-007-N-S000-01172025 (320-118424-1), JTA-007-N-S006-01172025 (320-118424-5), JTA-008-N-S000-01172025 (320-118424-8) and JTA-008-N-S006-01172025 (320-118424-11) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

Method 1633: The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. The associated analytes have been flagged: JTA-007-N-S006-01172025 (320-118424-5) and JTA-008-N-S000-01172025 (320-118424-8).

Method 1633: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-835793 and analytical batch 320-836090 recovered outside control limits for the following analytes: Nonafluoro-3,6-dioxaheptanoic acid (NFDHA).

Method 1633: Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: JTA-007-N-S000-01172025 (320-118424-1) and JTA-008-N-S000-01172025 (320-118424-8). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 1633: Internal standard (ISTD) response for the following sample was outside control limits: JTA-008-N-S000-01172025 (320-118424-8). The sample was re-analyzed and ISTD response was outside control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 14 days. The following samples in analytical batch 320-835381 were prepared and analyzed outside this time period : JTA-007-N-S000-01172025 (320-118424-1), JTA-007-N-S006-01172025 (320-118424-5), JTA-008-N-S000-01172025 (320-118424-8), JTA-008-N-S006-01172025 (320-118424-11), JTA-009-N-S000-01172025 (320-118424-15), JTA-009-N-S006-01172025 (320-118424-19), RT-003-N-S000-01172025 (320-118424-24) and RT-003-N-S006-01172025 (320-118424-28).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 1633 Shake: The following sample in preparation batch 320-835793 was light yellow in color following extraction: JTA-007-N-S000-01172025 (320-118424-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-2

Client Sample ID: JTA-007-N-S000-01172025 — Lab Sample ID: 320-118424-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.10	J	0.39	0.096	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.17	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.61		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.056	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	1.0		0.19	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.069	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.61		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.52		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	7.1		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.41		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.73		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.64		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanesulfonic acid (PFDoS)	0.10	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	1.6		0.19	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	99		1.9	0.48	ug/Kg	10	☼	1633	Total/NA

Client Sample ID: JTA-007-N-S006-01172025 — Lab Sample ID: 320-118424-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.14	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.66		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.087	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	1.9		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	3.7		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.14	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.21		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	12		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	11		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	190	I	10	2.5	ug/Kg	50	☼	1633	Total/NA

Client Sample ID: JTA-008-N-S000-01172025 — Lab Sample ID: 320-118424-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.26	J	0.40	0.099	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.60		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	2.9		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.55		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	7.3		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.86		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.27		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.13	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.13	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.1		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	1.4		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	10		0.20	0.050	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Client Sample ID: JTA-008-N-S000-01172025 (Continued) — Lab Sample ID: 320-118424-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorononanesulfonic acid (PFNS)	3.8		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	5.9		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanesulfonic acid (PFDoS)	1.6		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	22		0.20	0.063	ug/Kg	1	☼	1633	Total/NA
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.081	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.12	J I	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.060	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	37		20	5.0	ug/Kg	100	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	810		20	5.0	ug/Kg	100	☼	1633	Total/NA

Client Sample ID: JTA-008-N-S006-01172025 — Lab Sample ID: 320-118424-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.15	J	0.39	0.099	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.49		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	2.9		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.47		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	2.9		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.18	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.4		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	1.7		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	1.2		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	26		3.9	0.99	ug/Kg	20	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	140		3.9	0.99	ug/Kg	20	☼	1633	Total/NA

Client Sample ID: JTA-009-N-S000-01172025 — Lab Sample ID: 320-118424-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.16	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.1		0.20	0.050	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-009-N-S006-01172025 — Lab Sample ID: 320-118424-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.077	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: RT-003-N-S000-01172025 — Lab Sample ID: 320-118424-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.13	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.2		0.20	0.050	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: RT-003-N-S006-01172025 — Lab Sample ID: 320-118424-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.064	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: RT-003-N-S006-01172025 (Continued)

Lab Sample ID: 320-118424-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.35		0.20	0.050	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-2

Client Sample ID: JTA-007-N-S000-01172025
Date Collected: 01/17/25 09:50
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-1
Matrix: Solid
Percent Solids: 74.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.10**	**J**	0.39	0.096	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
Perfluoropentanoic acid (PFPeA)	**0.17**	**J**	0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
Perfluorohexanoic acid (PFHxA)	**0.61**		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
Perfluoroheptanoic acid (PFHpA)	**0.056**	**J**	0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
Perfluorooctanoic acid (PFOA)	**1.0**		0.19	0.060	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
Perfluorononanoic acid (PFNA)	**0.069**	**J**	0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
Perfluorobutanesulfonic acid (PFBS)	**0.61**		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
Perfluoropentanesulfonic acid (PFPeS)	**0.52**		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
Perfluorohexanesulfonic acid (PFHxS)	**7.1**		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.41**		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
Perfluorononanesulfonic acid (PFNS)	**0.73**		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
Perfluorodecanesulfonic acid (PFDS)	**0.64**		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
Perfluorododecanesulfonic acid (PFDoS)	**0.10**	**J**	0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.096	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.096	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.096	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
Perfluorooctanesulfonamide (PFOSA)	**1.6**		0.19	0.061	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.96	0.24	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.96	0.24	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.19	0.060	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1

Client Sample ID: JTA-007-N-S000-01172025
Date Collected: 01/17/25 09:50
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-1
Matrix: Solid
Percent Solids: 74.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.072	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.096	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	02/26/25 07:12	02/27/25 03:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*94.6*		*8 - 130*	*02/26/25 07:12*	*02/27/25 03:14*	*1*
13C5 PFPeA	*90.3*		*35 - 130*	*02/26/25 07:12*	*02/27/25 03:14*	*1*
13C5 PFHxA	*105*		*40 - 130*	*02/26/25 07:12*	*02/27/25 03:14*	*1*
13C4 PFHpA	*99.2*		*40 - 130*	*02/26/25 07:12*	*02/27/25 03:14*	*1*
13C8 PFOA	*84.0*		*40 - 130*	*02/26/25 07:12*	*02/27/25 03:14*	*1*
13C9 PFNA	*79.1*		*40 - 130*	*02/26/25 07:12*	*02/27/25 03:14*	*1*
13C6 PFDA	*81.4*		*40 - 130*	*02/26/25 07:12*	*02/27/25 03:14*	*1*
13C7 PFUnA	*83.8*		*40 - 130*	*02/26/25 07:12*	*02/27/25 03:14*	*1*
13C2 PFDoA	*83.0*		*40 - 130*	*02/26/25 07:12*	*02/27/25 03:14*	*1*
13C2 PFTeDA	*80.3*		*20 - 130*	*02/26/25 07:12*	*02/27/25 03:14*	*1*
13C3 PFBS	*90.2*		*40 - 135*	*02/26/25 07:12*	*02/27/25 03:14*	*1*
13C3 PFHxS	*105*		*40 - 130*	*02/26/25 07:12*	*02/27/25 03:14*	*1*
13C8 PFOS	*99.8*		*40 - 130*	*02/26/25 07:12*	*02/27/25 03:14*	*1*
13C8 FOSA	*107*		*40 - 130*	*02/26/25 07:12*	*02/27/25 03:14*	*1*
d3-NMeFOSAA	*114*		*40 - 135*	*02/26/25 07:12*	*02/27/25 03:14*	*1*
d5-NEtFOSAA	*115*		*40 - 150*	*02/26/25 07:12*	*02/27/25 03:14*	*1*
13C2 4:2 FTS	*162*		*40 - 165*	*02/26/25 07:12*	*02/27/25 03:14*	*1*
13C2 6:2 FTS	*220*	**5+*	*40 - 215*	*02/26/25 07:12*	*02/27/25 03:14*	*1*
13C2 8:2 FTS	*243*		*40 - 275*	*02/26/25 07:12*	*02/27/25 03:14*	*1*
13C3 HFPO-DA	*99.9*		*40 - 130*	*02/26/25 07:12*	*02/27/25 03:14*	*1*
d7-N-MeFOSE-M	*84.2*		*20 - 130*	*02/26/25 07:12*	*02/27/25 03:14*	*1*
d9-N-EtFOSE-M	*79.3*		*15 - 130*	*02/26/25 07:12*	*02/27/25 03:14*	*1*
d5-NEtPFOSA	*83.3*		*10 - 130*	*02/26/25 07:12*	*02/27/25 03:14*	*1*
d3-NMePFOSA	*81.4*		*10 - 130*	*02/26/25 07:12*	*02/27/25 03:14*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**99**		1.9	0.48	ug/Kg	☼	02/26/25 07:12	02/27/25 15:46	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*79.6*	**3*	*40 - 130*	*02/26/25 07:12*	*02/27/25 15:46*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**25**	**H**	0.10	0.10	%			02/24/25 15:38	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-2

Client Sample ID: JTA-007-N-S006-01172025
Date Collected: 01/17/25 10:05
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-5
Matrix: Solid
Percent Solids: 86.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
Perfluoropentanoic acid (PFPeA)	**0.14**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
Perfluorohexanoic acid (PFHxA)	**0.66**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
Perfluoroheptanoic acid (PFHpA)	**0.087**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
Perfluorooctanoic acid (PFOA)	**1.9**		0.20	0.062	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
Perfluorononanoic acid (PFNA)	**3.7**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
Perfluorobutanesulfonic acid (PFBS)	**0.14**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
Perfluoropentanesulfonic acid (PFPeS)	**0.21**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
Perfluorohexanesulfonic acid (PFHxS)	**12**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
Perfluoroheptanesulfonic acid (PFHpS)	**11**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.20	0.062	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1

Client Sample ID: JTA-007-N-S006-01172025

Date Collected: 01/17/25 10:05
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-5

Matrix: Solid
Percent Solids: 86.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 04:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*79.7*		*8 - 130*	*02/26/25 07:12*	*02/27/25 04:03*	*1*
13C5 PFPeA	*64.0*		*35 - 130*	*02/26/25 07:12*	*02/27/25 04:03*	*1*
13C5 PFHxA	*80.6*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:03*	*1*
13C4 PFHpA	*78.0*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:03*	*1*
13C8 PFOA	*67.9*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:03*	*1*
13C9 PFNA	*65.5*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:03*	*1*
13C6 PFDA	*64.9*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:03*	*1*
13C7 PFUnA	*57.8*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:03*	*1*
13C2 PFDoA	*48.4*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:03*	*1*
13C2 PFTeDA	*46.4*		*20 - 130*	*02/26/25 07:12*	*02/27/25 04:03*	*1*
13C3 PFBS	*68.2*		*40 - 135*	*02/26/25 07:12*	*02/27/25 04:03*	*1*
13C3 PFHxS	*84.5*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:03*	*1*
13C8 PFOS	*66.2*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:03*	*1*
13C8 FOSA	*52.5*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:03*	*1*
d3-NMeFOSAA	*57.0*		*40 - 135*	*02/26/25 07:12*	*02/27/25 04:03*	*1*
d5-NEtFOSAA	*52.7*		*40 - 150*	*02/26/25 07:12*	*02/27/25 04:03*	*1*
13C2 4:2 FTS	*68.9*		*40 - 165*	*02/26/25 07:12*	*02/27/25 04:03*	*1*
13C2 6:2 FTS	*75.2*		*40 - 215*	*02/26/25 07:12*	*02/27/25 04:03*	*1*
13C2 8:2 FTS	*60.3*		*40 - 275*	*02/26/25 07:12*	*02/27/25 04:03*	*1*
13C3 HFPO-DA	*62.7*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:03*	*1*
d7-N-MeFOSE-M	*43.0*		*20 - 130*	*02/26/25 07:12*	*02/27/25 04:03*	*1*
d9-N-EtFOSE-M	*41.7*		*15 - 130*	*02/26/25 07:12*	*02/27/25 04:03*	*1*
d5-NEtPFOSA	*36.8*		*10 - 130*	*02/26/25 07:12*	*02/27/25 04:03*	*1*
d3-NMePFOSA	*38.5*		*10 - 130*	*02/26/25 07:12*	*02/27/25 04:03*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**190**	**I**	10	2.5	ug/Kg	☼	02/26/25 07:12	02/27/25 16:03	50

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*64.0*	**3*	*40 - 130*	*02/26/25 07:12*	*02/27/25 16:03*	*50*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**14**	**H**	0.10	0.10	%			02/24/25 15:38	1

Client Sample ID: JTA-008-N-S000-01172025
Date Collected: 01/17/25 10:55
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-8
Matrix: Solid
Percent Solids: 89.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.26**	**J**	0.40	0.099	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
Perfluoropentanoic acid (PFPeA)	**0.60**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
Perfluorohexanoic acid (PFHxA)	**2.9**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
Perfluoroheptanoic acid (PFHpA)	**0.55**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
Perfluorooctanoic acid (PFOA)	**7.3**		0.20	0.062	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
Perfluorononanoic acid (PFNA)	**0.86**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
Perfluorodecanoic acid (PFDA)	**0.27**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
Perfluoroundecanoic acid (PFUnA)	**0.13**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
Perfluorododecanoic acid (PFDoA)	**0.13**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
Perfluorobutanesulfonic acid (PFBS)	**1.1**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
Perfluoropentanesulfonic acid (PFPeS)	**1.4**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
Perfluoroheptanesulfonic acid (PFHpS)	**10**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
Perfluorononanesulfonic acid (PFNS)	**3.8**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
Perfluorodecanesulfonic acid (PFDS)	**5.9**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
Perfluorododecanesulfonic acid (PFDoS)	**1.6**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
Perfluorooctanesulfonamide (PFOSA)	**22**		0.20	0.063	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	**0.081**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	**0.12**	**J I**	0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**0.060**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.20	0.062	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1

Client Sample ID: JTA-008-N-S000-01172025
Date Collected: 01/17/25 10:55
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-8
Matrix: Solid
Percent Solids: 89.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.099	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 04:20	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*49.5*		*8 - 130*	*02/26/25 07:12*	*02/27/25 04:20*	*1*
13C5 PFPeA	*48.4*		*35 - 130*	*02/26/25 07:12*	*02/27/25 04:20*	*1*
13C5 PFHxA	*70.2*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:20*	*1*
13C4 PFHpA	*62.6*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:20*	*1*
13C8 PFOA	*57.4*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:20*	*1*
13C9 PFNA	*55.1*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:20*	*1*
13C6 PFDA	*57.2*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:20*	*1*
13C7 PFUnA	*59.6*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:20*	*1*
13C2 PFDoA	*51.1*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:20*	*1*
13C2 PFTeDA	*40.5*		*20 - 130*	*02/26/25 07:12*	*02/27/25 04:20*	*1*
13C3 PFBS	*53.5*		*40 - 135*	*02/26/25 07:12*	*02/27/25 04:20*	*1*
13C3 PFHxS	*64.6*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:20*	*1*
13C8 PFOS	*76.1*	**3*	*40 - 130*	*02/26/25 07:12*	*02/27/25 04:20*	*1*
13C8 FOSA	*161*	**3 *5+*	*40 - 130*	*02/26/25 07:12*	*02/27/25 04:20*	*1*
d3-NMeFOSAA	*111*	**3*	*40 - 135*	*02/26/25 07:12*	*02/27/25 04:20*	*1*
d5-NEtFOSAA	*119*	**3*	*40 - 150*	*02/26/25 07:12*	*02/27/25 04:20*	*1*
13C2 4:2 FTS	*94.1*		*40 - 165*	*02/26/25 07:12*	*02/27/25 04:20*	*1*
13C2 6:2 FTS	*118*		*40 - 215*	*02/26/25 07:12*	*02/27/25 04:20*	*1*
13C2 8:2 FTS	*125*		*40 - 275*	*02/26/25 07:12*	*02/27/25 04:20*	*1*
13C3 HFPO-DA	*60.7*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:20*	*1*
d7-N-MeFOSE-M	*84.3*	**3*	*20 - 130*	*02/26/25 07:12*	*02/27/25 04:20*	*1*
d9-N-EtFOSE-M	*74.7*	**3*	*15 - 130*	*02/26/25 07:12*	*02/27/25 04:20*	*1*
d5-NEtPFOSA	*89.3*	**3*	*10 - 130*	*02/26/25 07:12*	*02/27/25 04:20*	*1*
d3-NMePFOSA	*107*	**3*	*10 - 130*	*02/26/25 07:12*	*02/27/25 04:20*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**37**		20	5.0	ug/Kg	☼	02/26/25 07:12	02/27/25 16:19	100
Perfluorooctanesulfonic acid (PFOS)	**810**		20	5.0	ug/Kg	☼	02/26/25 07:12	02/27/25 16:19	100

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFHxS	*107*	**3*	*40 - 130*	*02/26/25 07:12*	*02/27/25 16:19*	*100*
13C8 PFOS	*42.6*	**3*	*40 - 130*	*02/26/25 07:12*	*02/27/25 16:19*	*100*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**11**	**H**	0.10	0.10	%			02/24/25 15:38	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-2

Client Sample ID: JTA-008-N-S006-01172025
Date Collected: 01/17/25 11:10
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-11
Matrix: Solid
Percent Solids: 95.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.15**	**J**	0.39	0.099	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
Perfluoropentanoic acid (PFPeA)	**0.49**		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
Perfluorohexanoic acid (PFHxA)	**2.9**		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
Perfluoroheptanoic acid (PFHpA)	**0.47**		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
Perfluorooctanoic acid (PFOA)	**2.9**		0.20	0.061	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
Perfluorononanoic acid (PFNA)	**0.18**	**J**	0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
Perfluorobutanesulfonic acid (PFBS)	**1.4**		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
Perfluoropentanesulfonic acid (PFPeS)	**1.7**		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
Perfluoroheptanesulfonic acid (PFHpS)	**1.2**		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.099	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.099	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.099	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.20	0.061	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1

Client Sample ID: JTA-008-N-S006-01172025

Date Collected: 01/17/25 11:10
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-11

Matrix: Solid
Percent Solids: 95.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.099	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 04:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*73.6*		*8 - 130*	*02/26/25 07:12*	*02/27/25 04:36*	*1*
13C5 PFPeA	*81.6*		*35 - 130*	*02/26/25 07:12*	*02/27/25 04:36*	*1*
13C5 PFHxA	*107*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:36*	*1*
13C4 PFHpA	*93.9*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:36*	*1*
13C8 PFOA	*82.8*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:36*	*1*
13C9 PFNA	*85.6*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:36*	*1*
13C6 PFDA	*85.2*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:36*	*1*
13C7 PFUnA	*96.2*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:36*	*1*
13C2 PFDoA	*93.9*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:36*	*1*
13C2 PFTeDA	*85.4*		*20 - 130*	*02/26/25 07:12*	*02/27/25 04:36*	*1*
13C3 PFBS	*80.0*		*40 - 135*	*02/26/25 07:12*	*02/27/25 04:36*	*1*
13C3 PFHxS	*95.5*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:36*	*1*
13C8 PFOS	*91.1*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:36*	*1*
13C8 FOSA	*97.3*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:36*	*1*
d3-NMeFOSAA	*106*		*40 - 135*	*02/26/25 07:12*	*02/27/25 04:36*	*1*
d5-NEtFOSAA	*117*		*40 - 150*	*02/26/25 07:12*	*02/27/25 04:36*	*1*
13C2 4:2 FTS	*91.2*		*40 - 165*	*02/26/25 07:12*	*02/27/25 04:36*	*1*
13C2 6:2 FTS	*97.2*		*40 - 215*	*02/26/25 07:12*	*02/27/25 04:36*	*1*
13C2 8:2 FTS	*93.6*		*40 - 275*	*02/26/25 07:12*	*02/27/25 04:36*	*1*
13C3 HFPO-DA	*81.4*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:36*	*1*
d7-N-MeFOSE-M	*96.2*		*20 - 130*	*02/26/25 07:12*	*02/27/25 04:36*	*1*
d9-N-EtFOSE-M	*101*		*15 - 130*	*02/26/25 07:12*	*02/27/25 04:36*	*1*
d5-NEtPFOSA	*110*		*10 - 130*	*02/26/25 07:12*	*02/27/25 04:36*	*1*
d3-NMePFOSA	*109*		*10 - 130*	*02/26/25 07:12*	*02/27/25 04:36*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**26**		3.9	0.99	ug/Kg	☼	02/26/25 07:12	02/27/25 16:36	20
Perfluorooctanesulfonic acid (PFOS)	**140**		3.9	0.99	ug/Kg	☼	02/26/25 07:12	02/27/25 16:36	20

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFHxS	*111*	**3*	*40 - 130*	*02/26/25 07:12*	*02/27/25 16:36*	*20*
13C8 PFOS	*93.9*	**3*	*40 - 130*	*02/26/25 07:12*	*02/27/25 16:36*	*20*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**4.2**	**H**	0.10	0.10	%			02/24/25 15:38	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-2

Client Sample ID: JTA-009-N-S000-01172025
Date Collected: 01/17/25 11:40
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-15
Matrix: Solid
Percent Solids: 76.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
Perfluorohexanesulfonic acid (PFHxS)	**0.16**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
Perfluorooctanesulfonic acid (PFOS)	**1.1**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.20	0.062	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1

Client Sample ID: JTA-009-N-S000-01172025

Lab Sample ID: 320-118424-15

Date Collected: 01/17/25 11:40
Date Received: 01/21/25 11:15

Matrix: Solid
Percent Solids: 76.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 04:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*117*		*8 - 130*	*02/26/25 07:12*	*02/27/25 04:52*	*1*
13C5 PFPeA	*86.6*		*35 - 130*	*02/26/25 07:12*	*02/27/25 04:52*	*1*
13C5 PFHxA	*98.8*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:52*	*1*
13C4 PFHpA	*89.0*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:52*	*1*
13C8 PFOA	*89.5*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:52*	*1*
13C9 PFNA	*83.0*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:52*	*1*
13C6 PFDA	*82.6*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:52*	*1*
13C7 PFUnA	*79.5*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:52*	*1*
13C2 PFDoA	*80.6*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:52*	*1*
13C2 PFTeDA	*67.9*		*20 - 130*	*02/26/25 07:12*	*02/27/25 04:52*	*1*
13C3 PFBS	*78.5*		*40 - 135*	*02/26/25 07:12*	*02/27/25 04:52*	*1*
13C3 PFHxS	*100*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:52*	*1*
13C8 PFOS	*76.7*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:52*	*1*
13C8 FOSA	*69.0*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:52*	*1*
d3-NMeFOSAA	*77.7*		*40 - 135*	*02/26/25 07:12*	*02/27/25 04:52*	*1*
d5-NEtFOSAA	*83.8*		*40 - 150*	*02/26/25 07:12*	*02/27/25 04:52*	*1*
13C2 4:2 FTS	*91.0*		*40 - 165*	*02/26/25 07:12*	*02/27/25 04:52*	*1*
13C2 6:2 FTS	*87.1*		*40 - 215*	*02/26/25 07:12*	*02/27/25 04:52*	*1*
13C2 8:2 FTS	*83.9*		*40 - 275*	*02/26/25 07:12*	*02/27/25 04:52*	*1*
13C3 HFPO-DA	*80.9*		*40 - 130*	*02/26/25 07:12*	*02/27/25 04:52*	*1*
d7-N-MeFOSE-M	*65.2*		*20 - 130*	*02/26/25 07:12*	*02/27/25 04:52*	*1*
d9-N-EtFOSE-M	*58.8*		*15 - 130*	*02/26/25 07:12*	*02/27/25 04:52*	*1*
d5-NEtPFOSA	*44.5*		*10 - 130*	*02/26/25 07:12*	*02/27/25 04:52*	*1*
d3-NMePFOSA	*45.6*		*10 - 130*	*02/26/25 07:12*	*02/27/25 04:52*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**24**	**H**	0.10	0.10	%			02/24/25 15:38	1

Client Sample ID: JTA-009-N-S006-01172025

Lab Sample ID: 320-118424-19

Date Collected: 01/17/25 11:55
Date Received: 01/21/25 11:15

Matrix: Solid
Percent Solids: 95.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.096	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-2

Client Sample ID: JTA-009-N-S006-01172025
Date Collected: 01/17/25 11:55
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-19
Matrix: Solid
Percent Solids: 95.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.060	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
Perfluorohexanesulfonic acid (PFHxS)	**0.077**	**J**	0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.096	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.096	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.096	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.96	0.24	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.96	0.24	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.19	0.060	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.072	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1

Client Sample ID: JTA-009-N-S006-01172025

Lab Sample ID: 320-118424-19
Date Collected: 01/17/25 11:55
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 95.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.096	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	02/26/25 07:12	02/27/25 05:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*80.1*		*8 - 130*	*02/26/25 07:12*	*02/27/25 05:09*	*1*
13C5 PFPeA	*81.7*		*35 - 130*	*02/26/25 07:12*	*02/27/25 05:09*	*1*
13C5 PFHxA	*102*		*40 - 130*	*02/26/25 07:12*	*02/27/25 05:09*	*1*
13C4 PFHpA	*94.4*		*40 - 130*	*02/26/25 07:12*	*02/27/25 05:09*	*1*
13C8 PFOA	*87.8*		*40 - 130*	*02/26/25 07:12*	*02/27/25 05:09*	*1*
13C9 PFNA	*84.4*		*40 - 130*	*02/26/25 07:12*	*02/27/25 05:09*	*1*
13C6 PFDA	*82.9*		*40 - 130*	*02/26/25 07:12*	*02/27/25 05:09*	*1*
13C7 PFUnA	*81.2*		*40 - 130*	*02/26/25 07:12*	*02/27/25 05:09*	*1*
13C2 PFDoA	*82.0*		*40 - 130*	*02/26/25 07:12*	*02/27/25 05:09*	*1*
13C2 PFTeDA	*69.4*		*20 - 130*	*02/26/25 07:12*	*02/27/25 05:09*	*1*
13C3 PFBS	*85.1*		*40 - 135*	*02/26/25 07:12*	*02/27/25 05:09*	*1*
13C3 PFHxS	*99.5*		*40 - 130*	*02/26/25 07:12*	*02/27/25 05:09*	*1*
13C8 PFOS	*80.6*		*40 - 130*	*02/26/25 07:12*	*02/27/25 05:09*	*1*
13C8 FOSA	*75.6*		*40 - 130*	*02/26/25 07:12*	*02/27/25 05:09*	*1*
d3-NMeFOSAA	*87.9*		*40 - 135*	*02/26/25 07:12*	*02/27/25 05:09*	*1*
d5-NEtFOSAA	*91.7*		*40 - 150*	*02/26/25 07:12*	*02/27/25 05:09*	*1*
13C2 4:2 FTS	*93.0*		*40 - 165*	*02/26/25 07:12*	*02/27/25 05:09*	*1*
13C2 6:2 FTS	*74.6*		*40 - 215*	*02/26/25 07:12*	*02/27/25 05:09*	*1*
13C2 8:2 FTS	*80.2*		*40 - 275*	*02/26/25 07:12*	*02/27/25 05:09*	*1*
13C3 HFPO-DA	*79.8*		*40 - 130*	*02/26/25 07:12*	*02/27/25 05:09*	*1*
d7-N-MeFOSE-M	*71.2*		*20 - 130*	*02/26/25 07:12*	*02/27/25 05:09*	*1*
d9-N-EtFOSE-M	*74.7*		*15 - 130*	*02/26/25 07:12*	*02/27/25 05:09*	*1*
d5-NEtPFOSA	*85.1*		*10 - 130*	*02/26/25 07:12*	*02/27/25 05:09*	*1*
d3-NMePFOSA	*82.8*		*10 - 130*	*02/26/25 07:12*	*02/27/25 05:09*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	4.4	H	0.10	0.10	%			02/24/25 15:38	1

Client Sample ID: RT-003-N-S000-01172025

Lab Sample ID: 320-118424-24
Date Collected: 01/17/25 14:05
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 94.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1

Client Sample ID: RT-003-N-S000-01172025
Date Collected: 01/17/25 14:05
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-24
Matrix: Solid
Percent Solids: 94.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
Perfluorohexanesulfonic acid (PFHxS)	**0.13**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
Perfluorooctanesulfonic acid (PFOS)	**1.2**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.20	0.062	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 05:25	1

Client Sample ID: RT-003-N-S000-01172025
Lab Sample ID: 320-118424-24

Date Collected: 01/17/25 14:05
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 94.6

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	97.4		8 - 130	02/26/25 07:12	02/27/25 05:25	1
13C5 PFPeA	88.0		35 - 130	02/26/25 07:12	02/27/25 05:25	1
13C5 PFHxA	105		40 - 130	02/26/25 07:12	02/27/25 05:25	1
13C4 PFHpA	97.3		40 - 130	02/26/25 07:12	02/27/25 05:25	1
13C8 PFOA	79.1		40 - 130	02/26/25 07:12	02/27/25 05:25	1
13C9 PFNA	79.8		40 - 130	02/26/25 07:12	02/27/25 05:25	1
13C6 PFDA	82.8		40 - 130	02/26/25 07:12	02/27/25 05:25	1
13C7 PFUnA	82.8		40 - 130	02/26/25 07:12	02/27/25 05:25	1
13C2 PFDoA	78.5		40 - 130	02/26/25 07:12	02/27/25 05:25	1
13C2 PFTeDA	75.8		20 - 130	02/26/25 07:12	02/27/25 05:25	1
13C3 PFBS	79.4		40 - 135	02/26/25 07:12	02/27/25 05:25	1
13C3 PFHxS	93.3		40 - 130	02/26/25 07:12	02/27/25 05:25	1
13C8 PFOS	74.3		40 - 130	02/26/25 07:12	02/27/25 05:25	1
13C8 FOSA	74.9		40 - 130	02/26/25 07:12	02/27/25 05:25	1
d3-NMeFOSAA	79.5		40 - 135	02/26/25 07:12	02/27/25 05:25	1
d5-NEtFOSAA	83.4		40 - 150	02/26/25 07:12	02/27/25 05:25	1
13C2 4:2 FTS	122		40 - 165	02/26/25 07:12	02/27/25 05:25	1
13C2 6:2 FTS	163		40 - 215	02/26/25 07:12	02/27/25 05:25	1
13C2 8:2 FTS	170		40 - 275	02/26/25 07:12	02/27/25 05:25	1
13C3 HFPO-DA	86.2		40 - 130	02/26/25 07:12	02/27/25 05:25	1
d7-N-MeFOSE-M	60.2		20 - 130	02/26/25 07:12	02/27/25 05:25	1
d9-N-EtFOSE-M	55.7		15 - 130	02/26/25 07:12	02/27/25 05:25	1
d5-NEtPFOSA	54.2		10 - 130	02/26/25 07:12	02/27/25 05:25	1
d3-NMePFOSA	65.0		10 - 130	02/26/25 07:12	02/27/25 05:25	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**5.4**	**H**	0.10	0.10	%			02/24/25 15:38	1

Client Sample ID: RT-003-N-S006-01172025
Lab Sample ID: 320-118424-28

Date Collected: 01/17/25 14:25
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 93.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
Perfluorohexanesulfonic acid (PFHxS)	**0.064**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1

Client Sample ID: RT-003-N-S006-01172025
Date Collected: 01/17/25 14:25
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-28
Matrix: Solid
Percent Solids: 93.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
Perfluorooctanesulfonic acid (PFOS)	**0.35**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.20	0.062	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 05:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*64.9*		*8 - 130*	*02/26/25 07:12*	*02/27/25 05:42*	*1*
13C5 PFPeA	*66.4*		*35 - 130*	*02/26/25 07:12*	*02/27/25 05:42*	*1*
13C5 PFHxA	*80.8*		*40 - 130*	*02/26/25 07:12*	*02/27/25 05:42*	*1*
13C4 PFHpA	*76.1*		*40 - 130*	*02/26/25 07:12*	*02/27/25 05:42*	*1*
13C8 PFOA	*67.0*		*40 - 130*	*02/26/25 07:12*	*02/27/25 05:42*	*1*

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-2

Client Sample ID: RT-003-N-S006-01172025
Date Collected: 01/17/25 14:25
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-28
Matrix: Solid
Percent Solids: 93.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C9 PFNA	65.8		40 - 130	02/26/25 07:12	02/27/25 05:42	1
13C6 PFDA	68.9		40 - 130	02/26/25 07:12	02/27/25 05:42	1
13C7 PFUnA	66.4		40 - 130	02/26/25 07:12	02/27/25 05:42	1
13C2 PFDoA	60.9		40 - 130	02/26/25 07:12	02/27/25 05:42	1
13C2 PFTeDA	60.0		20 - 130	02/26/25 07:12	02/27/25 05:42	1
13C3 PFBS	55.8		40 - 135	02/26/25 07:12	02/27/25 05:42	1
13C3 PFHxS	73.1		40 - 130	02/26/25 07:12	02/27/25 05:42	1
13C8 PFOS	63.3		40 - 130	02/26/25 07:12	02/27/25 05:42	1
13C8 FOSA	60.6		40 - 130	02/26/25 07:12	02/27/25 05:42	1
d3-NMeFOSAA	66.1		40 - 135	02/26/25 07:12	02/27/25 05:42	1
d5-NEtFOSAA	68.3		40 - 150	02/26/25 07:12	02/27/25 05:42	1
13C2 4:2 FTS	76.9		40 - 165	02/26/25 07:12	02/27/25 05:42	1
13C2 6:2 FTS	85.8		40 - 215	02/26/25 07:12	02/27/25 05:42	1
13C2 8:2 FTS	94.9		40 - 275	02/26/25 07:12	02/27/25 05:42	1
13C3 HFPO-DA	63.5		40 - 130	02/26/25 07:12	02/27/25 05:42	1
d7-N-MeFOSE-M	53.8		20 - 130	02/26/25 07:12	02/27/25 05:42	1
d9-N-EtFOSE-M	54.7		15 - 130	02/26/25 07:12	02/27/25 05:42	1
d5-NEtPFOSA	59.5		10 - 130	02/26/25 07:12	02/27/25 05:42	1
d3-NMePFOSA	66.8		10 - 130	02/26/25 07:12	02/27/25 05:42	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	6.5	H	0.10	0.10	%			02/24/25 15:38	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-2

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(8-130)	(35-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)
320-118424-1	JTA-007-N-S000-01172025	94.6	90.3	105	99.2	84.0	79.1	81.4	83.8
320-118424-1 - DL	JTA-007-N-S000-01172025								
320-118424-5	JTA-007-N-S006-01172025	79.7	64.0	80.6	78.0	67.9	65.5	64.9	57.8
320-118424-5 - DL	JTA-007-N-S006-01172025								
320-118424-8	JTA-008-N-S000-01172025	49.5	48.4	70.2	62.6	57.4	55.1	57.2	59.6
320-118424-8 - DL	JTA-008-N-S000-01172025								
320-118424-11	JTA-008-N-S006-01172025	73.6	81.6	107	93.9	82.8	85.6	85.2	96.2
320-118424-11 - DL	JTA-008-N-S006-01172025								
320-118424-15	JTA-009-N-S000-01172025	117	86.6	98.8	89.0	89.5	83.0	82.6	79.5
320-118424-19	JTA-009-N-S006-01172025	80.1	81.7	102	94.4	87.8	84.4	82.9	81.2
320-118424-24	RT-003-N-S000-01172025	97.4	88.0	105	97.3	79.1	79.8	82.8	82.8
320-118424-28	RT-003-N-S006-01172025	64.9	66.4	80.8	76.1	67.0	65.8	68.9	66.4
LCS 320-835793/3-A	Lab Control Sample	101	84.7	97.9	92.1	88.8	80.6	86.9	91.2
LCSD 320-835793/4-A	Lab Control Sample Dup	113	82.9	107	90.8	91.1	85.1	87.8	92.1
LLCS 320-835793/2-A	Lab Control Sample	83.9	82.5	107	93.9	89.5	89.4	87.4	87.9
MB 320-835793/1-A	Method Blank	106	84.8	108	87.9	87.0	84.8	88.1	87.2

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(40-130)	(20-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-135)	(40-150)
320-118424-1	JTA-007-N-S000-01172025	83.0	80.3	90.2	105	99.8	107	114	115
320-118424-1 - DL	JTA-007-N-S000-01172025					79.6 *3			
320-118424-5	JTA-007-N-S006-01172025	48.4	46.4	68.2	84.5	66.2	52.5	57.0	52.7
320-118424-5 - DL	JTA-007-N-S006-01172025					64.0 *3			
320-118424-8	JTA-008-N-S000-01172025	51.1	40.5	53.5	64.6	76.1 *3	161 *3 *5+	111 *3	119 *3
320-118424-8 - DL	JTA-008-N-S000-01172025				107 *3	42.6 *3			
320-118424-11	JTA-008-N-S006-01172025	93.9	85.4	80.0	95.5	91.1	97.3	106	117
320-118424-11 - DL	JTA-008-N-S006-01172025				111 *3	93.9 *3			
320-118424-15	JTA-009-N-S000-01172025	80.6	67.9	78.5	100	76.7	69.0	77.7	83.8
320-118424-19	JTA-009-N-S006-01172025	82.0	69.4	85.1	99.5	80.6	75.6	87.9	91.7
320-118424-24	RT-003-N-S000-01172025	78.5	75.8	79.4	93.3	74.3	74.9	79.5	83.4
320-118424-28	RT-003-N-S006-01172025	60.9	60.0	55.8	73.1	63.3	60.6	66.1	68.3
LCS 320-835793/3-A	Lab Control Sample	92.6	85.4	83.0	101	86.2	80.3	94.2	98.2
LCSD 320-835793/4-A	Lab Control Sample Dup	92.8	92.4	86.3	106	81.6	76.8	87.8	90.5
LLCS 320-835793/2-A	Lab Control Sample	95.5	93.1	80.8	105	82.6	79.1	88.2	91.0
MB 320-835793/1-A	Method Blank	92.5	92.3	84.8	104	86.1	77.9	88.3	95.1

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-165)	(40-215)	(40-275)	(40-130)	(20-130)	(15-130)	(10-130)	(10-130)
320-118424-1	JTA-007-N-S000-01172025	162	220 *5+	243	99.9	84.2	79.3	83.3	81.4
320-118424-1 - DL	JTA-007-N-S000-01172025								
320-118424-5	JTA-007-N-S006-01172025	68.9	75.2	60.3	62.7	43.0	41.7	36.8	38.5
320-118424-5 - DL	JTA-007-N-S006-01172025								
320-118424-8	JTA-008-N-S000-01172025	94.1	118	125	60.7	84.3 *3	74.7 *3	89.3 *3	107 *3
320-118424-8 - DL	JTA-008-N-S000-01172025								
320-118424-11	JTA-008-N-S006-01172025	91.2	97.2	93.6	81.4	96.2	101	110	109
320-118424-11 - DL	JTA-008-N-S006-01172025								
320-118424-15	JTA-009-N-S000-01172025	91.0	87.1	83.9	80.9	65.2	58.8	44.5	45.6
320-118424-19	JTA-009-N-S006-01172025	93.0	74.6	80.2	79.8	71.2	74.7	85.1	82.8

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118424-2
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Solid
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118424-24	RT-003-N-S000-01172025	122	163	170	86.2	60.2	55.7	54.2	65.0
320-118424-28	RT-003-N-S006-01172025	76.9	85.8	94.9	63.5	53.8	54.7	59.5	66.8
LCS 320-835793/3-A	Lab Control Sample	94.4	92.4	86.7	80.6	79.9	78.2	80.9	83.7
LCSD 320-835793/4-A	Lab Control Sample Dup	92.8	103	89.2	82.0	82.3	75.3	79.3	81.1
LLCS 320-835793/2-A	Lab Control Sample	103	96.9	85.8	84.1	77.2	79.5	86.8	83.9
MB 320-835793/1-A	Method Blank	91.8	93.7	94.1	82.4	78.7	75.9	80.9	85.5

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-835793/1-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 835793

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-835793/1-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 835793

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		02/26/25 07:12	02/27/25 00:45	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*106*		*8 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C5 PFPeA	*84.8*		*35 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C5 PFHxA	*108*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C4 PFHpA	*87.9*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C8 PFOA	*87.0*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C9 PFNA	*84.8*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C6 PFDA	*88.1*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C7 PFUnA	*87.2*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C2 PFDoA	*92.5*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C2 PFTeDA	*92.3*		*20 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C3 PFBS	*84.8*		*40 - 135*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C3 PFHxS	*104*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C8 PFOS	*86.1*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C8 FOSA	*77.9*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
d3-NMeFOSAA	*88.3*		*40 - 135*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
d5-NEtFOSAA	*95.1*		*40 - 150*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C2 4:2 FTS	*91.8*		*40 - 165*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C2 6:2 FTS	*93.7*		*40 - 215*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C2 8:2 FTS	*94.1*		*40 - 275*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C3 HFPO-DA	*82.4*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
d7-N-MeFOSE-M	*78.7*		*20 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
d9-N-EtFOSE-M	*75.9*		*15 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
d5-NEtPFOSA	*80.9*		*10 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
d3-NMePFOSA	*85.5*		*10 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*

Lab Sample ID: LCS 320-835793/3-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835793

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.10		ug/Kg		82	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.46		ug/Kg		98	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.01		ug/Kg		81	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.36		ug/Kg		94	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.48		ug/Kg		99	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.54		ug/Kg		102	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.47		ug/Kg		99	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-835793/3-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835793

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.49		ug/Kg		100	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.33		ug/Kg		93	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.32		ug/Kg		93	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.63		ug/Kg		105	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.21		ug/Kg		100	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	1.98		ug/Kg		84	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.79		ug/Kg		79	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.17		ug/Kg		91	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.27		ug/Kg		98	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.25		ug/Kg		93	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.32		ug/Kg		96	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.23		ug/Kg		92	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.32		ug/Kg		92	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.44		ug/Kg		93	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.77		ug/Kg		99	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.40		ug/Kg		96	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.55		ug/Kg		102	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.41		ug/Kg		96	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.48		ug/Kg		99	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.34		ug/Kg		93	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.2		ug/Kg		90	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	10.7		ug/Kg		86	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.79		ug/Kg		95	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.34		ug/Kg		99	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.51		ug/Kg		100	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.54		ug/Kg		102	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.83		ug/Kg		113	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-835793/3-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835793

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.35		ug/Kg		101	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.28		ug/Kg		97	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.67		ug/Kg		75	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.61		ug/Kg		92	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	9.95		ug/Kg		80	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	8.87		ug/Kg		71	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*101*		*8 - 130*
13C5 PFPeA	*84.7*		*35 - 130*
13C5 PFHxA	*97.9*		*40 - 130*
13C4 PFHpA	*92.1*		*40 - 130*
13C8 PFOA	*88.8*		*40 - 130*
13C9 PFNA	*80.6*		*40 - 130*
13C6 PFDA	*86.9*		*40 - 130*
13C7 PFUnA	*91.2*		*40 - 130*
13C2 PFDoA	*92.6*		*40 - 130*
13C2 PFTeDA	*85.4*		*20 - 130*
13C3 PFBS	*83.0*		*40 - 135*
13C3 PFHxS	*101*		*40 - 130*
13C8 PFOS	*86.2*		*40 - 130*
13C8 FOSA	*80.3*		*40 - 130*
d3-NMeFOSAA	*94.2*		*40 - 135*
d5-NEtFOSAA	*98.2*		*40 - 150*
13C2 4:2 FTS	*94.4*		*40 - 165*
13C2 6:2 FTS	*92.4*		*40 - 215*
13C2 8:2 FTS	*86.7*		*40 - 275*
13C3 HFPO-DA	*80.6*		*40 - 130*
d7-N-MeFOSE-M	*79.9*		*20 - 130*
d9-N-EtFOSE-M	*78.2*		*15 - 130*
d5-NEtPFOSA	*80.9*		*10 - 130*
d3-NMePFOSA	*83.7*		*10 - 130*

Lab Sample ID: LCSD 320-835793/4-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 835793

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.17		ug/Kg		83	70 - 140	2	30
Perfluoropentanoic acid (PFPeA)			2.50	2.57		ug/Kg		103	60 - 150	4	30
Perfluorohexanoic acid (PFHxA)			2.50	2.17		ug/Kg		87	65 - 140	7	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.35		ug/Kg		94	65 - 145	0	30
Perfluorooctanoic acid (PFOA)			2.50	2.58		ug/Kg		103	70 - 150	4	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-835793/4-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 835793

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.75		ug/Kg		110	70 - 155	8	30
Perfluorodecanoic acid (PFDA)	2.50	2.45		ug/Kg		98	70 - 155	1	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.41		ug/Kg		96	70 - 155	3	30
Perfluorododecanoic acid (PFDoA)	2.50	2.32		ug/Kg		93	70 - 150	0	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.27		ug/Kg		91	65 - 150	3	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.56		ug/Kg		102	65 - 150	3	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.23		ug/Kg		100	65 - 145	1	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.01		ug/Kg		86	55 - 160	2	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.90		ug/Kg		83	60 - 150	6	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.34		ug/Kg		98	65 - 155	8	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.32		ug/Kg		100	65 - 160	2	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.35		ug/Kg		98	55 - 140	4	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.27		ug/Kg		94	40 - 155	2	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.34		ug/Kg		97	25 - 160	5	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	5.20		ug/Kg		111	60 - 150	18	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.46		ug/Kg		94	55 - 200	0	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.79		ug/Kg		100	70 - 150	0	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.49		ug/Kg		100	70 - 140	4	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.70		ug/Kg		108	70 - 155	6	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.37		ug/Kg		95	70 - 140	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.62		ug/Kg		105	65 - 155	6	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.32		ug/Kg		93	65 - 165	1	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.6		ug/Kg		93	70 - 140	4	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	11.5		ug/Kg		92	70 - 135	7	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.91		ug/Kg		102	70 - 145	7	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.33		ug/Kg		98	70 - 160	0	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.61		ug/Kg		104	30 - 140	4	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.46		ug/Kg		98	60 - 150	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-835793/4-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 835793

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	1.61	*1	ug/Kg		64	60 - 155	55	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.33		ug/Kg		100	70 - 150	1	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.26		ug/Kg		96	45 - 160	1	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.67		ug/Kg		75	70 - 140	0	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.09		ug/Kg		102	45 - 130	10	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	8.88		ug/Kg		71	60 - 130	11	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	8.20		ug/Kg		66	60 - 150	8	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*113*		*8 - 130*
13C5 PFPeA	*82.9*		*35 - 130*
13C5 PFHxA	*107*		*40 - 130*
13C4 PFHpA	*90.8*		*40 - 130*
13C8 PFOA	*91.1*		*40 - 130*
13C9 PFNA	*85.1*		*40 - 130*
13C6 PFDA	*87.8*		*40 - 130*
13C7 PFUnA	*92.1*		*40 - 130*
13C2 PFDoA	*92.8*		*40 - 130*
13C2 PFTeDA	*92.4*		*20 - 130*
13C3 PFBS	*86.3*		*40 - 135*
13C3 PFHxS	*106*		*40 - 130*
13C8 PFOS	*81.6*		*40 - 130*
13C8 FOSA	*76.8*		*40 - 130*
d3-NMeFOSAA	*87.8*		*40 - 135*
d5-NEtFOSAA	*90.5*		*40 - 150*
13C2 4:2 FTS	*92.8*		*40 - 165*
13C2 6:2 FTS	*103*		*40 - 215*
13C2 8:2 FTS	*89.2*		*40 - 275*
13C3 HFPO-DA	*82.0*		*40 - 130*
d7-N-MeFOSE-M	*82.3*		*20 - 130*
d9-N-EtFOSE-M	*75.3*		*15 - 130*
d5-NEtPFOSA	*79.3*		*10 - 130*
d3-NMePFOSA	*81.1*		*10 - 130*

Lab Sample ID: LLCS 320-835793/2-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835793

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.781		ug/Kg		98	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.466		ug/Kg		116	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.346		ug/Kg		86	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-835793/2-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835793

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.405		ug/Kg		101	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.389		ug/Kg		97	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.404		ug/Kg		101	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.432		ug/Kg		108	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.429		ug/Kg		107	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.354		ug/Kg		88	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.399		ug/Kg		100	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.404		ug/Kg		101	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.368		ug/Kg		104	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.344		ug/Kg		91	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.328		ug/Kg		90	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.375		ug/Kg		98	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.381		ug/Kg		102	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.371		ug/Kg		96	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.374		ug/Kg		97	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.346		ug/Kg		89	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.730		ug/Kg		97	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.774		ug/Kg		102	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.786		ug/Kg		102	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.399		ug/Kg		100	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.429		ug/Kg		107	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.385		ug/Kg		96	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.420		ug/Kg		105	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.398		ug/Kg		100	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.87		ug/Kg		93	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	1.69		ug/Kg		85	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.328		ug/Kg		109	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.400		ug/Kg		106	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.404		ug/Kg		101	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-835793/2-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835793

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.468		ug/Kg		117	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.326		ug/Kg		81	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.387		ug/Kg		104	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.384		ug/Kg		102	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.268		ug/Kg		75	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.644		ug/Kg		81	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	1.58		ug/Kg		79	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	1.48		ug/Kg		74	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*83.9*		*8 - 130*
13C5 PFPeA	*82.5*		*35 - 130*
13C5 PFHxA	*107*		*40 - 130*
13C4 PFHpA	*93.9*		*40 - 130*
13C8 PFOA	*89.5*		*40 - 130*
13C9 PFNA	*89.4*		*40 - 130*
13C6 PFDA	*87.4*		*40 - 130*
13C7 PFUnA	*87.9*		*40 - 130*
13C2 PFDoA	*95.5*		*40 - 130*
13C2 PFTeDA	*93.1*		*20 - 130*
13C3 PFBS	*80.8*		*40 - 135*
13C3 PFHxS	*105*		*40 - 130*
13C8 PFOS	*82.6*		*40 - 130*
13C8 FOSA	*79.1*		*40 - 130*
d3-NMeFOSAA	*88.2*		*40 - 135*
d5-NEtFOSAA	*91.0*		*40 - 150*
13C2 4:2 FTS	*103*		*40 - 165*
13C2 6:2 FTS	*96.9*		*40 - 215*
13C2 8:2 FTS	*85.8*		*40 - 275*
13C3 HFPO-DA	*84.1*		*40 - 130*
d7-N-MeFOSE-M	*77.2*		*20 - 130*
d9-N-EtFOSE-M	*79.5*		*15 - 130*
d5-NEtPFOSA	*86.8*		*10 - 130*
d3-NMePFOSA	*83.9*		*10 - 130*

LCMS

Prep Batch: 835793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-1 - DL	JTA-007-N-S000-01172025	Total/NA	Solid	1633 Shake	
320-118424-1	JTA-007-N-S000-01172025	Total/NA	Solid	1633 Shake	
320-118424-5 - DL	JTA-007-N-S006-01172025	Total/NA	Solid	1633 Shake	
320-118424-5	JTA-007-N-S006-01172025	Total/NA	Solid	1633 Shake	
320-118424-8 - DL	JTA-008-N-S000-01172025	Total/NA	Solid	1633 Shake	
320-118424-8	JTA-008-N-S000-01172025	Total/NA	Solid	1633 Shake	
320-118424-11 - DL	JTA-008-N-S006-01172025	Total/NA	Solid	1633 Shake	
320-118424-11	JTA-008-N-S006-01172025	Total/NA	Solid	1633 Shake	
320-118424-15	JTA-009-N-S000-01172025	Total/NA	Solid	1633 Shake	
320-118424-19	JTA-009-N-S006-01172025	Total/NA	Solid	1633 Shake	
320-118424-24	RT-003-N-S000-01172025	Total/NA	Solid	1633 Shake	
320-118424-28	RT-003-N-S006-01172025	Total/NA	Solid	1633 Shake	
MB 320-835793/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-835793/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-835793/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-835793/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 836090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-1	JTA-007-N-S000-01172025	Total/NA	Solid	1633	835793
320-118424-5	JTA-007-N-S006-01172025	Total/NA	Solid	1633	835793
320-118424-8	JTA-008-N-S000-01172025	Total/NA	Solid	1633	835793
320-118424-11	JTA-008-N-S006-01172025	Total/NA	Solid	1633	835793
320-118424-15	JTA-009-N-S000-01172025	Total/NA	Solid	1633	835793
320-118424-19	JTA-009-N-S006-01172025	Total/NA	Solid	1633	835793
320-118424-24	RT-003-N-S000-01172025	Total/NA	Solid	1633	835793
320-118424-28	RT-003-N-S006-01172025	Total/NA	Solid	1633	835793
MB 320-835793/1-A	Method Blank	Total/NA	Solid	1633	835793
LCS 320-835793/3-A	Lab Control Sample	Total/NA	Solid	1633	835793
LCSD 320-835793/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	835793
LLCS 320-835793/2-A	Lab Control Sample	Total/NA	Solid	1633	835793

Analysis Batch: 836143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-1 - DL	JTA-007-N-S000-01172025	Total/NA	Solid	1633	835793
320-118424-5 - DL	JTA-007-N-S006-01172025	Total/NA	Solid	1633	835793
320-118424-8 - DL	JTA-008-N-S000-01172025	Total/NA	Solid	1633	835793
320-118424-11 - DL	JTA-008-N-S006-01172025	Total/NA	Solid	1633	835793

General Chemistry

Analysis Batch: 835381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-1	JTA-007-N-S000-01172025	Total/NA	Solid	1633	
320-118424-5	JTA-007-N-S006-01172025	Total/NA	Solid	1633	
320-118424-8	JTA-008-N-S000-01172025	Total/NA	Solid	1633	
320-118424-11	JTA-008-N-S006-01172025	Total/NA	Solid	1633	
320-118424-15	JTA-009-N-S000-01172025	Total/NA	Solid	1633	
320-118424-19	JTA-009-N-S006-01172025	Total/NA	Solid	1633	
320-118424-24	RT-003-N-S000-01172025	Total/NA	Solid	1633	
320-118424-28	RT-003-N-S006-01172025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-2

Client Sample ID: JTA-007-N-S000-01172025
Lab Sample ID: 320-118424-1
Date Collected: 01/17/25 09:50
Matrix: Solid
Date Received: 01/21/25 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			835381	02/24/25 15:38	CFR	EET SAC

Client Sample ID: JTA-007-N-S000-01172025
Lab Sample ID: 320-118424-1
Date Collected: 01/17/25 09:50
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 74.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	DL		2.78 g	5.0 mL	835793	02/26/25 07:12	BMS	EET SAC
Total/NA	Analysis	1633	DL	10			836143	02/27/25 15:46	RS1	EET SAC
Total/NA	Prep	1633 Shake			2.78 g	5.0 mL	835793	02/26/25 07:12	BMS	EET SAC
Total/NA	Analysis	1633		1			836090	02/27/25 03:14	K1D	EET SAC

Client Sample ID: JTA-007-N-S006-01172025
Lab Sample ID: 320-118424-5
Date Collected: 01/17/25 10:05
Matrix: Solid
Date Received: 01/21/25 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			835381	02/24/25 15:38	CFR	EET SAC

Client Sample ID: JTA-007-N-S006-01172025
Lab Sample ID: 320-118424-5
Date Collected: 01/17/25 10:05
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 86.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	DL		2.30 g	5.0 mL	835793	02/26/25 07:12	BMS	EET SAC
Total/NA	Analysis	1633	DL	50			836143	02/27/25 16:03	RS1	EET SAC
Total/NA	Prep	1633 Shake			2.30 g	5.0 mL	835793	02/26/25 07:12	BMS	EET SAC
Total/NA	Analysis	1633		1			836090	02/27/25 04:03	K1D	EET SAC

Client Sample ID: JTA-008-N-S000-01172025
Lab Sample ID: 320-118424-8
Date Collected: 01/17/25 10:55
Matrix: Solid
Date Received: 01/21/25 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			835381	02/24/25 15:38	CFR	EET SAC

Client Sample ID: JTA-008-N-S000-01172025
Lab Sample ID: 320-118424-8
Date Collected: 01/17/25 10:55
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 89.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	DL		2.25 g	5.0 mL	835793	02/26/25 07:12	BMS	EET SAC
Total/NA	Analysis	1633	DL	100			836143	02/27/25 16:19	RS1	EET SAC
Total/NA	Prep	1633 Shake			2.25 g	5.0 mL	835793	02/26/25 07:12	BMS	EET SAC
Total/NA	Analysis	1633		1			836090	02/27/25 04:20	K1D	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-2

Client Sample ID: JTA-008-N-S006-01172025
Lab Sample ID: 320-118424-11
Date Collected: 01/17/25 11:10
Matrix: Solid
Date Received: 01/21/25 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			835381	02/24/25 15:38	CFR	EET SAC

Client Sample ID: JTA-008-N-S006-01172025
Lab Sample ID: 320-118424-11
Date Collected: 01/17/25 11:10
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 95.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	DL		2.12 g	5.0 mL	835793	02/26/25 07:12	BMS	EET SAC
Total/NA	Analysis	1633	DL	20			836143	02/27/25 16:36	RS1	EET SAC
Total/NA	Prep	1633 Shake			2.12 g	5.0 mL	835793	02/26/25 07:12	BMS	EET SAC
Total/NA	Analysis	1633		1			836090	02/27/25 04:36	K1D	EET SAC

Client Sample ID: JTA-009-N-S000-01172025
Lab Sample ID: 320-118424-15
Date Collected: 01/17/25 11:40
Matrix: Solid
Date Received: 01/21/25 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			835381	02/24/25 15:38	CFR	EET SAC

Client Sample ID: JTA-009-N-S000-01172025
Lab Sample ID: 320-118424-15
Date Collected: 01/17/25 11:40
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 76.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.62 g	5.0 mL	835793	02/26/25 07:12	BMS	EET SAC
Total/NA	Analysis	1633		1			836090	02/27/25 04:52	K1D	EET SAC

Client Sample ID: JTA-009-N-S006-01172025
Lab Sample ID: 320-118424-19
Date Collected: 01/17/25 11:55
Matrix: Solid
Date Received: 01/21/25 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			835381	02/24/25 15:38	CFR	EET SAC

Client Sample ID: JTA-009-N-S006-01172025
Lab Sample ID: 320-118424-19
Date Collected: 01/17/25 11:55
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 95.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.17 g	5.0 mL	835793	02/26/25 07:12	BMS	EET SAC
Total/NA	Analysis	1633		1			836090	02/27/25 05:09	K1D	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-2

Client Sample ID: RT-003-N-S000-01172025
Date Collected: 01/17/25 14:05
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-24
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			835381	02/24/25 15:38	CFR	EET SAC

Client Sample ID: RT-003-N-S000-01172025
Date Collected: 01/17/25 14:05
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-24
Matrix: Solid
Percent Solids: 94.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.10 g	5.0 mL	835793	02/26/25 07:12	BMS	EET SAC
Total/NA	Analysis	1633		1			836090	02/27/25 05:25	K1D	EET SAC

Client Sample ID: RT-003-N-S006-01172025
Date Collected: 01/17/25 14:25
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-28
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			835381	02/24/25 15:38	CFR	EET SAC

Client Sample ID: RT-003-N-S006-01172025
Date Collected: 01/17/25 14:25
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-28
Matrix: Solid
Percent Solids: 93.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.13 g	5.0 mL	835793	02/26/25 07:12	BMS	EET SAC
Total/NA	Analysis	1633		1			836090	02/27/25 05:42	K1D	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118424-2
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-2

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Job ID: 320-118424-2
Project/Site: Spokane International Airport

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118424-1	JTA-007-N-S000-01172025	Solid	01/17/25 09:50	01/21/25 11:15
320-118424-5	JTA-007-N-S006-01172025	Solid	01/17/25 10:05	01/21/25 11:15
320-118424-8	JTA-008-N-S000-01172025	Solid	01/17/25 10:55	01/21/25 11:15
320-118424-11	JTA-008-N-S006-01172025	Solid	01/17/25 11:10	01/21/25 11:15
320-118424-15	JTA-009-N-S000-01172025	Solid	01/17/25 11:40	01/21/25 11:15
320-118424-19	JTA-009-N-S006-01172025	Solid	01/17/25 11:55	01/21/25 11:15
320-118424-24	RT-003-N-S000-01172025	Solid	01/17/25 14:05	01/21/25 11:15
320-118424-28	RT-003-N-S006-01172025	Solid	01/17/25 14:25	01/21/25 11:15

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	1/20/25
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	standard
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	Number of Containers
JTA-007-N-S000-01172025	1/17/2025	0950	Soil		1
JTA-007-N-S001-01172025	1/17/2025	0955	Soil	x	1
JTA-007-N-S003-01172025	1/17/2025	1000	Soil	x	1
JTA-007-FD-S003-01172025	1/17/2025	1030	Soil	x	1
JTA-007-N-S006-01172025	1/17/2025	1005	Soil		1
JTA-007-N-S010-01172025	1/17/2025	1010	Soil		1
JTA-007-N-S013-01172025	1/17/2025	1035	Soil		1
JTA-008-N-S000-01172025	1/17/2025	1055	Soil		1
JTA-008-N-S001-01172025	1/17/2025	1100	Soil	x	1
JTA-008-N-S003-01172025	1/17/2025	1105	Soil	x	1

320-118424 Chain of Custody

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

- PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

- TOC: Total Organic Carbon

3.3, 3.7 cor 1R0016

0.4, 0.8 cor 1R0016

Sampled and Relinquished by	Received by
Sign Breeyn Greer	Sign
Print Breeyn Greer	Print Mackey Moms
Firm HA	Firm EGI SPO
Date 1/20/25 Time 0940	Date 1/20/25 840
Relinquished by	**Received by**
Sign	Sign
Print Mackey Moms	Print PIOR SOTO
Firm EGI SPO	Firm EETSAC
Date 1/20/25 Time 1457	Date 1/21/25 1115
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	SOLID
VOA Vial	VOA Vial
Amber Glass	Amber Glass
Plastic Bottle	Clear Glass
Preservative	Preservative
Volume	Volume

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are requir

Required Reporting Limits and Data Quality Objectives

☐ RC-S1	☐ S1	☐ GW1
☐ RC-S2	☐ S2	☐ GW2
☐ RC-GW1	☐ S3	☐ GW3
☐ RC-GW2		

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Form 3003

4.8C

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	1/20/25
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	standard
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
JTA-008-N-S006-01172025	1/17/2025	1110	Soil		1
JTA-008-N-S010-01172025	1/17/2025	1115	Soil		1
JTA-008-N-S015-01172025	1/17/2025	1120	Soil		1
JTA-008-N-S017-01172025	1/17/2025	1130	Soil		1
JTA-009-N-S000-01172025	1/17/2025	1140	Soil		1
JTA-009-N-S001-01172025	1/17/2025	1145	Soil	X	1
JTA-009-N-S003-01172025	1/17/2025	1150	Soil	X	1
JTA-009-FD-S003-01172025	1/17/2025	1220	Soil	X	1
JTA-009-N-S006-01172025	1/17/2025	1155	Soil		1
JTA-009-N-S010-01172025	1/17/2025	1200	Soil		1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

3. 7470.8 con IR006

Sampled and Relinquished by	Received by
Sign Breeyn Greer	Sign
Print Breeyn Greer	Print Macky Morris
Firm HA	Firm EETSPO
Date 1/20/25 Time 0040	Date 1/20/25 0840
Relinquished by	**Received by**
Sign Macky Morris	Sign
Print Macky Morris	Print FLV SOTO
Firm EETSPO	Firm EETSAC
Date 1/20/25 Time 1457	Date 1/21/25 1115
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are requir

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory November 2024

4.8C

Form 3003

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	1/20/25
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	Standard
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
JTA-009-N-S015-01172025	1/17/2025	1205	Soil		1
JTA-009-N-S020-01172025	1/17/2025	1210	Soil		1
JTA-009-N-S030-01172025	1/17/2025	1215	Soil		1
RT-003-N-S000-01172025	1/17/2025	1405	Soil		1
RT-003-N-S001-01172025	1/17/2025	1410	Soil	X	1
RT-003-N-S003-01172025	1/17/2025	1415	Soil	X	1
RT-003-FD-S003-01172025	1/17/2025	1420	Soil	X	1
RT-003-N-S006-01172025	1/17/2025	1425	Soil		1
RT-003-N-S010-01172025	1/17/2025	1430	Soil		1
RT-003-N-S015-01172025	1/17/2025	1435	Soil		1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

3.7 + 0.8 con IR006

Sampled and Relinquished by	Received by
Sign Breeyn Greer	Sign
Print Breeyn Greer	Print Mackey Morris
Firm HA	Firm EETSPO
Date 1/20/25 Time 0040	Date 1/20/25 840
Relinquished by	**Received by**
Sign	Sign
Print Mackey Morris	Print MW SOTO
Firm EETSPO	Firm EETSAC
Date 1/20/25 Time 1457	Date 1/21/25 1115
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are requir

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

4.8C

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Form 3003

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-001
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer
LABORATORY Eurofins Environmental Testing
ADDRESS 11922 E 1st Ave, Spokane Valley, WA 99206
CONTACT Randee Arrington
DELIVERY DATE 1/20/25
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	Number of Containers
RT-003-N-S020-01172025	1/17/2025	1440	Soil		1
RT-003-N-S030-01172025	1/17/2025	1445	Soil		1

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento
Laboratory to use applicable DEP CAM methods, unless otherwise directed.
– TOC: Total Organic Carbon
3.7 + 0.8 wet IP20

Sampled and Relinquished by	Received by
Sign Breeyn Greer	Sign
Print Breeyn Greer	Print Macky Morris
Firm HA	Firm EE2890
Date 1/20/25 Time 0840	Date 1/20/25 1440
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Pilar Soto
Firm EE2890	Firm EETSAC
Date 1/20/25 Time 1457	Date 1/21/25 1115
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID: VOA Vial, Amber Glass, Plastic Bottle, Preservative, Volume
SOLID: VOA Vial, Amber Glass, Clear Glass, Preservative, Volume

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:
_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.
_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are requir

Required Reporting Limits and Data Quality Objectives
☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

4.8 C

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Form 3003

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-001 | LABORATORY Eurofins Environmental Testing | DELIVERY DATE 1/20/25
PROJECT NAME Geiger Field PFAS Support | ADDRESS 11922 E 1st Ave, Spokane Valley, WA 99206 | TURNAROUND TIME Standard
H&A CONTACT Breeyn Greer | CONTACT Randee Arrington | PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	Number of Containers
EB-01172025	1/17/2025	0940	H20	X	3
FB-01172025	1/17/2025	all day	H20	X	2

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento
Laboratory to use applicable DEP CAM methods, unless otherwise directed.
– TOC: Total Organic Carbon
3.7+0.8cor IR006

Sampled and Relinquished by
Sign Breeyn Greer
Print Breeyn Greer
Firm HA
Date 1/20/25 Time 0840

Received by
Sign
Print Macky Morris
Firm GEC SPO
Date 1/20/25 840

Relinquished by
Sign
Print Macky Morris
Firm GEC SPO
Date 1/20/25 Time 1457

Received by
Sign
Print FLOR SOTO
Firm CETSAC
Date 1/21/25 1115

Relinquished by
Sign
Print
Firm
Date Time

Received by
Sign
Print
Firm
Date

LIQUID	SOLID
VOA Vial	VOA Vial
Amber Glass	Amber Glass
Plastic Bottle	Clear Glass
Preservative	Preservative
Volume	Volume

Sampling Comments: EB taken from clean driller's soil bag

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.
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_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are requir

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

4.8C

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Form 3003

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118424

Tracking # : 4242 5693 0243

Job:_____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Therm. ID: L-09 Corr. Factor: (+ / -) _____°C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: 26091503

Cooler ID: _____

Temp Observed: 4.8 °C Corrected: 4.8 °C

From: Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: RSH Date: 1/21/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: [signature] Date: 1.27.25

Notes:_____

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☐
Samples received within hold time?	☑	☐	☑
Log Release checked in TALS?	☑	☐	☐

Initials: [signature] Date: 1.27.25

eurofins | Environment Testing

1 2 3 4 5 6 7 8 9 10 11 12 13 14

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 2/20/2025 8:51:22 AM Revision 1

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118424-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

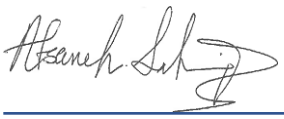
myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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2/20/2025 8:51:22 AM
Revision 1

Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118424-1
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
*3	ISTD response or retention time outside acceptable limits.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-118424-1

Revised report on 2-20-2025 for sample Id's.

Receipt

The samples were received on 1/21/2025 11:15 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.8º C.

LCMS

Method 1633: Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: JTA-007-N-S003-01172025 (320-118424-3). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 1633: The continuing calibration verification (CCV) associated with batch 320-829502 recovered above the upper control limit for isotope dilution analyte (IDA) 13C2 6:2 FTS. The associated target analyte, 1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS), was within control limits in the CCV; therefore, the data is reported: JTA-009-N-S003-01172025 (320-118424-17), JTA-009-FD-S003-01172025 (320-118424-18), RTA-003-N-S001-01172025 (320-118424-25), RTA-003-N-S003-01172025 (320-118424-26), RTA-003-FD-S003-01172025 (320-118424-27) and (CCV 320-829502/20).

Method 1633: Results for samples JTA-007-N-S001-01172025 (320-118424-2), JTA-007-N-S003-01172025 (320-118424-3), JTA-007-FD-S003-01172025 (320-118424-4), JTA-008-N-S001-01172025 (320-118424-9) and JTA-008-N-S003-01172025 (320-118424-10) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method 1633: Results for sample JTA-008-N-S001-01172025 (320-118424-9) were reported from the analysis of a diluted extract due to matrix interference of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-1

Client Sample ID: JTA-007-N-S001-01172025 — Lab Sample ID: 320-118424-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.26		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.54		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.32		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.078	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.097	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.12	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.3		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.30		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.15	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.068	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.28		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	140		2.0	0.49	ug/Kg	10	☼	1633	Total/NA

Client Sample ID: JTA-007-N-S003-01172025 — Lab Sample ID: 320-118424-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.14	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.45		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.36		0.21	0.064	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.18	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.11	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.13	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.1		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.72		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.066	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.15	J	0.21	0.065	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	360		10	2.6	ug/Kg	50	☼	1633	Total/NA

Client Sample ID: JTA-007-FD-S003-01172025 — Lab Sample ID: 320-118424-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.18	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.56		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.49		0.19	0.059	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.22		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.12	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.15	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.4		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	1.0		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.068	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.18	J	0.19	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	380		9.5	2.4	ug/Kg	50	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-1

Client Sample ID: JTA-008-N-S001-01172025 — Lab Sample ID: 320-118424-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.57		0.39	0.099	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	1.5		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	7.4		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.99		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	12		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.37		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.11	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.1		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	5.1		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	210		20	4.9	ug/Kg	100	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	1900		20	4.9	ug/Kg	100	☼	1633	Total/NA

Client Sample ID: JTA-008-N-S003-01172025 — Lab Sample ID: 320-118424-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.15	J	0.41	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.38		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	2.0		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.36		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	3.1		0.21	0.064	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.26		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.98		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.99		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	1.9		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	67		4.1	1.0	ug/Kg	20	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	240		4.1	1.0	ug/Kg	20	☼	1633	Total/NA

Client Sample ID: JTA-009-N-S001-01172025 — Lab Sample ID: 320-118424-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.055	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.055	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.13	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.8		0.20	0.051	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-009-N-S003-01172025 — Lab Sample ID: 320-118424-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.084	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.1		0.20	0.050	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-009-FD-S003-01172025 — Lab Sample ID: 320-118424-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.051	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.18	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	6.1		0.20	0.049	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Detection Summary

Client: GSI Environmental Inc
Job ID: 320-118424-1
Project/Site: Spokane International Airport

Client Sample ID: RTA-003-N-S001-01172025 — Lab Sample ID: 320-118424-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorononanoic acid (PFNA)	0.089	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.073	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.2		0.20	0.051	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: RTA-003-N-S003-01172025 — Lab Sample ID: 320-118424-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.49		0.19	0.059	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.31		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.072	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: RTA-003-FD-S003-01172025 — Lab Sample ID: 320-118424-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.37		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.24		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.064	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: EB-01172025 — Lab Sample ID: 320-118424-33

No Detections.

Client Sample ID: FB-01172025 — Lab Sample ID: 320-118424-34

No Detections.

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-1

Client Sample ID: JTA-007-N-S001-01172025
Date Collected: 01/17/25 09:55
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-2
Matrix: Solid
Percent Solids: 90.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.099	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
Perfluoropentanoic acid (PFPeA)	**0.26**		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
Perfluorohexanoic acid (PFHxA)	**0.54**		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
Perfluorooctanoic acid (PFOA)	**0.32**		0.20	0.061	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
Perfluorononanoic acid (PFNA)	**0.078**	**J**	0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
Perfluorobutanesulfonic acid (PFBS)	**0.097**	**J**	0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
Perfluoropentanesulfonic acid (PFPeS)	**0.12**	**J**	0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
Perfluorohexanesulfonic acid (PFHxS)	**3.3**		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.30**		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
Perfluorononanesulfonic acid (PFNS)	**0.15**	**J**	0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
Perfluorodecanesulfonic acid (PFDS)	**0.068**	**J**	0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.099	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.099	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.099	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
Perfluorooctanesulfonamide (PFOSA)	**0.28**		0.20	0.062	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1

Client Sample ID: JTA-007-N-S001-01172025

Date Collected: 01/17/25 09:55
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-2

Matrix: Solid
Percent Solids: 90.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.099	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 05:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*88.0*		*8 - 130*	*01/23/25 12:33*	*01/26/25 05:32*	*1*
13C5 PFPeA	*83.9*		*35 - 130*	*01/23/25 12:33*	*01/26/25 05:32*	*1*
13C5 PFHxA	*97.3*		*40 - 130*	*01/23/25 12:33*	*01/26/25 05:32*	*1*
13C4 PFHpA	*88.6*		*40 - 130*	*01/23/25 12:33*	*01/26/25 05:32*	*1*
13C8 PFOA	*98.1*		*40 - 130*	*01/23/25 12:33*	*01/26/25 05:32*	*1*
13C9 PFNA	*94.5*		*40 - 130*	*01/23/25 12:33*	*01/26/25 05:32*	*1*
13C6 PFDA	*91.9*		*40 - 130*	*01/23/25 12:33*	*01/26/25 05:32*	*1*
13C7 PFUnA	*80.5*		*40 - 130*	*01/23/25 12:33*	*01/26/25 05:32*	*1*
13C2 PFDoA	*76.9*		*40 - 130*	*01/23/25 12:33*	*01/26/25 05:32*	*1*
13C2 PFTeDA	*77.5*		*20 - 130*	*01/23/25 12:33*	*01/26/25 05:32*	*1*
13C3 PFBS	*87.3*		*40 - 135*	*01/23/25 12:33*	*01/26/25 05:32*	*1*
13C3 PFHxS	*83.0*		*40 - 130*	*01/23/25 12:33*	*01/26/25 05:32*	*1*
13C8 PFOS	*91.7*		*40 - 130*	*01/23/25 12:33*	*01/26/25 05:32*	*1*
13C8 FOSA	*87.2*		*40 - 130*	*01/23/25 12:33*	*01/26/25 05:32*	*1*
d3-NMeFOSAA	*123*		*40 - 135*	*01/23/25 12:33*	*01/26/25 05:32*	*1*
d5-NEtFOSAA	*125*		*40 - 150*	*01/23/25 12:33*	*01/26/25 05:32*	*1*
13C2 4:2 FTS	*99.1*		*40 - 165*	*01/23/25 12:33*	*01/26/25 05:32*	*1*
13C2 6:2 FTS	*126*		*40 - 215*	*01/23/25 12:33*	*01/26/25 05:32*	*1*
13C2 8:2 FTS	*120*		*40 - 275*	*01/23/25 12:33*	*01/26/25 05:32*	*1*
13C3 HFPO-DA	*88.6*		*40 - 130*	*01/23/25 12:33*	*01/26/25 05:32*	*1*
d7-N-MeFOSE-M	*79.3*		*20 - 130*	*01/23/25 12:33*	*01/26/25 05:32*	*1*
d9-N-EtFOSE-M	*87.1*		*15 - 130*	*01/23/25 12:33*	*01/26/25 05:32*	*1*
d5-NEtPFOSA	*93.5*		*10 - 130*	*01/23/25 12:33*	*01/26/25 05:32*	*1*
d3-NMePFOSA	*85.5*		*10 - 130*	*01/23/25 12:33*	*01/26/25 05:32*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**140**		2.0	0.49	ug/Kg	☼	01/23/25 12:33	01/27/25 18:53	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*89.7*	**3*	*40 - 130*	*01/23/25 12:33*	*01/27/25 18:53*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**10**		0.10	0.10	%			01/22/25 15:02	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-1

Client Sample ID: JTA-007-N-S003-01172025
Date Collected: 01/17/25 10:00
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-3
Matrix: Solid
Percent Solids: 89.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.41	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
Perfluoropentanoic acid (PFPeA)	**0.14**	**J**	0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
Perfluorohexanoic acid (PFHxA)	**0.45**		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
Perfluorooctanoic acid (PFOA)	**0.36**		0.21	0.064	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
Perfluorononanoic acid (PFNA)	**0.18**	**J**	0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.21	0.060	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
Perfluorobutanesulfonic acid (PFBS)	**0.11**	**J**	0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
Perfluoropentanesulfonic acid (PFPeS)	**0.13**	**J**	0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
Perfluorohexanesulfonic acid (PFHxS)	**4.1**		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.72**		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
Perfluorononanesulfonic acid (PFNS)	**0.066**	**J**	0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.41	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.41	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.41	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
Perfluorooctanesulfonamide (PFOSA)	**0.15**	**J**	0.21	0.065	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.26	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.26	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.21	0.064	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1

Client Sample ID: JTA-007-N-S003-01172025

Date Collected: 01/17/25 10:00
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-3

Matrix: Solid
Percent Solids: 89.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.21	0.077	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.41	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	01/23/25 12:33	01/26/25 05:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*85.5*		*8 - 130*	*01/23/25 12:33*	*01/26/25 05:48*	*1*
13C5 PFPeA	*87.0*		*35 - 130*	*01/23/25 12:33*	*01/26/25 05:48*	*1*
13C5 PFHxA	*96.4*		*40 - 130*	*01/23/25 12:33*	*01/26/25 05:48*	*1*
13C4 PFHpA	*88.1*		*40 - 130*	*01/23/25 12:33*	*01/26/25 05:48*	*1*
13C8 PFOA	*101*		*40 - 130*	*01/23/25 12:33*	*01/26/25 05:48*	*1*
13C9 PFNA	*92.6*		*40 - 130*	*01/23/25 12:33*	*01/26/25 05:48*	*1*
13C6 PFDA	*81.8*		*40 - 130*	*01/23/25 12:33*	*01/26/25 05:48*	*1*
13C7 PFUnA	*69.0*		*40 - 130*	*01/23/25 12:33*	*01/26/25 05:48*	*1*
13C2 PFDoA	*66.0*		*40 - 130*	*01/23/25 12:33*	*01/26/25 05:48*	*1*
13C2 PFTeDA	*65.1*		*20 - 130*	*01/23/25 12:33*	*01/26/25 05:48*	*1*
13C3 PFBS	*88.0*		*40 - 135*	*01/23/25 12:33*	*01/26/25 05:48*	*1*
13C3 PFHxS	*83.4*		*40 - 130*	*01/23/25 12:33*	*01/26/25 05:48*	*1*
13C8 PFOS	*94.1*		*40 - 130*	*01/23/25 12:33*	*01/26/25 05:48*	*1*
13C8 FOSA	*127*		*40 - 130*	*01/23/25 12:33*	*01/26/25 05:48*	*1*
d3-NMeFOSAA	*146*	**5+*	*40 - 135*	*01/23/25 12:33*	*01/26/25 05:48*	*1*
d5-NEtFOSAA	*153*	**5+*	*40 - 150*	*01/23/25 12:33*	*01/26/25 05:48*	*1*
13C2 4:2 FTS	*110*		*40 - 165*	*01/23/25 12:33*	*01/26/25 05:48*	*1*
13C2 6:2 FTS	*99.9*		*40 - 215*	*01/23/25 12:33*	*01/26/25 05:48*	*1*
13C2 8:2 FTS	*93.7*		*40 - 275*	*01/23/25 12:33*	*01/26/25 05:48*	*1*
13C3 HFPO-DA	*84.4*		*40 - 130*	*01/23/25 12:33*	*01/26/25 05:48*	*1*
d7-N-MeFOSE-M	*120*		*20 - 130*	*01/23/25 12:33*	*01/26/25 05:48*	*1*
d9-N-EtFOSE-M	*126*		*15 - 130*	*01/23/25 12:33*	*01/26/25 05:48*	*1*
d5-NEtPFOSA	*114*		*10 - 130*	*01/23/25 12:33*	*01/26/25 05:48*	*1*
d3-NMePFOSA	*116*		*10 - 130*	*01/23/25 12:33*	*01/26/25 05:48*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**360**		10	2.6	ug/Kg	☼	01/23/25 12:33	01/27/25 18:04	50

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*67.0*	**3*	*40 - 130*	*01/23/25 12:33*	*01/27/25 18:04*	*50*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**10**		0.10	0.10	%			01/22/25 15:02	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-1

Client Sample ID: JTA-007-FD-S003-01172025
Date Collected: 01/17/25 10:30
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-4
Matrix: Solid
Percent Solids: 91.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.38	0.095	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
Perfluoropentanoic acid (PFPeA)	**0.18**	**J**	0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
Perfluorohexanoic acid (PFHxA)	**0.56**		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
Perfluorooctanoic acid (PFOA)	**0.49**		0.19	0.059	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
Perfluorononanoic acid (PFNA)	**0.22**		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.055	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
Perfluorobutanesulfonic acid (PFBS)	**0.12**	**J**	0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
Perfluoropentanesulfonic acid (PFPeS)	**0.15**	**J**	0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
Perfluorohexanesulfonic acid (PFHxS)	**4.4**		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
Perfluoroheptanesulfonic acid (PFHpS)	**1.0**		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
Perfluorononanesulfonic acid (PFNS)	**0.068**	**J**	0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.38	0.095	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.38	0.095	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.38	0.095	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
Perfluorooctanesulfonamide (PFOSA)	**0.18**	**J**	0.19	0.060	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.95	0.24	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.95	0.24	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.059	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1

Client Sample ID: JTA-007-FD-S003-01172025
Date Collected: 01/17/25 10:30
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-4
Matrix: Solid
Percent Solids: 91.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.072	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.38	0.095	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.95	0.24	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.95	0.24	ug/Kg	☼	01/23/25 12:33	01/26/25 06:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*81.1*		*8 - 130*	*01/23/25 12:33*	*01/26/25 06:04*	*1*
13C5 PFPeA	*94.4*		*35 - 130*	*01/23/25 12:33*	*01/26/25 06:04*	*1*
13C5 PFHxA	*97.5*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:04*	*1*
13C4 PFHpA	*103*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:04*	*1*
13C8 PFOA	*91.9*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:04*	*1*
13C9 PFNA	*99.8*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:04*	*1*
13C6 PFDA	*78.7*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:04*	*1*
13C7 PFUnA	*65.7*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:04*	*1*
13C2 PFDoA	*63.8*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:04*	*1*
13C2 PFTeDA	*58.3*		*20 - 130*	*01/23/25 12:33*	*01/26/25 06:04*	*1*
13C3 PFBS	*83.0*		*40 - 135*	*01/23/25 12:33*	*01/26/25 06:04*	*1*
13C3 PFHxS	*87.8*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:04*	*1*
13C8 PFOS	*92.1*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:04*	*1*
13C8 FOSA	*116*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:04*	*1*
d3-NMeFOSAA	*134*		*40 - 135*	*01/23/25 12:33*	*01/26/25 06:04*	*1*
d5-NEtFOSAA	*133*		*40 - 150*	*01/23/25 12:33*	*01/26/25 06:04*	*1*
13C2 4:2 FTS	*101*		*40 - 165*	*01/23/25 12:33*	*01/26/25 06:04*	*1*
13C2 6:2 FTS	*114*		*40 - 215*	*01/23/25 12:33*	*01/26/25 06:04*	*1*
13C2 8:2 FTS	*88.5*		*40 - 275*	*01/23/25 12:33*	*01/26/25 06:04*	*1*
13C3 HFPO-DA	*89.3*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:04*	*1*
d7-N-MeFOSE-M	*105*		*20 - 130*	*01/23/25 12:33*	*01/26/25 06:04*	*1*
d9-N-EtFOSE-M	*107*		*15 - 130*	*01/23/25 12:33*	*01/26/25 06:04*	*1*
d5-NEtPFOSA	*105*		*10 - 130*	*01/23/25 12:33*	*01/26/25 06:04*	*1*
d3-NMePFOSA	*117*		*10 - 130*	*01/23/25 12:33*	*01/26/25 06:04*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**380**		9.5	2.4	ug/Kg	☼	01/23/25 12:33	01/27/25 18:21	50

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*74.6*	**3*	*40 - 130*	*01/23/25 12:33*	*01/27/25 18:21*	*50*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**8.5**		0.10	0.10	%			01/22/25 15:02	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-1

Client Sample ID: JTA-008-N-S001-01172025
Date Collected: 01/17/25 11:00
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-9
Matrix: Solid
Percent Solids: 89.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.57**		0.39	0.099	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
Perfluoropentanoic acid (PFPeA)	**1.5**		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
Perfluorohexanoic acid (PFHxA)	**7.4**		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
Perfluoroheptanoic acid (PFHpA)	**0.99**		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
Perfluorooctanoic acid (PFOA)	**12**		0.20	0.061	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
Perfluorononanoic acid (PFNA)	**0.37**		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
Perfluorodecanoic acid (PFDA)	**0.11**	**J**	0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
Perfluorobutanesulfonic acid (PFBS)	**4.1**		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
Perfluoropentanesulfonic acid (PFPeS)	**5.1**		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.099	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.099	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.099	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.099	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 06:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*89.2*		*8 - 130*	*01/23/25 12:33*	*01/26/25 06:21*	*1*
13C5 PFPeA	*88.7*		*35 - 130*	*01/23/25 12:33*	*01/26/25 06:21*	*1*
13C5 PFHxA	*93.8*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:21*	*1*
13C4 PFHpA	*94.8*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:21*	*1*
13C8 PFOA	*85.4*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:21*	*1*
13C9 PFNA	*92.7*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:21*	*1*
13C6 PFDA	*90.4*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:21*	*1*
13C7 PFUnA	*75.9*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:21*	*1*
13C2 PFDoA	*68.7*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:21*	*1*

Client Sample ID: JTA-008-N-S001-01172025
Date Collected: 01/17/25 11:00
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-9
Matrix: Solid
Percent Solids: 89.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFTeDA	50.3		20 - 130	01/23/25 12:33	01/26/25 06:21	1
13C3 PFBS	109		40 - 135	01/23/25 12:33	01/26/25 06:21	1
13C3 PFHxS	81.5		40 - 130	01/23/25 12:33	01/26/25 06:21	1
13C2 4:2 FTS	124		40 - 165	01/23/25 12:33	01/26/25 06:21	1
13C2 6:2 FTS	144		40 - 215	01/23/25 12:33	01/26/25 06:21	1
13C2 8:2 FTS	120		40 - 275	01/23/25 12:33	01/26/25 06:21	1
13C3 HFPO-DA	88.3		40 - 130	01/23/25 12:33	01/26/25 06:21	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**210**		20	4.9	ug/Kg	☼	01/23/25 12:33	01/27/25 17:48	100
Perfluoroheptanesulfonic acid (PFHpS)	ND		20	4.9	ug/Kg	☼	01/23/25 12:33	01/27/25 17:48	100
Perfluorooctanesulfonic acid (PFOS)	**1900**		20	4.9	ug/Kg	☼	01/23/25 12:33	01/27/25 17:48	100
Perfluorononanesulfonic acid (PFNS)	ND		20	4.9	ug/Kg	☼	01/23/25 12:33	01/27/25 17:48	100
Perfluorodecanesulfonic acid (PFDS)	ND		20	4.9	ug/Kg	☼	01/23/25 12:33	01/27/25 17:48	100
Perfluorododecanesulfonic acid (PFDoS)	ND		20	4.9	ug/Kg	☼	01/23/25 12:33	01/27/25 17:48	100
Perfluorooctanesulfonamide (PFOSA)	ND		20	6.2	ug/Kg	☼	01/23/25 12:33	01/27/25 17:48	100
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		20	4.9	ug/Kg	☼	01/23/25 12:33	01/27/25 17:48	100
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		20	4.9	ug/Kg	☼	01/23/25 12:33	01/27/25 17:48	100
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20	4.9	ug/Kg	☼	01/23/25 12:33	01/27/25 17:48	100
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20	4.9	ug/Kg	☼	01/23/25 12:33	01/27/25 17:48	100
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		99	25	ug/Kg	☼	01/23/25 12:33	01/27/25 17:48	100
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		99	25	ug/Kg	☼	01/23/25 12:33	01/27/25 17:48	100

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	79.9	*3	40 - 130	01/23/25 12:33	01/27/25 17:48	100
13C8 PFOS	76.1	*3	40 - 130	01/23/25 12:33	01/27/25 17:48	100
13C8 FOSA	99.2	*3	40 - 130	01/23/25 12:33	01/27/25 17:48	100
d3-NMeFOSAA	104	*3	40 - 135	01/23/25 12:33	01/27/25 17:48	100
d5-NEtFOSAA	77.0	*3	40 - 150	01/23/25 12:33	01/27/25 17:48	100
d7-N-MeFOSE-M	50.9	*3	20 - 130	01/23/25 12:33	01/27/25 17:48	100
d9-N-EtFOSE-M	56.0	*3	15 - 130	01/23/25 12:33	01/27/25 17:48	100
d5-NEtPFOSA	70.5	*3	10 - 130	01/23/25 12:33	01/27/25 17:48	100
d3-NMePFOSA	81.8	*3	10 - 130	01/23/25 12:33	01/27/25 17:48	100

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**11**		0.10	0.10	%			01/22/25 15:02	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-1

Client Sample ID: JTA-008-N-S003-01172025
Date Collected: 01/17/25 11:05
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-10
Matrix: Solid
Percent Solids: 95.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.15**	**J**	0.41	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
Perfluoropentanoic acid (PFPeA)	**0.38**		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
Perfluorohexanoic acid (PFHxA)	**2.0**		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
Perfluoroheptanoic acid (PFHpA)	**0.36**		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
Perfluorooctanoic acid (PFOA)	**3.1**		0.21	0.064	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
Perfluorononanoic acid (PFNA)	**0.26**		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.21	0.060	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
Perfluorobutanesulfonic acid (PFBS)	**0.98**		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
Perfluoropentanesulfonic acid (PFPeS)	**0.99**		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
Perfluoroheptanesulfonic acid (PFHpS)	**1.9**		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.41	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.41	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.41	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.21	0.065	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.26	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.26	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.21	0.064	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.21	0.077	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1

Client Sample ID: JTA-008-N-S003-01172025

Date Collected: 01/17/25 11:05
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-10

Matrix: Solid
Percent Solids: 95.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.21	0.052	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.41	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	01/23/25 12:33	01/26/25 06:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*89.5*		*8 - 130*	*01/23/25 12:33*	*01/26/25 06:37*	*1*
13C5 PFPeA	*94.1*		*35 - 130*	*01/23/25 12:33*	*01/26/25 06:37*	*1*
13C5 PFHxA	*98.8*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:37*	*1*
13C4 PFHpA	*99.5*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:37*	*1*
13C8 PFOA	*97.0*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:37*	*1*
13C9 PFNA	*91.6*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:37*	*1*
13C6 PFDA	*97.0*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:37*	*1*
13C7 PFUnA	*93.1*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:37*	*1*
13C2 PFDoA	*100*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:37*	*1*
13C2 PFTeDA	*70.6*		*20 - 130*	*01/23/25 12:33*	*01/26/25 06:37*	*1*
13C3 PFBS	*96.3*		*40 - 135*	*01/23/25 12:33*	*01/26/25 06:37*	*1*
13C3 PFHxS	*91.2*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:37*	*1*
13C8 PFOS	*89.5*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:37*	*1*
13C8 FOSA	*105*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:37*	*1*
d3-NMeFOSAA	*117*		*40 - 135*	*01/23/25 12:33*	*01/26/25 06:37*	*1*
d5-NEtFOSAA	*123*		*40 - 150*	*01/23/25 12:33*	*01/26/25 06:37*	*1*
13C2 4:2 FTS	*102*		*40 - 165*	*01/23/25 12:33*	*01/26/25 06:37*	*1*
13C2 6:2 FTS	*114*		*40 - 215*	*01/23/25 12:33*	*01/26/25 06:37*	*1*
13C2 8:2 FTS	*116*		*40 - 275*	*01/23/25 12:33*	*01/26/25 06:37*	*1*
13C3 HFPO-DA	*91.2*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:37*	*1*
d7-N-MeFOSE-M	*81.0*		*20 - 130*	*01/23/25 12:33*	*01/26/25 06:37*	*1*
d9-N-EtFOSE-M	*81.8*		*15 - 130*	*01/23/25 12:33*	*01/26/25 06:37*	*1*
d5-NEtPFOSA	*102*		*10 - 130*	*01/23/25 12:33*	*01/26/25 06:37*	*1*
d3-NMePFOSA	*116*		*10 - 130*	*01/23/25 12:33*	*01/26/25 06:37*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**67**		4.1	1.0	ug/Kg	☼	01/23/25 12:33	01/27/25 18:37	20
Perfluorooctanesulfonic acid (PFOS)	**240**		4.1	1.0	ug/Kg	☼	01/23/25 12:33	01/27/25 18:37	20

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFHxS	*82.9*	**3*	*40 - 130*	*01/23/25 12:33*	*01/27/25 18:37*	*20*
13C8 PFOS	*76.5*	**3*	*40 - 130*	*01/23/25 12:33*	*01/27/25 18:37*	*20*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**4.4**		0.10	0.10	%			01/22/25 15:02	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-1

Client Sample ID: JTA-009-N-S001-01172025
Date Collected: 01/17/25 11:45
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-16
Matrix: Solid
Percent Solids: 88.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.41	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
Perfluoropentanoic acid (PFPeA)	**0.055**	**J**	0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
Perfluorohexanoic acid (PFHxA)	**0.055**	**J**	0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.063	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
Perfluorohexanesulfonic acid (PFHxS)	**0.13**	**J**	0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
Perfluorooctanesulfonic acid (PFOS)	**1.8**		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.41	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.41	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.41	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.064	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1

Client Sample ID: JTA-009-N-S001-01172025

Lab Sample ID: 320-118424-16
Date Collected: 01/17/25 11:45
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 88.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.41	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 06:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*84.1*		*8 - 130*	*01/23/25 12:33*	*01/26/25 06:54*	*1*
13C5 PFPeA	*93.0*		*35 - 130*	*01/23/25 12:33*	*01/26/25 06:54*	*1*
13C5 PFHxA	*89.0*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:54*	*1*
13C4 PFHpA	*102*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:54*	*1*
13C8 PFOA	*90.8*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:54*	*1*
13C9 PFNA	*88.9*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:54*	*1*
13C6 PFDA	*79.5*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:54*	*1*
13C7 PFUnA	*69.3*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:54*	*1*
13C2 PFDoA	*71.0*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:54*	*1*
13C2 PFTeDA	*57.8*		*20 - 130*	*01/23/25 12:33*	*01/26/25 06:54*	*1*
13C3 PFBS	*87.1*		*40 - 135*	*01/23/25 12:33*	*01/26/25 06:54*	*1*
13C3 PFHxS	*84.9*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:54*	*1*
13C8 PFOS	*81.1*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:54*	*1*
13C8 FOSA	*74.3*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:54*	*1*
d3-NMeFOSAA	*83.9*		*40 - 135*	*01/23/25 12:33*	*01/26/25 06:54*	*1*
d5-NEtFOSAA	*88.2*		*40 - 150*	*01/23/25 12:33*	*01/26/25 06:54*	*1*
13C2 4:2 FTS	*88.9*		*40 - 165*	*01/23/25 12:33*	*01/26/25 06:54*	*1*
13C2 6:2 FTS	*108*		*40 - 215*	*01/23/25 12:33*	*01/26/25 06:54*	*1*
13C2 8:2 FTS	*94.8*		*40 - 275*	*01/23/25 12:33*	*01/26/25 06:54*	*1*
13C3 HFPO-DA	*86.5*		*40 - 130*	*01/23/25 12:33*	*01/26/25 06:54*	*1*
d7-N-MeFOSE-M	*66.4*		*20 - 130*	*01/23/25 12:33*	*01/26/25 06:54*	*1*
d9-N-EtFOSE-M	*64.1*		*15 - 130*	*01/23/25 12:33*	*01/26/25 06:54*	*1*
d5-NEtPFOSA	*55.5*		*10 - 130*	*01/23/25 12:33*	*01/26/25 06:54*	*1*
d3-NMePFOSA	*65.1*		*10 - 130*	*01/23/25 12:33*	*01/26/25 06:54*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	11		0.10	0.10	%			01/22/25 15:02	1

Client Sample ID: JTA-009-N-S003-01172025

Lab Sample ID: 320-118424-17
Date Collected: 01/17/25 11:50
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 85.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-1

Client Sample ID: JTA-009-N-S003-01172025
Date Collected: 01/17/25 11:50
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-17
Matrix: Solid
Percent Solids: 85.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
Perfluorohexanesulfonic acid (PFHxS)	**0.084**	**J**	0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
Perfluorooctanesulfonic acid (PFOS)	**4.1**		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1

Client Sample ID: JTA-009-N-S003-01172025

Lab Sample ID: 320-118424-17

Date Collected: 01/17/25 11:50
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 85.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 07:43	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*77.0*		*8 - 130*	*01/23/25 12:33*	*01/26/25 07:43*	*1*
13C5 PFPeA	*82.5*		*35 - 130*	*01/23/25 12:33*	*01/26/25 07:43*	*1*
13C5 PFHxA	*94.5*		*40 - 130*	*01/23/25 12:33*	*01/26/25 07:43*	*1*
13C4 PFHpA	*98.0*		*40 - 130*	*01/23/25 12:33*	*01/26/25 07:43*	*1*
13C8 PFOA	*93.9*		*40 - 130*	*01/23/25 12:33*	*01/26/25 07:43*	*1*
13C9 PFNA	*87.8*		*40 - 130*	*01/23/25 12:33*	*01/26/25 07:43*	*1*
13C6 PFDA	*82.5*		*40 - 130*	*01/23/25 12:33*	*01/26/25 07:43*	*1*
13C7 PFUnA	*74.9*		*40 - 130*	*01/23/25 12:33*	*01/26/25 07:43*	*1*
13C2 PFDoA	*67.7*		*40 - 130*	*01/23/25 12:33*	*01/26/25 07:43*	*1*
13C2 PFTeDA	*50.4*		*20 - 130*	*01/23/25 12:33*	*01/26/25 07:43*	*1*
13C3 PFBS	*84.6*		*40 - 135*	*01/23/25 12:33*	*01/26/25 07:43*	*1*
13C3 PFHxS	*87.2*		*40 - 130*	*01/23/25 12:33*	*01/26/25 07:43*	*1*
13C8 PFOS	*79.2*		*40 - 130*	*01/23/25 12:33*	*01/26/25 07:43*	*1*
13C8 FOSA	*65.8*		*40 - 130*	*01/23/25 12:33*	*01/26/25 07:43*	*1*
d3-NMeFOSAA	*88.7*		*40 - 135*	*01/23/25 12:33*	*01/26/25 07:43*	*1*
d5-NEtFOSAA	*82.9*		*40 - 150*	*01/23/25 12:33*	*01/26/25 07:43*	*1*
13C2 4:2 FTS	*94.1*		*40 - 165*	*01/23/25 12:33*	*01/26/25 07:43*	*1*
13C2 6:2 FTS	*109*		*40 - 215*	*01/23/25 12:33*	*01/26/25 07:43*	*1*
13C2 8:2 FTS	*86.9*		*40 - 275*	*01/23/25 12:33*	*01/26/25 07:43*	*1*
13C3 HFPO-DA	*79.9*		*40 - 130*	*01/23/25 12:33*	*01/26/25 07:43*	*1*
d7-N-MeFOSE-M	*54.4*		*20 - 130*	*01/23/25 12:33*	*01/26/25 07:43*	*1*
d9-N-EtFOSE-M	*55.3*		*15 - 130*	*01/23/25 12:33*	*01/26/25 07:43*	*1*
d5-NEtPFOSA	*54.2*		*10 - 130*	*01/23/25 12:33*	*01/26/25 07:43*	*1*
d3-NMePFOSA	*62.7*		*10 - 130*	*01/23/25 12:33*	*01/26/25 07:43*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**15**		0.10	0.10	%			01/22/25 15:02	1

Client Sample ID: JTA-009-FD-S003-01172025

Lab Sample ID: 320-118424-18

Date Collected: 01/17/25 12:20
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 86.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.099	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
Perfluorohexanoic acid (PFHxA)	**0.051**	**J**	0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-1

Client Sample ID: JTA-009-FD-S003-01172025
Date Collected: 01/17/25 12:20
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-18
Matrix: Solid
Percent Solids: 86.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
Perfluorohexanesulfonic acid (PFHxS)	**0.18**	**J**	0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
Perfluorooctanesulfonic acid (PFOS)	**6.1**		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.099	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.099	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.099	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.099	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1

Client Sample ID: JTA-009-FD-S003-01172025

Lab Sample ID: 320-118424-18

Date Collected: 01/17/25 12:20
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 86.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 07:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*80.5*		*8 - 130*	*01/23/25 12:33*	*01/26/25 07:59*	*1*
13C5 PFPeA	*88.8*		*35 - 130*	*01/23/25 12:33*	*01/26/25 07:59*	*1*
13C5 PFHxA	*90.4*		*40 - 130*	*01/23/25 12:33*	*01/26/25 07:59*	*1*
13C4 PFHpA	*95.7*		*40 - 130*	*01/23/25 12:33*	*01/26/25 07:59*	*1*
13C8 PFOA	*101*		*40 - 130*	*01/23/25 12:33*	*01/26/25 07:59*	*1*
13C9 PFNA	*90.4*		*40 - 130*	*01/23/25 12:33*	*01/26/25 07:59*	*1*
13C6 PFDA	*82.9*		*40 - 130*	*01/23/25 12:33*	*01/26/25 07:59*	*1*
13C7 PFUnA	*66.0*		*40 - 130*	*01/23/25 12:33*	*01/26/25 07:59*	*1*
13C2 PFDoA	*69.1*		*40 - 130*	*01/23/25 12:33*	*01/26/25 07:59*	*1*
13C2 PFTeDA	*58.0*		*20 - 130*	*01/23/25 12:33*	*01/26/25 07:59*	*1*
13C3 PFBS	*85.3*		*40 - 135*	*01/23/25 12:33*	*01/26/25 07:59*	*1*
13C3 PFHxS	*85.2*		*40 - 130*	*01/23/25 12:33*	*01/26/25 07:59*	*1*
13C8 PFOS	*77.7*		*40 - 130*	*01/23/25 12:33*	*01/26/25 07:59*	*1*
13C8 FOSA	*68.5*		*40 - 130*	*01/23/25 12:33*	*01/26/25 07:59*	*1*
d3-NMeFOSAA	*83.9*		*40 - 135*	*01/23/25 12:33*	*01/26/25 07:59*	*1*
d5-NEtFOSAA	*84.8*		*40 - 150*	*01/23/25 12:33*	*01/26/25 07:59*	*1*
13C2 4:2 FTS	*97.2*		*40 - 165*	*01/23/25 12:33*	*01/26/25 07:59*	*1*
13C2 6:2 FTS	*99.0*		*40 - 215*	*01/23/25 12:33*	*01/26/25 07:59*	*1*
13C2 8:2 FTS	*95.4*		*40 - 275*	*01/23/25 12:33*	*01/26/25 07:59*	*1*
13C3 HFPO-DA	*86.1*		*40 - 130*	*01/23/25 12:33*	*01/26/25 07:59*	*1*
d7-N-MeFOSE-M	*62.2*		*20 - 130*	*01/23/25 12:33*	*01/26/25 07:59*	*1*
d9-N-EtFOSE-M	*63.7*		*15 - 130*	*01/23/25 12:33*	*01/26/25 07:59*	*1*
d5-NEtPFOSA	*56.9*		*10 - 130*	*01/23/25 12:33*	*01/26/25 07:59*	*1*
d3-NMePFOSA	*63.1*		*10 - 130*	*01/23/25 12:33*	*01/26/25 07:59*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**14**		0.10	0.10	%			01/22/25 15:02	1

Client Sample ID: RTA-003-N-S001-01172025

Lab Sample ID: 320-118424-25

Date Collected: 01/17/25 14:10
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 88.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.41	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.063	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
Perfluorononanoic acid (PFNA)	**0.089**	**J**	0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1

Client Sample ID: RTA-003-N-S001-01172025
Date Collected: 01/17/25 14:10
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-25
Matrix: Solid
Percent Solids: 88.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
Perfluorohexanesulfonic acid (PFHxS)	**0.073**	**J**	0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
Perfluorooctanesulfonic acid (PFOS)	**1.2**		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.41	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.41	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.41	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.064	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.41	0.10	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 08:16	1

Client Sample ID: RTA-003-N-S001-01172025

Lab Sample ID: 320-118424-25

Date Collected: 01/17/25 14:10
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 88.2

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*79.5*		*8 - 130*	*01/23/25 12:33*	*01/26/25 08:16*	*1*
13C5 PFPeA	*91.8*		*35 - 130*	*01/23/25 12:33*	*01/26/25 08:16*	*1*
13C5 PFHxA	*92.7*		*40 - 130*	*01/23/25 12:33*	*01/26/25 08:16*	*1*
13C4 PFHpA	*97.4*		*40 - 130*	*01/23/25 12:33*	*01/26/25 08:16*	*1*
13C8 PFOA	*90.2*		*40 - 130*	*01/23/25 12:33*	*01/26/25 08:16*	*1*
13C9 PFNA	*84.0*		*40 - 130*	*01/23/25 12:33*	*01/26/25 08:16*	*1*
13C6 PFDA	*65.3*		*40 - 130*	*01/23/25 12:33*	*01/26/25 08:16*	*1*
13C7 PFUnA	*52.4*		*40 - 130*	*01/23/25 12:33*	*01/26/25 08:16*	*1*
13C2 PFDoA	*50.6*		*40 - 130*	*01/23/25 12:33*	*01/26/25 08:16*	*1*
13C2 PFTeDA	*53.6*		*20 - 130*	*01/23/25 12:33*	*01/26/25 08:16*	*1*
13C3 PFBS	*80.4*		*40 - 135*	*01/23/25 12:33*	*01/26/25 08:16*	*1*
13C3 PFHxS	*82.8*		*40 - 130*	*01/23/25 12:33*	*01/26/25 08:16*	*1*
13C8 PFOS	*65.8*		*40 - 130*	*01/23/25 12:33*	*01/26/25 08:16*	*1*
13C8 FOSA	*60.1*		*40 - 130*	*01/23/25 12:33*	*01/26/25 08:16*	*1*
d3-NMeFOSAA	*66.4*		*40 - 135*	*01/23/25 12:33*	*01/26/25 08:16*	*1*
d5-NEtFOSAA	*60.4*		*40 - 150*	*01/23/25 12:33*	*01/26/25 08:16*	*1*
13C2 4:2 FTS	*109*		*40 - 165*	*01/23/25 12:33*	*01/26/25 08:16*	*1*
13C2 6:2 FTS	*108*		*40 - 215*	*01/23/25 12:33*	*01/26/25 08:16*	*1*
13C2 8:2 FTS	*83.2*		*40 - 275*	*01/23/25 12:33*	*01/26/25 08:16*	*1*
13C3 HFPO-DA	*85.9*		*40 - 130*	*01/23/25 12:33*	*01/26/25 08:16*	*1*
d7-N-MeFOSE-M	*47.1*		*20 - 130*	*01/23/25 12:33*	*01/26/25 08:16*	*1*
d9-N-EtFOSE-M	*51.4*		*15 - 130*	*01/23/25 12:33*	*01/26/25 08:16*	*1*
d5-NEtPFOSA	*50.2*		*10 - 130*	*01/23/25 12:33*	*01/26/25 08:16*	*1*
d3-NMePFOSA	*53.1*		*10 - 130*	*01/23/25 12:33*	*01/26/25 08:16*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**12**		0.10	0.10	%			01/22/25 15:02	1

Client Sample ID: RTA-003-N-S003-01172025

Lab Sample ID: 320-118424-26

Date Collected: 01/17/25 14:15
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 88.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.38	0.096	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
Perfluorooctanoic acid (PFOA)	**0.49**		0.19	0.059	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
Perfluorohexanesulfonic acid (PFHxS)	**0.31**		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1

Client Sample ID: RTA-003-N-S003-01172025
Date Collected: 01/17/25 14:15
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-26
Matrix: Solid
Percent Solids: 88.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
Perfluorooctanesulfonic acid (PFOS)	**0.072**	**J**	0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.38	0.096	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.38	0.096	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.38	0.096	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.060	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.96	0.24	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.96	0.24	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.059	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.072	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.38	0.096	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	01/23/25 12:33	01/26/25 08:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*83.4*		*8 - 130*	*01/23/25 12:33*	*01/26/25 08:32*	*1*
13C5 PFPeA	*98.8*		*35 - 130*	*01/23/25 12:33*	*01/26/25 08:32*	*1*
13C5 PFHxA	*94.3*		*40 - 130*	*01/23/25 12:33*	*01/26/25 08:32*	*1*
13C4 PFHpA	*102*		*40 - 130*	*01/23/25 12:33*	*01/26/25 08:32*	*1*
13C8 PFOA	*96.3*		*40 - 130*	*01/23/25 12:33*	*01/26/25 08:32*	*1*

Client Sample ID: RTA-003-N-S003-01172025

Lab Sample ID: 320-118424-26

Date Collected: 01/17/25 14:15
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 88.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C9 PFNA	90.8		40 - 130	01/23/25 12:33	01/26/25 08:32	1
13C6 PFDA	79.7		40 - 130	01/23/25 12:33	01/26/25 08:32	1
13C7 PFUnA	65.1		40 - 130	01/23/25 12:33	01/26/25 08:32	1
13C2 PFDoA	68.7		40 - 130	01/23/25 12:33	01/26/25 08:32	1
13C2 PFTeDA	58.2		20 - 130	01/23/25 12:33	01/26/25 08:32	1
13C3 PFBS	70.1		40 - 135	01/23/25 12:33	01/26/25 08:32	1
13C3 PFHxS	82.8		40 - 130	01/23/25 12:33	01/26/25 08:32	1
13C8 PFOS	79.0		40 - 130	01/23/25 12:33	01/26/25 08:32	1
13C8 FOSA	70.7		40 - 130	01/23/25 12:33	01/26/25 08:32	1
d3-NMeFOSAA	84.9		40 - 135	01/23/25 12:33	01/26/25 08:32	1
d5-NEtFOSAA	84.3		40 - 150	01/23/25 12:33	01/26/25 08:32	1
13C2 4:2 FTS	77.1		40 - 165	01/23/25 12:33	01/26/25 08:32	1
13C2 6:2 FTS	85.6		40 - 215	01/23/25 12:33	01/26/25 08:32	1
13C2 8:2 FTS	87.3		40 - 275	01/23/25 12:33	01/26/25 08:32	1
13C3 HFPO-DA	84.6		40 - 130	01/23/25 12:33	01/26/25 08:32	1
d7-N-MeFOSE-M	67.1		20 - 130	01/23/25 12:33	01/26/25 08:32	1
d9-N-EtFOSE-M	67.6		15 - 130	01/23/25 12:33	01/26/25 08:32	1
d5-NEtPFOSA	56.7		10 - 130	01/23/25 12:33	01/26/25 08:32	1
d3-NMePFOSA	62.2		10 - 130	01/23/25 12:33	01/26/25 08:32	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**12**		0.10	0.10	%			01/22/25 15:02	1

Client Sample ID: RTA-003-FD-S003-01172025

Lab Sample ID: 320-118424-27

Date Collected: 01/17/25 14:20
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 89.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.099	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
Perfluorooctanoic acid (PFOA)	**0.37**		0.20	0.061	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
Perfluorohexanesulfonic acid (PFHxS)	**0.24**		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
Perfluorooctanesulfonic acid (PFOS)	**0.064**	**J**	0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-1

Client Sample ID: RTA-003-FD-S003-01172025
Date Collected: 01/17/25 14:20
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-27
Matrix: Solid
Percent Solids: 89.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.099	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.099	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.099	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/23/25 12:33	01/26/25 08:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*78.0*		*8 - 130*	*01/23/25 12:33*	*01/26/25 08:49*	*1*
13C5 PFPeA	*88.8*		*35 - 130*	*01/23/25 12:33*	*01/26/25 08:49*	*1*
13C5 PFHxA	*88.4*		*40 - 130*	*01/23/25 12:33*	*01/26/25 08:49*	*1*
13C4 PFHpA	*84.7*		*40 - 130*	*01/23/25 12:33*	*01/26/25 08:49*	*1*
13C8 PFOA	*99.0*		*40 - 130*	*01/23/25 12:33*	*01/26/25 08:49*	*1*
13C9 PFNA	*89.4*		*40 - 130*	*01/23/25 12:33*	*01/26/25 08:49*	*1*
13C6 PFDA	*78.6*		*40 - 130*	*01/23/25 12:33*	*01/26/25 08:49*	*1*
13C7 PFUnA	*65.4*		*40 - 130*	*01/23/25 12:33*	*01/26/25 08:49*	*1*
13C2 PFDoA	*60.6*		*40 - 130*	*01/23/25 12:33*	*01/26/25 08:49*	*1*

Client Sample ID: RTA-003-FD-S003-01172025

Lab Sample ID: 320-118424-27

Date Collected: 01/17/25 14:20
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 89.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFTeDA	54.2		20 - 130	01/23/25 12:33	01/26/25 08:49	1
13C3 PFBS	73.9		40 - 135	01/23/25 12:33	01/26/25 08:49	1
13C3 PFHxS	85.0		40 - 130	01/23/25 12:33	01/26/25 08:49	1
13C8 PFOS	77.2		40 - 130	01/23/25 12:33	01/26/25 08:49	1
13C8 FOSA	65.5		40 - 130	01/23/25 12:33	01/26/25 08:49	1
d3-NMeFOSAA	79.5		40 - 135	01/23/25 12:33	01/26/25 08:49	1
d5-NEtFOSAA	77.9		40 - 150	01/23/25 12:33	01/26/25 08:49	1
13C2 4:2 FTS	89.3		40 - 165	01/23/25 12:33	01/26/25 08:49	1
13C2 6:2 FTS	100		40 - 215	01/23/25 12:33	01/26/25 08:49	1
13C2 8:2 FTS	85.1		40 - 275	01/23/25 12:33	01/26/25 08:49	1
13C3 HFPO-DA	80.5		40 - 130	01/23/25 12:33	01/26/25 08:49	1
d7-N-MeFOSE-M	61.5		20 - 130	01/23/25 12:33	01/26/25 08:49	1
d9-N-EtFOSE-M	61.7		15 - 130	01/23/25 12:33	01/26/25 08:49	1
d5-NEtPFOSA	52.2		10 - 130	01/23/25 12:33	01/26/25 08:49	1
d3-NMePFOSA	58.8		10 - 130	01/23/25 12:33	01/26/25 08:49	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	11		0.10	0.10	%			01/22/25 15:02	1

Client Sample ID: EB-01172025

Lab Sample ID: 320-118424-33

Date Collected: 01/17/25 09:40
Matrix: Water
Date Received: 01/21/25 11:15

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.7	0.91	ng/L		01/23/25 05:15	01/28/25 02:44	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.46	ng/L		01/23/25 05:15	01/28/25 02:44	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.46	ng/L		01/23/25 05:15	01/28/25 02:44	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.46	ng/L		01/23/25 05:15	01/28/25 02:44	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.46	ng/L		01/23/25 05:15	01/28/25 02:44	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.46	ng/L		01/23/25 05:15	01/28/25 02:44	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.46	ng/L		01/23/25 05:15	01/28/25 02:44	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.46	ng/L		01/23/25 05:15	01/28/25 02:44	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		01/23/25 05:15	01/28/25 02:44	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.53	ng/L		01/23/25 05:15	01/28/25 02:44	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.8	0.74	ng/L		01/23/25 05:15	01/28/25 02:44	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.46	ng/L		01/23/25 05:15	01/28/25 02:44	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.46	ng/L		01/23/25 05:15	01/28/25 02:44	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.46	ng/L		01/23/25 05:15	01/28/25 02:44	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.46	ng/L		01/23/25 05:15	01/28/25 02:44	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.46	ng/L		01/23/25 05:15	01/28/25 02:44	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.46	ng/L		01/23/25 05:15	01/28/25 02:44	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.46	ng/L		01/23/25 05:15	01/28/25 02:44	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.48	ng/L		01/23/25 05:15	01/28/25 02:44	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.7	0.91	ng/L		01/23/25 05:15	01/28/25 02:44	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-1

Client Sample ID: EB-01172025
Date Collected: 01/17/25 09:40
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-33
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.7	0.91	ng/L		01/23/25 05:15	01/28/25 02:44	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.7	0.91	ng/L		01/23/25 05:15	01/28/25 02:44	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.46	ng/L		01/23/25 05:15	01/28/25 02:44	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.8	0.46	ng/L		01/23/25 05:15	01/28/25 02:44	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.8	0.46	ng/L		01/23/25 05:15	01/28/25 02:44	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.8	0.46	ng/L		01/23/25 05:15	01/28/25 02:44	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.8	0.46	ng/L		01/23/25 05:15	01/28/25 02:44	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		9.1	2.3	ng/L		01/23/25 05:15	01/28/25 02:44	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		9.1	2.3	ng/L		01/23/25 05:15	01/28/25 02:44	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 02:44	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.46	ng/L		01/23/25 05:15	01/28/25 02:44	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.8	0.46	ng/L		01/23/25 05:15	01/28/25 02:44	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.8	0.46	ng/L		01/23/25 05:15	01/28/25 02:44	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.8	0.66	ng/L		01/23/25 05:15	01/28/25 02:44	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.8	0.53	ng/L		01/23/25 05:15	01/28/25 02:44	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.8	0.46	ng/L		01/23/25 05:15	01/28/25 02:44	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.8	0.46	ng/L		01/23/25 05:15	01/28/25 02:44	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.7	0.91	ng/L		01/23/25 05:15	01/28/25 02:44	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		9.1	2.3	ng/L		01/23/25 05:15	01/28/25 02:44	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		9.1	2.3	ng/L		01/23/25 05:15	01/28/25 02:44	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*86.6*		*5 - 130*	*01/23/25 05:15*	*01/28/25 02:44*	*1*
13C5 PFPeA	*97.6*		*40 - 130*	*01/23/25 05:15*	*01/28/25 02:44*	*1*
13C5 PFHxA	*112*		*40 - 130*	*01/23/25 05:15*	*01/28/25 02:44*	*1*
13C4 PFHpA	*103*		*40 - 130*	*01/23/25 05:15*	*01/28/25 02:44*	*1*
13C8 PFOA	*102*		*40 - 130*	*01/23/25 05:15*	*01/28/25 02:44*	*1*
13C9 PFNA	*100*		*40 - 130*	*01/23/25 05:15*	*01/28/25 02:44*	*1*
13C6 PFDA	*95.4*		*40 - 130*	*01/23/25 05:15*	*01/28/25 02:44*	*1*
13C7 PFUnA	*93.1*		*30 - 130*	*01/23/25 05:15*	*01/28/25 02:44*	*1*
13C2 PFDoA	*101*		*10 - 130*	*01/23/25 05:15*	*01/28/25 02:44*	*1*
13C2 PFTeDA	*87.9*		*10 - 130*	*01/23/25 05:15*	*01/28/25 02:44*	*1*
13C3 PFBS	*103*		*40 - 135*	*01/23/25 05:15*	*01/28/25 02:44*	*1*
13C3 PFHxS	*102*		*40 - 130*	*01/23/25 05:15*	*01/28/25 02:44*	*1*
13C8 PFOS	*102*		*40 - 130*	*01/23/25 05:15*	*01/28/25 02:44*	*1*
13C8 FOSA	*89.7*		*40 - 130*	*01/23/25 05:15*	*01/28/25 02:44*	*1*

Client Sample ID: EB-01172025

Lab Sample ID: 320-118424-33

Date Collected: 01/17/25 09:40

Matrix: Water

Date Received: 01/21/25 11:15

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMeFOSAA	99.3		40 - 170	01/23/25 05:15	01/28/25 02:44	1
d5-NEtFOSAA	97.7		25 - 135	01/23/25 05:15	01/28/25 02:44	1
13C2 4:2 FTS	128		40 - 200	01/23/25 05:15	01/28/25 02:44	1
13C2 6:2 FTS	112		40 - 200	01/23/25 05:15	01/28/25 02:44	1
13C2 8:2 FTS	100		40 - 300	01/23/25 05:15	01/28/25 02:44	1
13C3 HFPO-DA	82.9		40 - 130	01/23/25 05:15	01/28/25 02:44	1
d7-N-MeFOSE-M	86.5		10 - 130	01/23/25 05:15	01/28/25 02:44	1
d9-N-EtFOSE-M	79.8		10 - 130	01/23/25 05:15	01/28/25 02:44	1
d5-NEtPFOSA	76.4		10 - 130	01/23/25 05:15	01/28/25 02:44	1
d3-NMePFOSA	76.6		10 - 130	01/23/25 05:15	01/28/25 02:44	1

Client Sample ID: FB-01172025

Lab Sample ID: 320-118424-34

Date Collected: 01/17/25 00:00

Matrix: Water

Date Received: 01/21/25 11:15

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		2.8	0.71	ng/L		01/23/25 05:15	01/28/25 03:00	1
Perfluoropentanoic acid (PFPeA)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 03:00	1
Perfluorohexanoic acid (PFHxA)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 03:00	1
Perfluoroheptanoic acid (PFHpA)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 03:00	1
Perfluorooctanoic acid (PFOA)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 03:00	1
Perfluorononanoic acid (PFNA)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 03:00	1
Perfluorodecanoic acid (PFDA)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 03:00	1
Perfluoroundecanoic acid (PFUnA)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 03:00	1
Perfluorododecanoic acid (PFDoA)	ND		1.4	0.39	ng/L		01/23/25 05:15	01/28/25 03:00	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.4	0.41	ng/L		01/23/25 05:15	01/28/25 03:00	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.4	0.58	ng/L		01/23/25 05:15	01/28/25 03:00	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 03:00	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 03:00	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 03:00	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 03:00	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 03:00	1
Perfluorononanesulfonic acid (PFNS)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 03:00	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 03:00	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.4	0.38	ng/L		01/23/25 05:15	01/28/25 03:00	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.8	0.71	ng/L		01/23/25 05:15	01/28/25 03:00	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.8	0.71	ng/L		01/23/25 05:15	01/28/25 03:00	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.8	0.71	ng/L		01/23/25 05:15	01/28/25 03:00	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 03:00	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 03:00	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 03:00	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 03:00	1

Client Sample ID: FB-01172025
Date Collected: 01/17/25 00:00
Date Received: 01/21/25 11:15

Lab Sample ID: 320-118424-34
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 03:00	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		7.1	1.8	ng/L		01/23/25 05:15	01/28/25 03:00	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		7.1	1.8	ng/L		01/23/25 05:15	01/28/25 03:00	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.1	0.28	ng/L		01/23/25 05:15	01/28/25 03:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 03:00	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 03:00	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 03:00	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.4	0.51	ng/L		01/23/25 05:15	01/28/25 03:00	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.4	0.41	ng/L		01/23/25 05:15	01/28/25 03:00	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 03:00	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.4	0.36	ng/L		01/23/25 05:15	01/28/25 03:00	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		2.8	0.71	ng/L		01/23/25 05:15	01/28/25 03:00	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		7.1	1.8	ng/L		01/23/25 05:15	01/28/25 03:00	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		7.1	1.8	ng/L		01/23/25 05:15	01/28/25 03:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*85.6*		*5 - 130*	*01/23/25 05:15*	*01/28/25 03:00*	*1*
13C5 PFPeA	*92.9*		*40 - 130*	*01/23/25 05:15*	*01/28/25 03:00*	*1*
13C5 PFHxA	*104*		*40 - 130*	*01/23/25 05:15*	*01/28/25 03:00*	*1*
13C4 PFHpA	*106*		*40 - 130*	*01/23/25 05:15*	*01/28/25 03:00*	*1*
13C8 PFOA	*106*		*40 - 130*	*01/23/25 05:15*	*01/28/25 03:00*	*1*
13C9 PFNA	*103*		*40 - 130*	*01/23/25 05:15*	*01/28/25 03:00*	*1*
13C6 PFDA	*106*		*40 - 130*	*01/23/25 05:15*	*01/28/25 03:00*	*1*
13C7 PFUnA	*92.5*		*30 - 130*	*01/23/25 05:15*	*01/28/25 03:00*	*1*
13C2 PFDoA	*104*		*10 - 130*	*01/23/25 05:15*	*01/28/25 03:00*	*1*
13C2 PFTeDA	*86.4*		*10 - 130*	*01/23/25 05:15*	*01/28/25 03:00*	*1*
13C3 PFBS	*100*		*40 - 135*	*01/23/25 05:15*	*01/28/25 03:00*	*1*
13C3 PFHxS	*105*		*40 - 130*	*01/23/25 05:15*	*01/28/25 03:00*	*1*
13C8 PFOS	*102*		*40 - 130*	*01/23/25 05:15*	*01/28/25 03:00*	*1*
13C8 FOSA	*86.0*		*40 - 130*	*01/23/25 05:15*	*01/28/25 03:00*	*1*
d3-NMeFOSAA	*97.6*		*40 - 170*	*01/23/25 05:15*	*01/28/25 03:00*	*1*
d5-NEtFOSAA	*95.7*		*25 - 135*	*01/23/25 05:15*	*01/28/25 03:00*	*1*
13C2 4:2 FTS	*107*		*40 - 200*	*01/23/25 05:15*	*01/28/25 03:00*	*1*
13C2 6:2 FTS	*116*		*40 - 200*	*01/23/25 05:15*	*01/28/25 03:00*	*1*
13C2 8:2 FTS	*105*		*40 - 300*	*01/23/25 05:15*	*01/28/25 03:00*	*1*
13C3 HFPO-DA	*82.2*		*40 - 130*	*01/23/25 05:15*	*01/28/25 03:00*	*1*
d7-N-MeFOSE-M	*72.2*		*10 - 130*	*01/23/25 05:15*	*01/28/25 03:00*	*1*
d9-N-EtFOSE-M	*75.9*		*10 - 130*	*01/23/25 05:15*	*01/28/25 03:00*	*1*
d5-NEtPFOSA	*60.7*		*10 - 130*	*01/23/25 05:15*	*01/28/25 03:00*	*1*
d3-NMePFOSA	*61.1*		*10 - 130*	*01/23/25 05:15*	*01/28/25 03:00*	*1*

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (8-130)	PFPeA (35-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (40-130)
320-118424-2	JTA-007-N-S001-01172025	88.0	83.9	97.3	88.6	98.1	94.5	91.9	80.5
320-118424-2 - DL	JTA-007-N-S001-01172025								
320-118424-3	JTA-007-N-S003-01172025	85.5	87.0	96.4	88.1	101	92.6	81.8	69.0
320-118424-3 - DL	JTA-007-N-S003-01172025								
320-118424-4	JTA-007-FD-S003-01172025	81.1	94.4	97.5	103	91.9	99.8	78.7	65.7
320-118424-4 - DL	JTA-007-FD-S003-01172025								
320-118424-9	JTA-008-N-S001-01172025	89.2	88.7	93.8	94.8	85.4	92.7	90.4	75.9
320-118424-9 - DL	JTA-008-N-S001-01172025								
320-118424-10	JTA-008-N-S003-01172025	89.5	94.1	98.8	99.5	97.0	91.6	97.0	93.1
320-118424-10 - DL	JTA-008-N-S003-01172025								
320-118424-16	JTA-009-N-S001-01172025	84.1	93.0	89.0	102	90.8	88.9	79.5	69.3
320-118424-17	JTA-009-N-S003-01172025	77.0	82.5	94.5	98.0	93.9	87.8	82.5	74.9
320-118424-18	JTA-009-FD-S003-01172025	80.5	88.8	90.4	95.7	101	90.4	82.9	66.0
320-118424-25	RTA-003-N-S001-01172025	79.5	91.8	92.7	97.4	90.2	84.0	65.3	52.4
320-118424-26	RTA-003-N-S003-01172025	83.4	98.8	94.3	102	96.3	90.8	79.7	65.1
320-118424-27	RTA-003-FD-S003-01172025	78.0	88.8	88.4	84.7	99.0	89.4	78.6	65.4
LCS 320-829169/3-A	Lab Control Sample	82.5	95.4	100	98.8	98.9	94.7	96.0	90.2
LCS 320-829169/3-A - RA	Lab Control Sample		87.7						
LCSD 320-829169/4-A	Lab Control Sample Dup	86.0	76.1	99.2	105	97.9	95.9	91.5	79.8
LCSD 320-829169/4-A - RA	Lab Control Sample Dup		110						
LLCS 320-829169/2-A	Lab Control Sample	82.9	90.1	101	107	96.7	93.4	85.5	87.4
MB 320-829169/1-A	Method Blank	85.0	92.1	102	100	91.7	89.1	83.5	76.7

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (40-130)	PFTDA (20-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-135)	d5NEFOS (40-150)
320-118424-2	JTA-007-N-S001-01172025	76.9	77.5	87.3	83.0	91.7	87.2	123	125
320-118424-2 - DL	JTA-007-N-S001-01172025					89.7 *3			
320-118424-3	JTA-007-N-S003-01172025	66.0	65.1	88.0	83.4	94.1	127	146 *5+	153 *5+
320-118424-3 - DL	JTA-007-N-S003-01172025					67.0 *3			
320-118424-4	JTA-007-FD-S003-01172025	63.8	58.3	83.0	87.8	92.1	116	134	133
320-118424-4 - DL	JTA-007-FD-S003-01172025					74.6 *3			
320-118424-9	JTA-008-N-S001-01172025	68.7	50.3	109	81.5				
320-118424-9 - DL	JTA-008-N-S001-01172025				79.9 *3	76.1 *3	99.2 *3	104 *3	77.0 *3
320-118424-10	JTA-008-N-S003-01172025	100	70.6	96.3	91.2	89.5	105	117	123
320-118424-10 - DL	JTA-008-N-S003-01172025				82.9 *3	76.5 *3			
320-118424-16	JTA-009-N-S001-01172025	71.0	57.8	87.1	84.9	81.1	74.3	83.9	88.2
320-118424-17	JTA-009-N-S003-01172025	67.7	50.4	84.6	87.2	79.2	65.8	88.7	82.9
320-118424-18	JTA-009-FD-S003-01172025	69.1	58.0	85.3	85.2	77.7	68.5	83.9	84.8
320-118424-25	RTA-003-N-S001-01172025	50.6	53.6	80.4	82.8	65.8	60.1	66.4	60.4
320-118424-26	RTA-003-N-S003-01172025	68.7	58.2	70.1	82.8	79.0	70.7	84.9	84.3
320-118424-27	RTA-003-FD-S003-01172025	60.6	54.2	73.9	85.0	77.2	65.5	79.5	77.9
LCS 320-829169/3-A	Lab Control Sample	94.2	81.1	85.4	94.1	88.6	88.0	108	111
LCS 320-829169/3-A - RA	Lab Control Sample								
LCSD 320-829169/4-A	Lab Control Sample Dup	82.2	71.7	94.8	88.6	86.2	82.0	106	102
LCSD 320-829169/4-A - RA	Lab Control Sample Dup								
LLCS 320-829169/2-A	Lab Control Sample	89.3	73.7	92.2	85.6	82.1	85.4	102	103
MB 320-829169/1-A	Method Blank	88.0	70.7	90.5	92.6	89.3	81.6	102	100

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118424-1
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Solid
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118424-2	JTA-007-N-S001-01172025	99.1	126	120	88.6	79.3	87.1	93.5	85.5
320-118424-2 - DL	JTA-007-N-S001-01172025								
320-118424-3	JTA-007-N-S003-01172025	110	99.9	93.7	84.4	120	126	114	116
320-118424-3 - DL	JTA-007-N-S003-01172025								
320-118424-4	JTA-007-FD-S003-01172025	101	114	88.5	89.3	105	107	105	117
320-118424-4 - DL	JTA-007-FD-S003-01172025								
320-118424-9	JTA-008-N-S001-01172025	124	144	120	88.3				
320-118424-9 - DL	JTA-008-N-S001-01172025					50.9 *3	56.0 *3	70.5 *3	81.8 *3
320-118424-10	JTA-008-N-S003-01172025	102	114	116	91.2	81.0	81.8	102	116
320-118424-10 - DL	JTA-008-N-S003-01172025								
320-118424-16	JTA-009-N-S001-01172025	88.9	108	94.8	86.5	66.4	64.1	55.5	65.1
320-118424-17	JTA-009-N-S003-01172025	94.1	109	86.9	79.9	54.4	55.3	54.2	62.7
320-118424-18	JTA-009-FD-S003-01172025	97.2	99.0	95.4	86.1	62.2	63.7	56.9	63.1
320-118424-25	RTA-003-N-S001-01172025	109	108	83.2	85.9	47.1	51.4	50.2	53.1
320-118424-26	RTA-003-N-S003-01172025	77.1	85.6	87.3	84.6	67.1	67.6	56.7	62.2
320-118424-27	RTA-003-FD-S003-01172025	89.3	100	85.1	80.5	61.5	61.7	52.2	58.8
LCS 320-829169/3-A	Lab Control Sample	96.8	108	107	87.5	78.4	86.0	66.2	68.0
LCS 320-829169/3-A - RA	Lab Control Sample								
LCSD 320-829169/4-A	Lab Control Sample Dup	123	115	110	88.5	78.4	77.1	69.1	72.9
LCSD 320-829169/4-A - RA	Lab Control Sample Dup								
LLCS 320-829169/2-A	Lab Control Sample	90.3	120	105	91.1	67.0	69.6	66.0	75.9
MB 320-829169/1-A	Method Blank	96.9	120	105	94.2	69.4	75.6	62.0	64.0

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118424-1
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (5-130)	PFPeA (40-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (30-130)
320-118424-33	EB-01172025	86.6	97.6	112	103	102	100	95.4	93.1
320-118424-34	FB-01172025	85.6	92.9	104	106	106	103	106	92.5
LCS 320-829034/3-A	Lab Control Sample	89.5	90.6	105	109	103	107	99.3	93.2
LCSD 320-829034/4-A	Lab Control Sample Dup	85.0	103	109	109	102	94.4	94.8	83.9
LLCS 320-829034/2-A	Lab Control Sample	84.8	95.3	100	103	111	106	95.6	97.0
MB 320-829034/1-A	Method Blank	90.5	108	106	118	116	101	103	84.0

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (10-130)	PFTDA (10-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-170)	d5NEFOS (25-135)
320-118424-33	EB-01172025	101	87.9	103	102	102	89.7	99.3	97.7
320-118424-34	FB-01172025	104	86.4	100	105	102	86.0	97.6	95.7
LCS 320-829034/3-A	Lab Control Sample	98.7	85.3	101	96.4	93.3	80.0	89.2	91.6
LCSD 320-829034/4-A	Lab Control Sample Dup	90.2	80.6	97.0	99.9	94.3	78.8	87.2	87.0
LLCS 320-829034/2-A	Lab Control Sample	100	88.1	93.0	98.7	98.4	82.8	92.0	98.3
MB 320-829034/1-A	Method Blank	101	88.1	102	102	103	88.8	91.0	93.7

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-200)	M262FTS (40-200)	M282FTS (40-300)	HFPODA (40-130)	NMFM (10-130)	NEFM (10-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118424-33	EB-01172025	128	112	100	82.9	86.5	79.8	76.4	76.6
320-118424-34	FB-01172025	107	116	105	82.2	72.2	75.9	60.7	61.1
LCS 320-829034/3-A	Lab Control Sample	91.1	121	105	83.1	74.5	75.3	66.6	63.8
LCSD 320-829034/4-A	Lab Control Sample Dup	88.3	114	96.6	84.1	68.7	68.9	63.6	60.7
LLCS 320-829034/2-A	Lab Control Sample	114	116	99.5	83.3	73.1	70.3	59.5	59.9
MB 320-829034/1-A	Method Blank	125	130	112	89.0	84.4	83.7	74.5	71.3

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-829034/1-A
Matrix: Water
Analysis Batch: 829569

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 829034

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.0	1.0	ng/L		01/23/25 05:15	01/28/25 01:21	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.50	ng/L		01/23/25 05:15	01/28/25 01:21	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		01/23/25 05:15	01/28/25 01:21	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		01/23/25 05:15	01/28/25 01:21	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		01/23/25 05:15	01/28/25 01:21	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		01/23/25 05:15	01/28/25 01:21	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		01/23/25 05:15	01/28/25 01:21	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		01/23/25 05:15	01/28/25 01:21	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		01/23/25 05:15	01/28/25 01:21	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.58	ng/L		01/23/25 05:15	01/28/25 01:21	1
Perfluorotetradecanoic acid (PFTeDA)	ND		2.0	0.81	ng/L		01/23/25 05:15	01/28/25 01:21	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		01/23/25 05:15	01/28/25 01:21	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		01/23/25 05:15	01/28/25 01:21	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		01/23/25 05:15	01/28/25 01:21	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.50	ng/L		01/23/25 05:15	01/28/25 01:21	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		01/23/25 05:15	01/28/25 01:21	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		01/23/25 05:15	01/28/25 01:21	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		01/23/25 05:15	01/28/25 01:21	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.53	ng/L		01/23/25 05:15	01/28/25 01:21	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		4.0	1.0	ng/L		01/23/25 05:15	01/28/25 01:21	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		4.0	1.0	ng/L		01/23/25 05:15	01/28/25 01:21	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		4.0	1.0	ng/L		01/23/25 05:15	01/28/25 01:21	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		01/23/25 05:15	01/28/25 01:21	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		2.0	0.50	ng/L		01/23/25 05:15	01/28/25 01:21	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		2.0	0.50	ng/L		01/23/25 05:15	01/28/25 01:21	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ng/L		01/23/25 05:15	01/28/25 01:21	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.50	ng/L		01/23/25 05:15	01/28/25 01:21	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		10	2.5	ng/L		01/23/25 05:15	01/28/25 01:21	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		10	2.5	ng/L		01/23/25 05:15	01/28/25 01:21	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.5	0.39	ng/L		01/23/25 05:15	01/28/25 01:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.50	ng/L		01/23/25 05:15	01/28/25 01:21	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	0.50	ng/L		01/23/25 05:15	01/28/25 01:21	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	0.50	ng/L		01/23/25 05:15	01/28/25 01:21	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	0.72	ng/L		01/23/25 05:15	01/28/25 01:21	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		2.0	0.58	ng/L		01/23/25 05:15	01/28/25 01:21	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-829034/1-A
Matrix: Water
Analysis Batch: 829569

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 829034

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	0.50	ng/L		01/23/25 05:15	01/28/25 01:21	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	0.50	ng/L		01/23/25 05:15	01/28/25 01:21	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		4.0	1.0	ng/L		01/23/25 05:15	01/28/25 01:21	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		10	2.5	ng/L		01/23/25 05:15	01/28/25 01:21	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		10	2.5	ng/L		01/23/25 05:15	01/28/25 01:21	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*90.5*		*5 - 130*	*01/23/25 05:15*	*01/28/25 01:21*	*1*
13C5 PFPeA	*108*		*40 - 130*	*01/23/25 05:15*	*01/28/25 01:21*	*1*
13C5 PFHxA	*106*		*40 - 130*	*01/23/25 05:15*	*01/28/25 01:21*	*1*
13C4 PFHpA	*118*		*40 - 130*	*01/23/25 05:15*	*01/28/25 01:21*	*1*
13C8 PFOA	*116*		*40 - 130*	*01/23/25 05:15*	*01/28/25 01:21*	*1*
13C9 PFNA	*101*		*40 - 130*	*01/23/25 05:15*	*01/28/25 01:21*	*1*
13C6 PFDA	*103*		*40 - 130*	*01/23/25 05:15*	*01/28/25 01:21*	*1*
13C7 PFUnA	*84.0*		*30 - 130*	*01/23/25 05:15*	*01/28/25 01:21*	*1*
13C2 PFDoA	*101*		*10 - 130*	*01/23/25 05:15*	*01/28/25 01:21*	*1*
13C2 PFTeDA	*88.1*		*10 - 130*	*01/23/25 05:15*	*01/28/25 01:21*	*1*
13C3 PFBS	*102*		*40 - 135*	*01/23/25 05:15*	*01/28/25 01:21*	*1*
13C3 PFHxS	*102*		*40 - 130*	*01/23/25 05:15*	*01/28/25 01:21*	*1*
13C8 PFOS	*103*		*40 - 130*	*01/23/25 05:15*	*01/28/25 01:21*	*1*
13C8 FOSA	*88.8*		*40 - 130*	*01/23/25 05:15*	*01/28/25 01:21*	*1*
d3-NMeFOSAA	*91.0*		*40 - 170*	*01/23/25 05:15*	*01/28/25 01:21*	*1*
d5-NEtFOSAA	*93.7*		*25 - 135*	*01/23/25 05:15*	*01/28/25 01:21*	*1*
13C2 4:2 FTS	*125*		*40 - 200*	*01/23/25 05:15*	*01/28/25 01:21*	*1*
13C2 6:2 FTS	*130*		*40 - 200*	*01/23/25 05:15*	*01/28/25 01:21*	*1*
13C2 8:2 FTS	*112*		*40 - 300*	*01/23/25 05:15*	*01/28/25 01:21*	*1*
13C3 HFPO-DA	*89.0*		*40 - 130*	*01/23/25 05:15*	*01/28/25 01:21*	*1*
d7-N-MeFOSE-M	*84.4*		*10 - 130*	*01/23/25 05:15*	*01/28/25 01:21*	*1*
d9-N-EtFOSE-M	*83.7*		*10 - 130*	*01/23/25 05:15*	*01/28/25 01:21*	*1*
d5-NEtPFOSA	*74.5*		*10 - 130*	*01/23/25 05:15*	*01/28/25 01:21*	*1*
d3-NMePFOSA	*71.3*		*10 - 130*	*01/23/25 05:15*	*01/28/25 01:21*	*1*

Lab Sample ID: LCS 320-829034/3-A
Matrix: Water
Analysis Batch: 829569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829034

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	79.1		ng/L		99	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	42.8		ng/L		107	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	39.2		ng/L		98	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	40.2		ng/L		101	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	39.4		ng/L		98	70 - 150
Perfluorononanoic acid (PFNA)	40.0	40.8		ng/L		102	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	34.7		ng/L		87	70 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-829034/3-A
Matrix: Water
Analysis Batch: 829569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829034

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	40.0	45.6		ng/L		114	70 - 145
Perfluorododecanoic acid (PFDoA)	40.0	40.6		ng/L		101	70 - 140
Perfluorotridecanoic acid (PFTrDA)	40.0	41.4		ng/L		103	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	40.0	43.1		ng/L		108	60 - 140
Perfluorobutanesulfonic acid (PFBS)	35.5	36.8		ng/L		104	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	42.2		ng/L		112	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	35.6		ng/L		98	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	40.1		ng/L		105	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	40.4		ng/L		109	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	41.7		ng/L		108	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	37.9		ng/L		98	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	36.3		ng/L		94	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	99.8		ng/L		133	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	80.5		ng/L		106	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	83.3		ng/L		108	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	40.0		ng/L		100	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	44.9		ng/L		112	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	42.9		ng/L		107	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	46.0		ng/L		115	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	41.4		ng/L		104	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	190		ng/L		95	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	182		ng/L		91	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	30.9		ng/L		103	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	48.6		ng/L		128	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	48.4		ng/L		121	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	44.6		ng/L		112	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	31.7		ng/L		79	50 - 150

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-829034/3-A
Matrix: Water
Analysis Batch: 829569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829034

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	48.0		ng/L		129	70 - 155		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	44.4		ng/L		118	55 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	38.6		ng/L		108	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	80.0		ng/L		100	65 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	155		ng/L		78	70 - 135		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	167		ng/L		83	50 - 145		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*89.5*		*5 - 130*
13C5 PFPeA	*90.6*		*40 - 130*
13C5 PFHxA	*105*		*40 - 130*
13C4 PFHpA	*109*		*40 - 130*
13C8 PFOA	*103*		*40 - 130*
13C9 PFNA	*107*		*40 - 130*
13C6 PFDA	*99.3*		*40 - 130*
13C7 PFUnA	*93.2*		*30 - 130*
13C2 PFDoA	*98.7*		*10 - 130*
13C2 PFTeDA	*85.3*		*10 - 130*
13C3 PFBS	*101*		*40 - 135*
13C3 PFHxS	*96.4*		*40 - 130*
13C8 PFOS	*93.3*		*40 - 130*
13C8 FOSA	*80.0*		*40 - 130*
d3-NMeFOSAA	*89.2*		*40 - 170*
d5-NEtFOSAA	*91.6*		*25 - 135*
13C2 4:2 FTS	*91.1*		*40 - 200*
13C2 6:2 FTS	*121*		*40 - 200*
13C2 8:2 FTS	*105*		*40 - 300*
13C3 HFPO-DA	*83.1*		*40 - 130*
d7-N-MeFOSE-M	*74.5*		*10 - 130*
d9-N-EtFOSE-M	*75.3*		*10 - 130*
d5-NEtPFOSA	*66.6*		*10 - 130*
d3-NMePFOSA	*63.8*		*10 - 130*

Lab Sample ID: LCSD 320-829034/4-A
Matrix: Water
Analysis Batch: 829569

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829034

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			80.0	77.8		ng/L		97	70 - 140	2	30
Perfluoropentanoic acid (PFPeA)			40.0	42.0		ng/L		105	65 - 135	2	30
Perfluorohexanoic acid (PFHxA)			40.0	38.4		ng/L		96	70 - 145	2	30
Perfluoroheptanoic acid (PFHpA)			40.0	42.1		ng/L		105	70 - 150	4	30
Perfluorooctanoic acid (PFOA)			40.0	41.3		ng/L		103	70 - 150	5	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-829034/4-A
Matrix: Water
Analysis Batch: 829569

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829034

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	40.0	44.1		ng/L		110	70 - 150	8	30
Perfluorodecanoic acid (PFDA)	40.0	38.4		ng/L		96	70 - 140	10	30
Perfluoroundecanoic acid (PFUnA)	40.0	43.8		ng/L		109	70 - 145	4	30
Perfluorododecanoic acid (PFDoA)	40.0	42.2		ng/L		105	70 - 140	4	30
Perfluorotridecanoic acid (PFTrDA)	40.0	41.4		ng/L		103	65 - 140	0	30
Perfluorotetradecanoic acid (PFTeDA)	40.0	43.1		ng/L		108	60 - 140	0	30
Perfluorobutanesulfonic acid (PFBS)	35.5	37.0		ng/L		104	60 - 145	0	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	37.9		ng/L		101	65 - 140	11	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	33.8		ng/L		93	65 - 145	5	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	41.3		ng/L		108	70 - 150	3	30
Perfluorooctanesulfonic acid (PFOS)	37.2	37.9		ng/L		102	55 - 150	6	30
Perfluorononanesulfonic acid (PFNS)	38.5	40.9		ng/L		106	65 - 145	2	30
Perfluorodecanesulfonic acid (PFDS)	38.6	37.8		ng/L		98	60 - 145	0	30
Perfluorododecanesulfonic acid (PFDoS)	38.8	37.9		ng/L		98	50 - 145	4	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	85.2		ng/L		114	70 - 145	16	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	75.2		ng/L		99	65 - 155	7	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	74.2		ng/L		97	60 - 150	12	30
Perfluorooctanesulfonamide (PFOSA)	40.0	39.5		ng/L		99	70 - 145	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	45.7		ng/L		114	60 - 150	2	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	41.9		ng/L		105	65 - 145	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	44.8		ng/L		112	50 - 140	3	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	41.8		ng/L		104	70 - 145	1	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	203		ng/L		101	70 - 145	6	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	197		ng/L		99	70 - 135	8	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	31.4		ng/L		105	70 - 140	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	47.9		ng/L		126	65 - 145	2	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	40.6		ng/L		101	55 - 140	18	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	38.4		ng/L		96	60 - 150	15	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-829034/4-A
Matrix: Water
Analysis Batch: 829569

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829034

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			40.0	35.4		ng/L		88	50 - 150	11	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	47.9		ng/L		128	70 - 155	0	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	46.0		ng/L		122	55 - 160	4	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	37.5		ng/L		105	70 - 140	3	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	70.0		ng/L		87	65 - 130	13	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	160		ng/L		80	70 - 135	3	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	166		ng/L		83	50 - 145	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*85.0*		*5 - 130*
13C5 PFPeA	*103*		*40 - 130*
13C5 PFHxA	*109*		*40 - 130*
13C4 PFHpA	*109*		*40 - 130*
13C8 PFOA	*102*		*40 - 130*
13C9 PFNA	*94.4*		*40 - 130*
13C6 PFDA	*94.8*		*40 - 130*
13C7 PFUnA	*83.9*		*30 - 130*
13C2 PFDoA	*90.2*		*10 - 130*
13C2 PFTeDA	*80.6*		*10 - 130*
13C3 PFBS	*97.0*		*40 - 135*
13C3 PFHxS	*99.9*		*40 - 130*
13C8 PFOS	*94.3*		*40 - 130*
13C8 FOSA	*78.8*		*40 - 130*
d3-NMeFOSAA	*87.2*		*40 - 170*
d5-NEtFOSAA	*87.0*		*25 - 135*
13C2 4:2 FTS	*88.3*		*40 - 200*
13C2 6:2 FTS	*114*		*40 - 200*
13C2 8:2 FTS	*96.6*		*40 - 300*
13C3 HFPO-DA	*84.1*		*40 - 130*
d7-N-MeFOSE-M	*68.7*		*10 - 130*
d9-N-EtFOSE-M	*68.9*		*10 - 130*
d5-NEtPFOSA	*63.6*		*10 - 130*
d3-NMePFOSA	*60.7*		*10 - 130*

Lab Sample ID: LLCS 320-829034/2-A
Matrix: Water
Analysis Batch: 829569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829034

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			8.00	7.94		ng/L		99	70 - 140
Perfluoropentanoic acid (PFPeA)			4.00	4.30		ng/L		107	65 - 135
Perfluorohexanoic acid (PFHxA)			4.00	3.96		ng/L		99	70 - 145

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-829034/2-A
Matrix: Water
Analysis Batch: 829569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829034

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	4.00	3.84		ng/L		96	70 - 150
Perfluorooctanoic acid (PFOA)	4.00	3.65		ng/L		91	70 - 150
Perfluorononanoic acid (PFNA)	4.00	4.16		ng/L		104	70 - 150
Perfluorodecanoic acid (PFDA)	4.00	4.00		ng/L		100	70 - 140
Perfluoroundecanoic acid (PFUnA)	4.00	3.98		ng/L		99	70 - 145
Perfluorododecanoic acid (PFDoA)	4.00	3.62		ng/L		90	70 - 140
Perfluorotridecanoic acid (PFTrDA)	4.00	3.74		ng/L		94	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	4.00	4.08		ng/L		102	60 - 140
Perfluorobutanesulfonic acid (PFBS)	3.55	3.71		ng/L		104	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.76	3.52		ng/L		94	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	3.65	3.37		ng/L		92	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.82	3.89		ng/L		102	70 - 150
Perfluorooctanesulfonic acid (PFOS)	3.72	3.71		ng/L		100	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.85	3.64		ng/L		95	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.86	3.28		ng/L		85	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.88	3.27		ng/L		84	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	7.50	7.33		ng/L		98	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.62	7.15		ng/L		94	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.68	7.58		ng/L		99	60 - 150
Perfluorooctanesulfonamide (PFOSA)	4.00	3.73		ng/L		93	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	4.00	3.59		ng/L		90	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	4.00	3.30		ng/L		83	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.00	4.17		ng/L		104	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.00	3.67		ng/L		92	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	20.0	17.9		ng/L		89	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	20.0	16.7		ng/L		83	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.00	3.07		ng/L		102	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	4.44		ng/L		117	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.00	4.05		ng/L		101	55 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-829034/2-A
Matrix: Water
Analysis Batch: 829569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829034

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.00	3.37		ng/L		84	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.00	4.30		ng/L		107	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	3.74	4.64		ng/L		124	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	3.78	4.14		ng/L		110	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	3.57	3.88		ng/L		109	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	8.00	6.81		ng/L		85	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	20.0	15.7		ng/L		78	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	20.0	14.9		ng/L		74	50 - 145

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*84.8*		*5 - 130*
13C5 PFPeA	*95.3*		*40 - 130*
13C5 PFHxA	*100*		*40 - 130*
13C4 PFHpA	*103*		*40 - 130*
13C8 PFOA	*111*		*40 - 130*
13C9 PFNA	*106*		*40 - 130*
13C6 PFDA	*95.6*		*40 - 130*
13C7 PFUnA	*97.0*		*30 - 130*
13C2 PFDoA	*100*		*10 - 130*
13C2 PFTeDA	*88.1*		*10 - 130*
13C3 PFBS	*93.0*		*40 - 135*
13C3 PFHxS	*98.7*		*40 - 130*
13C8 PFOS	*98.4*		*40 - 130*
13C8 FOSA	*82.8*		*40 - 130*
d3-NMeFOSAA	*92.0*		*40 - 170*
d5-NEtFOSAA	*98.3*		*25 - 135*
13C2 4:2 FTS	*114*		*40 - 200*
13C2 6:2 FTS	*116*		*40 - 200*
13C2 8:2 FTS	*99.5*		*40 - 300*
13C3 HFPO-DA	*83.3*		*40 - 130*
d7-N-MeFOSE-M	*73.1*		*10 - 130*
d9-N-EtFOSE-M	*70.3*		*10 - 130*
d5-NEtPFOSA	*59.5*		*10 - 130*
d3-NMePFOSA	*59.9*		*10 - 130*

Lab Sample ID: MB 320-829169/1-A
Matrix: Solid
Analysis Batch: 829502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 829169

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		01/23/25 12:33	01/26/25 04:26	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-829169/1-A
Matrix: Solid
Analysis Batch: 829502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 829169

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-829169/1-A
Matrix: Solid
Analysis Batch: 829502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 829169

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		01/23/25 12:33	01/26/25 04:26	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		01/23/25 12:33	01/26/25 04:26	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*85.0*		*8 - 130*	*01/23/25 12:33*	*01/26/25 04:26*	*1*
13C5 PFPeA	*92.1*		*35 - 130*	*01/23/25 12:33*	*01/26/25 04:26*	*1*
13C5 PFHxA	*102*		*40 - 130*	*01/23/25 12:33*	*01/26/25 04:26*	*1*
13C4 PFHpA	*100*		*40 - 130*	*01/23/25 12:33*	*01/26/25 04:26*	*1*
13C8 PFOA	*91.7*		*40 - 130*	*01/23/25 12:33*	*01/26/25 04:26*	*1*
13C9 PFNA	*89.1*		*40 - 130*	*01/23/25 12:33*	*01/26/25 04:26*	*1*
13C6 PFDA	*83.5*		*40 - 130*	*01/23/25 12:33*	*01/26/25 04:26*	*1*
13C7 PFUnA	*76.7*		*40 - 130*	*01/23/25 12:33*	*01/26/25 04:26*	*1*
13C2 PFDoA	*88.0*		*40 - 130*	*01/23/25 12:33*	*01/26/25 04:26*	*1*
13C2 PFTeDA	*70.7*		*20 - 130*	*01/23/25 12:33*	*01/26/25 04:26*	*1*
13C3 PFBS	*90.5*		*40 - 135*	*01/23/25 12:33*	*01/26/25 04:26*	*1*
13C3 PFHxS	*92.6*		*40 - 130*	*01/23/25 12:33*	*01/26/25 04:26*	*1*
13C8 PFOS	*89.3*		*40 - 130*	*01/23/25 12:33*	*01/26/25 04:26*	*1*
13C8 FOSA	*81.6*		*40 - 130*	*01/23/25 12:33*	*01/26/25 04:26*	*1*
d3-NMeFOSAA	*102*		*40 - 135*	*01/23/25 12:33*	*01/26/25 04:26*	*1*
d5-NEtFOSAA	*100*		*40 - 150*	*01/23/25 12:33*	*01/26/25 04:26*	*1*
13C2 4:2 FTS	*96.9*		*40 - 165*	*01/23/25 12:33*	*01/26/25 04:26*	*1*
13C2 6:2 FTS	*120*		*40 - 215*	*01/23/25 12:33*	*01/26/25 04:26*	*1*
13C2 8:2 FTS	*105*		*40 - 275*	*01/23/25 12:33*	*01/26/25 04:26*	*1*
13C3 HFPO-DA	*94.2*		*40 - 130*	*01/23/25 12:33*	*01/26/25 04:26*	*1*
d7-N-MeFOSE-M	*69.4*		*20 - 130*	*01/23/25 12:33*	*01/26/25 04:26*	*1*
d9-N-EtFOSE-M	*75.6*		*15 - 130*	*01/23/25 12:33*	*01/26/25 04:26*	*1*
d5-NEtPFOSA	*62.0*		*10 - 130*	*01/23/25 12:33*	*01/26/25 04:26*	*1*
d3-NMePFOSA	*64.0*		*10 - 130*	*01/23/25 12:33*	*01/26/25 04:26*	*1*

Lab Sample ID: LCS 320-829169/3-A
Matrix: Solid
Analysis Batch: 829502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829169

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.73		ug/Kg		95	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.50		ug/Kg		100	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.12		ug/Kg		85	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.52		ug/Kg		101	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.53		ug/Kg		101	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.46		ug/Kg		99	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.50		ug/Kg		100	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-829169/3-A
Matrix: Solid
Analysis Batch: 829502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829169

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.71		ug/Kg		108	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.43		ug/Kg		97	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.43		ug/Kg		97	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.95		ug/Kg		118	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.42		ug/Kg		109	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.23		ug/Kg		95	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.14		ug/Kg		94	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.61		ug/Kg		109	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.29		ug/Kg		98	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.51		ug/Kg		104	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.29		ug/Kg		95	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.25		ug/Kg		93	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.81		ug/Kg		103	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.50		ug/Kg		95	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.83		ug/Kg		101	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.32		ug/Kg		93	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.42		ug/Kg		97	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.27		ug/Kg		91	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.74		ug/Kg		110	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.37		ug/Kg		95	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.8		ug/Kg		95	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	10.6		ug/Kg		85	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.91		ug/Kg		102	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.62		ug/Kg		111	70 - 160
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.27		ug/Kg		91	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.28		ug/Kg		91	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.34	2.38		ug/Kg		102	70 - 150

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-829169/3-A
Matrix: Solid
Analysis Batch: 829502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829169

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.27		ug/Kg		96	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.14		ug/Kg		96	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.49		ug/Kg		90	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.7		ug/Kg		86	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	10.4		ug/Kg		83	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*82.5*		*8 - 130*
13C5 PFPeA	*95.4*		*35 - 130*
13C5 PFHxA	*100*		*40 - 130*
13C4 PFHpA	*98.8*		*40 - 130*
13C8 PFOA	*98.9*		*40 - 130*
13C9 PFNA	*94.7*		*40 - 130*
13C6 PFDA	*96.0*		*40 - 130*
13C7 PFUnA	*90.2*		*40 - 130*
13C2 PFDoA	*94.2*		*40 - 130*
13C2 PFTeDA	*81.1*		*20 - 130*
13C3 PFBS	*85.4*		*40 - 135*
13C3 PFHxS	*94.1*		*40 - 130*
13C8 PFOS	*88.6*		*40 - 130*
13C8 FOSA	*88.0*		*40 - 130*
d3-NMeFOSAA	*108*		*40 - 135*
d5-NEtFOSAA	*111*		*40 - 150*
13C2 4:2 FTS	*96.8*		*40 - 165*
13C2 6:2 FTS	*108*		*40 - 215*
13C2 8:2 FTS	*107*		*40 - 275*
13C3 HFPO-DA	*87.5*		*40 - 130*
d7-N-MeFOSE-M	*78.4*		*20 - 130*
d9-N-EtFOSE-M	*86.0*		*15 - 130*
d5-NEtPFOSA	*66.2*		*10 - 130*
d3-NMePFOSA	*68.0*		*10 - 130*

Lab Sample ID: LCSD 320-829169/4-A
Matrix: Solid
Analysis Batch: 829502

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829169

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.67		ug/Kg		93	70 - 140	1	30
Perfluoropentanoic acid (PFPeA)			2.50	2.96		ug/Kg		118	60 - 150	17	30
Perfluorohexanoic acid (PFHxA)			2.50	2.24		ug/Kg		90	65 - 140	6	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.29		ug/Kg		91	65 - 145	10	30
Perfluorooctanoic acid (PFOA)			2.50	2.16		ug/Kg		87	70 - 150	15	30
Perfluorononanoic acid (PFNA)			2.50	2.47		ug/Kg		99	70 - 155	0	30
Perfluorodecanoic acid (PFDA)			2.50	2.48		ug/Kg		99	70 - 155	1	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-829169/4-A
Matrix: Solid
Analysis Batch: 829502

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829169

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoroundecanoic acid (PFUnA)			2.50	2.65		ug/Kg		106	70 - 155	2	30
Perfluorododecanoic acid (PFDoA)			2.50	2.48		ug/Kg		99	70 - 150	2	30
Perfluorotridecanoic acid (PFTrDA)			2.50	2.54		ug/Kg		101	65 - 150	4	30
Perfluorotetradecanoic acid (PFTeDA)			2.50	2.83		ug/Kg		113	65 - 150	4	30
Perfluorobutanesulfonic acid (PFBS)			2.22	2.21		ug/Kg		99	65 - 145	9	30
Perfluoropentanesulfonic acid (PFPeS)			2.35	2.75		ug/Kg		117	55 - 160	21	30
Perfluorohexanesulfonic acid (PFHxS)			2.28	2.23		ug/Kg		98	60 - 150	4	30
Perfluoroheptanesulfonic acid (PFHpS)			2.39	2.45		ug/Kg		103	65 - 155	6	30
Perfluorooctanesulfonic acid (PFOS)			2.33	2.26		ug/Kg		97	65 - 160	1	30
Perfluorononanesulfonic acid (PFNS)			2.41	2.30		ug/Kg		96	55 - 140	9	30
Perfluorodecanesulfonic acid (PFDS)			2.41	2.16		ug/Kg		90	40 - 155	6	30
Perfluorododecanesulfonic acid (PFDoS)			2.43	2.03		ug/Kg		84	25 - 160	10	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			4.69	4.50		ug/Kg		96	60 - 150	7	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			4.76	4.93		ug/Kg		104	55 - 200	9	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)			4.80	4.67		ug/Kg		97	70 - 150	3	30
Perfluorooctanesulfonamide (PFOSA)			2.50	2.33		ug/Kg		93	70 - 140	0	30
N-methylperfluorooctane sulfonamide (NMeFOSA)			2.50	2.31		ug/Kg		92	70 - 155	4	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)			2.50	2.30		ug/Kg		92	70 - 140	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			2.50	2.66		ug/Kg		106	65 - 155	3	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			2.50	2.45		ug/Kg		98	65 - 165	3	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)			12.5	11.8		ug/Kg		94	70 - 140	0	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)			12.5	10.7		ug/Kg		86	70 - 135	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)			1.88	1.91		ug/Kg		102	70 - 145	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.37	2.48		ug/Kg		105	70 - 160	6	30
Perfluoro-4-methoxybutanoic acid (PFMBA)			2.50	2.89		ug/Kg		116	60 - 150	24	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	3.10		ug/Kg		124	60 - 155	30	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.20		ug/Kg		94	70 - 150	8	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-829169/4-A
Matrix: Solid
Analysis Batch: 829502

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829169

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.09		ug/Kg		88	45 - 160	8	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.20		ug/Kg		99	70 - 140	3	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	6.00		ug/Kg		120	45 - 130	29	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.0		ug/Kg		88	60 - 130	2	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	10.2		ug/Kg		81	60 - 150	2	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*86.0*		*8 - 130*
13C5 PFPeA	*76.1*		*35 - 130*
13C5 PFHxA	*99.2*		*40 - 130*
13C4 PFHpA	*105*		*40 - 130*
13C8 PFOA	*97.9*		*40 - 130*
13C9 PFNA	*95.9*		*40 - 130*
13C6 PFDA	*91.5*		*40 - 130*
13C7 PFUnA	*79.8*		*40 - 130*
13C2 PFDoA	*82.2*		*40 - 130*
13C2 PFTeDA	*71.7*		*20 - 130*
13C3 PFBS	*94.8*		*40 - 135*
13C3 PFHxS	*88.6*		*40 - 130*
13C8 PFOS	*86.2*		*40 - 130*
13C8 FOSA	*82.0*		*40 - 130*
d3-NMeFOSAA	*106*		*40 - 135*
d5-NEtFOSAA	*102*		*40 - 150*
13C2 4:2 FTS	*123*		*40 - 165*
13C2 6:2 FTS	*115*		*40 - 215*
13C2 8:2 FTS	*110*		*40 - 275*
13C3 HFPO-DA	*88.5*		*40 - 130*
d7-N-MeFOSE-M	*78.4*		*20 - 130*
d9-N-EtFOSE-M	*77.1*		*15 - 130*
d5-NEtPFOSA	*69.1*		*10 - 130*
d3-NMePFOSA	*72.9*		*10 - 130*

Lab Sample ID: LLCS 320-829169/2-A
Matrix: Solid
Analysis Batch: 829502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829169

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.820		ug/Kg		102	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.447		ug/Kg		112	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.376		ug/Kg		94	65 - 140
Perfluoroheptanoic acid (PFHpA)			0.400	0.398		ug/Kg		100	65 - 145
Perfluorooctanoic acid (PFOA)			0.400	0.395		ug/Kg		99	70 - 150
Perfluorononanoic acid (PFNA)			0.400	0.400		ug/Kg		100	70 - 155
Perfluorodecanoic acid (PFDA)			0.400	0.425		ug/Kg		106	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-829169/2-A
Matrix: Solid
Analysis Batch: 829502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829169

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	0.400	0.442		ug/Kg		111	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.399		ug/Kg		100	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.410		ug/Kg		103	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.472		ug/Kg		118	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.345		ug/Kg		97	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.409		ug/Kg		109	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.369		ug/Kg		101	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.424		ug/Kg		111	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.385		ug/Kg		104	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.399		ug/Kg		104	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.355		ug/Kg		92	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.323		ug/Kg		83	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.803		ug/Kg		107	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.770		ug/Kg		101	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.803		ug/Kg		105	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.370		ug/Kg		92	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.382		ug/Kg		96	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.370		ug/Kg		92	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.422		ug/Kg		105	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.399		ug/Kg		100	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.86		ug/Kg		93	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	1.67		ug/Kg		84	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.317		ug/Kg		106	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.407		ug/Kg		107	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.444		ug/Kg		111	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.400	0.425		ug/Kg		106	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.400	0.452		ug/Kg		113	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-829169/2-A
Matrix: Solid
Analysis Batch: 829502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829169

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	0.374	0.351		ug/Kg		94	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	0.378	0.331		ug/Kg		88	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.357	0.336		ug/Kg		94	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.800	0.739		ug/Kg		92	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	2.00	1.78		ug/Kg		89	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	2.00	1.72		ug/Kg		86	60 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*82.9*		*8 - 130*
13C5 PFPeA	*90.1*		*35 - 130*
13C5 PFHxA	*101*		*40 - 130*
13C4 PFHpA	*107*		*40 - 130*
13C8 PFOA	*96.7*		*40 - 130*
13C9 PFNA	*93.4*		*40 - 130*
13C6 PFDA	*85.5*		*40 - 130*
13C7 PFUnA	*87.4*		*40 - 130*
13C2 PFDoA	*89.3*		*40 - 130*
13C2 PFTeDA	*73.7*		*20 - 130*
13C3 PFBS	*92.2*		*40 - 135*
13C3 PFHxS	*85.6*		*40 - 130*
13C8 PFOS	*82.1*		*40 - 130*
13C8 FOSA	*85.4*		*40 - 130*
d3-NMeFOSAA	*102*		*40 - 135*
d5-NEtFOSAA	*103*		*40 - 150*
13C2 4:2 FTS	*90.3*		*40 - 165*
13C2 6:2 FTS	*120*		*40 - 215*
13C2 8:2 FTS	*105*		*40 - 275*
13C3 HFPO-DA	*91.1*		*40 - 130*
d7-N-MeFOSE-M	*67.0*		*20 - 130*
d9-N-EtFOSE-M	*69.6*		*15 - 130*
d5-NEtPFOSA	*66.0*		*10 - 130*
d3-NMePFOSA	*75.9*		*10 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Lab Sample ID: LCS 320-829169/3-A
Matrix: Solid
Analysis Batch: 829759

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829169

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-3-methoxypropanoic acid (PFMPA) - RA	2.50	2.28		ug/Kg		91	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C5 PFPeA - RA	87.7		35 - 130

Lab Sample ID: LCSD 320-829169/4-A
Matrix: Solid
Analysis Batch: 829759

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829169

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoro-3-methoxypropanoic acid (PFMPA) - RA			2.50	2.24		ug/Kg		90	30 - 140	2	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C5 PFPeA - RA	110		35 - 130

LCMS

Prep Batch: 829034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-33	EB-01172025	Total/NA	Water	1633	
320-118424-34	FB-01172025	Total/NA	Water	1633	
MB 320-829034/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-829034/3-A	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-829034/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-829034/2-A	Lab Control Sample	Total/NA	Water	1633	

Prep Batch: 829169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-2 - DL	JTA-007-N-S001-01172025	Total/NA	Solid	1633 Shake	
320-118424-2	JTA-007-N-S001-01172025	Total/NA	Solid	1633 Shake	
320-118424-3 - DL	JTA-007-N-S003-01172025	Total/NA	Solid	1633 Shake	
320-118424-3	JTA-007-N-S003-01172025	Total/NA	Solid	1633 Shake	
320-118424-4 - DL	JTA-007-FD-S003-01172025	Total/NA	Solid	1633 Shake	
320-118424-4	JTA-007-FD-S003-01172025	Total/NA	Solid	1633 Shake	
320-118424-9 - DL	JTA-008-N-S001-01172025	Total/NA	Solid	1633 Shake	
320-118424-9	JTA-008-N-S001-01172025	Total/NA	Solid	1633 Shake	
320-118424-10 - DL	JTA-008-N-S003-01172025	Total/NA	Solid	1633 Shake	
320-118424-10	JTA-008-N-S003-01172025	Total/NA	Solid	1633 Shake	
320-118424-16	JTA-009-N-S001-01172025	Total/NA	Solid	1633 Shake	
320-118424-17	JTA-009-N-S003-01172025	Total/NA	Solid	1633 Shake	
320-118424-18	JTA-009-FD-S003-01172025	Total/NA	Solid	1633 Shake	
320-118424-25	RTA-003-N-S001-01172025	Total/NA	Solid	1633 Shake	
320-118424-26	RTA-003-N-S003-01172025	Total/NA	Solid	1633 Shake	
320-118424-27	RTA-003-FD-S003-01172025	Total/NA	Solid	1633 Shake	
MB 320-829169/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-829169/3-A - RA	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCS 320-829169/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-829169/4-A - RA	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LCSD 320-829169/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-829169/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 829502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-2	JTA-007-N-S001-01172025	Total/NA	Solid	1633	829169
320-118424-3	JTA-007-N-S003-01172025	Total/NA	Solid	1633	829169
320-118424-4	JTA-007-FD-S003-01172025	Total/NA	Solid	1633	829169
320-118424-9	JTA-008-N-S001-01172025	Total/NA	Solid	1633	829169
320-118424-10	JTA-008-N-S003-01172025	Total/NA	Solid	1633	829169
320-118424-16	JTA-009-N-S001-01172025	Total/NA	Solid	1633	829169
320-118424-17	JTA-009-N-S003-01172025	Total/NA	Solid	1633	829169
320-118424-18	JTA-009-FD-S003-01172025	Total/NA	Solid	1633	829169
320-118424-25	RTA-003-N-S001-01172025	Total/NA	Solid	1633	829169
320-118424-26	RTA-003-N-S003-01172025	Total/NA	Solid	1633	829169
320-118424-27	RTA-003-FD-S003-01172025	Total/NA	Solid	1633	829169
MB 320-829169/1-A	Method Blank	Total/NA	Solid	1633	829169
LCS 320-829169/3-A	Lab Control Sample	Total/NA	Solid	1633	829169
LCSD 320-829169/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	829169
LLCS 320-829169/2-A	Lab Control Sample	Total/NA	Solid	1633	829169

QC Association Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-1

LCMS

Analysis Batch: 829569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-33	EB-01172025	Total/NA	Water	1633	829034
320-118424-34	FB-01172025	Total/NA	Water	1633	829034
MB 320-829034/1-A	Method Blank	Total/NA	Water	1633	829034
LCS 320-829034/3-A	Lab Control Sample	Total/NA	Water	1633	829034
LCSD 320-829034/4-A	Lab Control Sample Dup	Total/NA	Water	1633	829034
LLCS 320-829034/2-A	Lab Control Sample	Total/NA	Water	1633	829034

Analysis Batch: 829759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-2 - DL	JTA-007-N-S001-01172025	Total/NA	Solid	1633	829169
320-118424-3 - DL	JTA-007-N-S003-01172025	Total/NA	Solid	1633	829169
320-118424-4 - DL	JTA-007-FD-S003-01172025	Total/NA	Solid	1633	829169
320-118424-9 - DL	JTA-008-N-S001-01172025	Total/NA	Solid	1633	829169
320-118424-10 - DL	JTA-008-N-S003-01172025	Total/NA	Solid	1633	829169
LCS 320-829169/3-A - RA	Lab Control Sample	Total/NA	Solid	1633	829169
LCSD 320-829169/4-A - RA	Lab Control Sample Dup	Total/NA	Solid	1633	829169

General Chemistry

Analysis Batch: 828981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118424-2	JTA-007-N-S001-01172025	Total/NA	Solid	1633	
320-118424-3	JTA-007-N-S003-01172025	Total/NA	Solid	1633	
320-118424-4	JTA-007-FD-S003-01172025	Total/NA	Solid	1633	
320-118424-9	JTA-008-N-S001-01172025	Total/NA	Solid	1633	
320-118424-10	JTA-008-N-S003-01172025	Total/NA	Solid	1633	
320-118424-16	JTA-009-N-S001-01172025	Total/NA	Solid	1633	
320-118424-17	JTA-009-N-S003-01172025	Total/NA	Solid	1633	
320-118424-18	JTA-009-FD-S003-01172025	Total/NA	Solid	1633	
320-118424-25	RTA-003-N-S001-01172025	Total/NA	Solid	1633	
320-118424-26	RTA-003-N-S003-01172025	Total/NA	Solid	1633	
320-118424-27	RTA-003-FD-S003-01172025	Total/NA	Solid	1633	

Client Sample ID: JTA-007-N-S001-01172025
Lab Sample ID: 320-118424-2
Date Collected: 01/17/25 09:55
Matrix: Solid
Date Received: 01/21/25 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828981	01/22/25 15:02	CFR	EET SAC

Client Sample ID: JTA-007-N-S001-01172025
Lab Sample ID: 320-118424-2
Date Collected: 01/17/25 09:55
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 90.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	DL		2.25 g	5.00 mL	829169	01/23/25 12:33	K1D	EET SAC
Total/NA	Analysis	1633	DL	10			829759	01/27/25 18:53	N1K	EET SAC
Total/NA	Prep	1633 Shake			2.25 g	5.00 mL	829169	01/23/25 12:33	K1D	EET SAC
Total/NA	Analysis	1633		1			829502	01/26/25 05:32	C1P	EET SAC

Client Sample ID: JTA-007-N-S003-01172025
Lab Sample ID: 320-118424-3
Date Collected: 01/17/25 10:00
Matrix: Solid
Date Received: 01/21/25 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828981	01/22/25 15:02	CFR	EET SAC

Client Sample ID: JTA-007-N-S003-01172025
Lab Sample ID: 320-118424-3
Date Collected: 01/17/25 10:00
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 89.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	DL		2.16 g	5.00 mL	829169	01/23/25 12:33	K1D	EET SAC
Total/NA	Analysis	1633	DL	50			829759	01/27/25 18:04	N1K	EET SAC
Total/NA	Prep	1633 Shake			2.16 g	5.00 mL	829169	01/23/25 12:33	K1D	EET SAC
Total/NA	Analysis	1633		1			829502	01/26/25 05:48	C1P	EET SAC

Client Sample ID: JTA-007-FD-S003-01172025
Lab Sample ID: 320-118424-4
Date Collected: 01/17/25 10:30
Matrix: Solid
Date Received: 01/21/25 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828981	01/22/25 15:02	CFR	EET SAC

Client Sample ID: JTA-007-FD-S003-01172025
Lab Sample ID: 320-118424-4
Date Collected: 01/17/25 10:30
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 91.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	DL		2.29 g	5.00 mL	829169	01/23/25 12:33	K1D	EET SAC
Total/NA	Analysis	1633	DL	50			829759	01/27/25 18:21	N1K	EET SAC
Total/NA	Prep	1633 Shake			2.29 g	5.00 mL	829169	01/23/25 12:33	K1D	EET SAC
Total/NA	Analysis	1633		1			829502	01/26/25 06:04	C1P	EET SAC

Client Sample ID: JTA-008-N-S001-01172025
Lab Sample ID: 320-118424-9
Date Collected: 01/17/25 11:00
Matrix: Solid
Date Received: 01/21/25 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828981	01/22/25 15:02	CFR	EET SAC

Client Sample ID: JTA-008-N-S001-01172025
Lab Sample ID: 320-118424-9
Date Collected: 01/17/25 11:00
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 89.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	DL		2.27 g	5.00 mL	829169	01/23/25 12:33	K1D	EET SAC
Total/NA	Analysis	1633	DL	100			829759	01/27/25 17:48	N1K	EET SAC
Total/NA	Prep	1633 Shake			2.27 g	5.00 mL	829169	01/23/25 12:33	K1D	EET SAC
Total/NA	Analysis	1633		1			829502	01/26/25 06:21	C1P	EET SAC

Client Sample ID: JTA-008-N-S003-01172025
Lab Sample ID: 320-118424-10
Date Collected: 01/17/25 11:05
Matrix: Solid
Date Received: 01/21/25 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828981	01/22/25 15:02	CFR	EET SAC

Client Sample ID: JTA-008-N-S003-01172025
Lab Sample ID: 320-118424-10
Date Collected: 01/17/25 11:05
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 95.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	DL		2.03 g	5.00 mL	829169	01/23/25 12:33	K1D	EET SAC
Total/NA	Analysis	1633	DL	20			829759	01/27/25 18:37	N1K	EET SAC
Total/NA	Prep	1633 Shake			2.03 g	5.00 mL	829169	01/23/25 12:33	K1D	EET SAC
Total/NA	Analysis	1633		1			829502	01/26/25 06:37	C1P	EET SAC

Client Sample ID: JTA-009-N-S001-01172025
Lab Sample ID: 320-118424-16
Date Collected: 01/17/25 11:45
Matrix: Solid
Date Received: 01/21/25 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828981	01/22/25 15:02	CFR	EET SAC

Client Sample ID: JTA-009-N-S001-01172025
Lab Sample ID: 320-118424-16
Date Collected: 01/17/25 11:45
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 88.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.21 g	5.00 mL	829169	01/23/25 12:33	K1D	EET SAC
Total/NA	Analysis	1633		1			829502	01/26/25 06:54	C1P	EET SAC

Client Sample ID: JTA-009-N-S003-01172025
Lab Sample ID: 320-118424-17
Date Collected: 01/17/25 11:50
Matrix: Solid
Date Received: 01/21/25 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828981	01/22/25 15:02	CFR	EET SAC

Client Sample ID: JTA-009-N-S003-01172025
Lab Sample ID: 320-118424-17
Date Collected: 01/17/25 11:50
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 85.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.33 g	5.00 mL	829169	01/23/25 12:33	K1D	EET SAC
Total/NA	Analysis	1633		1			829502	01/26/25 07:43	C1P	EET SAC

Client Sample ID: JTA-009-FD-S003-01172025
Lab Sample ID: 320-118424-18
Date Collected: 01/17/25 12:20
Matrix: Solid
Date Received: 01/21/25 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828981	01/22/25 15:02	CFR	EET SAC

Client Sample ID: JTA-009-FD-S003-01172025
Lab Sample ID: 320-118424-18
Date Collected: 01/17/25 12:20
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 86.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.35 g	5.00 mL	829169	01/23/25 12:33	K1D	EET SAC
Total/NA	Analysis	1633		1			829502	01/26/25 07:59	C1P	EET SAC

Client Sample ID: RTA-003-N-S001-01172025
Lab Sample ID: 320-118424-25
Date Collected: 01/17/25 14:10
Matrix: Solid
Date Received: 01/21/25 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828981	01/22/25 15:02	CFR	EET SAC

Client Sample ID: RTA-003-N-S001-01172025
Lab Sample ID: 320-118424-25
Date Collected: 01/17/25 14:10
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 88.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.24 g	5.00 mL	829169	01/23/25 12:33	K1D	EET SAC
Total/NA	Analysis	1633		1			829502	01/26/25 08:16	C1P	EET SAC

Client Sample ID: RTA-003-N-S003-01172025
Lab Sample ID: 320-118424-26
Date Collected: 01/17/25 14:15
Matrix: Solid
Date Received: 01/21/25 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828981	01/22/25 15:02	CFR	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118424-1
Project/Site: Spokane International Airport

Client Sample ID: RTA-003-N-S003-01172025
Lab Sample ID: 320-118424-26
Date Collected: 01/17/25 14:15
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 88.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.36 g	5.00 mL	829169	01/23/25 12:33	K1D	EET SAC
Total/NA	Analysis	1633		1			829502	01/26/25 08:32	C1P	EET SAC

Client Sample ID: RTA-003-FD-S003-01172025
Lab Sample ID: 320-118424-27
Date Collected: 01/17/25 14:20
Matrix: Solid
Date Received: 01/21/25 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828981	01/22/25 15:02	CFR	EET SAC

Client Sample ID: RTA-003-FD-S003-01172025
Lab Sample ID: 320-118424-27
Date Collected: 01/17/25 14:20
Matrix: Solid
Date Received: 01/21/25 11:15
Percent Solids: 89.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.26 g	5.00 mL	829169	01/23/25 12:33	K1D	EET SAC
Total/NA	Analysis	1633		1			829502	01/26/25 08:49	C1P	EET SAC

Client Sample ID: EB-01172025
Lab Sample ID: 320-118424-33
Date Collected: 01/17/25 09:40
Matrix: Water
Date Received: 01/21/25 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			136.9 mL	5.0 mL	829034	01/23/25 05:15	GAT	EET SAC
Total/NA	Analysis	1633		1			829569	01/28/25 02:44	K1D	EET SAC

Client Sample ID: FB-01172025
Lab Sample ID: 320-118424-34
Date Collected: 01/17/25 00:00
Matrix: Water
Date Received: 01/21/25 11:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			175.8 mL	5.0 mL	829034	01/23/25 05:15	GAT	EET SAC
Total/NA	Analysis	1633		1			829569	01/28/25 03:00	K1D	EET SAC

Laboratory References:
EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118424-1
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-1

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633	Solid-Phase Extraction (SPE)	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118424-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118424-2	JTA-007-N-S001-01172025	Solid	01/17/25 09:55	01/21/25 11:15
320-118424-3	JTA-007-N-S003-01172025	Solid	01/17/25 10:00	01/21/25 11:15
320-118424-4	JTA-007-FD-S003-01172025	Solid	01/17/25 10:30	01/21/25 11:15
320-118424-9	JTA-008-N-S001-01172025	Solid	01/17/25 11:00	01/21/25 11:15
320-118424-10	JTA-008-N-S003-01172025	Solid	01/17/25 11:05	01/21/25 11:15
320-118424-16	JTA-009-N-S001-01172025	Solid	01/17/25 11:45	01/21/25 11:15
320-118424-17	JTA-009-N-S003-01172025	Solid	01/17/25 11:50	01/21/25 11:15
320-118424-18	JTA-009-FD-S003-01172025	Solid	01/17/25 12:20	01/21/25 11:15
320-118424-25	RTA-003-N-S001-01172025	Solid	01/17/25 14:10	01/21/25 11:15
320-118424-26	RTA-003-N-S003-01172025	Solid	01/17/25 14:15	01/21/25 11:15
320-118424-27	RTA-003-FD-S003-01172025	Solid	01/17/25 14:20	01/21/25 11:15
320-118424-33	EB-01172025	Water	01/17/25 09:40	01/21/25 11:15
320-118424-34	FB-01172025	Water	01/17/25 00:00	01/21/25 11:15

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	1/20/25
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	standard
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	Number of Containers
JTA-007-N-S000-01172025	1/17/2025	0950	Soil		1
JTA-007-N-S001-01172025	1/17/2025	0955	Soil	x	1
JTA-007-N-S003-01172025	1/17/2025	1000	Soil	x	1
JTA-007-FD-S003-01172025	1/17/2025	1030	Soil	x	1
JTA-007-N-S006-01172025	1/17/2025	1005	Soil		1
JTA-007-N-S010-01172025	1/17/2025	1010	Soil		1
JTA-007-N-S013-01172025	1/17/2025	1035	Soil		1
JTA-008-N-S000-01172025	1/17/2025	1055	Soil		1
JTA-008-N-S001-01172025	1/17/2025	1100	Soil	x	1
JTA-008-N-S003-01172025	1/17/2025	1105	Soil	x	1

320-118424 Chain of Custody

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

- PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

- TOC: Total Organic Carbon

3.3, 3.7 corr 1R0016

0.4, 0.8 corr 1R0016

Sampled and Relinquished by	Received by
Sign Breeyn Greer	Sign
Print Breeyn Greer	Print Macky Moms
Firm HA	Firm EGT SPO
Date 1/20/25 Time 0940	Date 1/20/25 840
Relinquished by	**Received by**
Sign	Sign
Print Macky Moms	Print PIOR SOTO
Firm EGT SPO	Firm EETSAC
Date 1/20/25 Time 1457	Date 1/21/25 1115
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	SOLID
VOA Vial	VOA Vial
Amber Glass	Amber Glass
Plastic Bottle	Clear Glass
Preservative	Preservative
Volume	Volume

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are requir

Required Reporting Limits and Data Quality Objectives

☐ RC-S1	☐ S1	☐ GW1
☐ RC-S2	☐ S2	☐ GW2
☐ RC-GW1	☐ S3	☐ GW3
☐ RC-GW2		

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November 2024

4.8C

Form 3003

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	1/20/25
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	standard
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
JTA-008-N-S006-01172025	1/17/2025	1110	Soil		1
JTA-008-N-S010-01172025	1/17/2025	1115	Soil		1
JTA-008-N-S015-01172025	1/17/2025	1120	Soil		1
JTA-008-N-S017-01172025	1/17/2025	1130	Soil		1
JTA-009-N-S000-01172025	1/17/2025	1140	Soil		1
JTA-009-N-S001-01172025	1/17/2025	1145	Soil	X	1
JTA-009-N-S003-01172025	1/17/2025	1150	Soil	X	1
JTA-009-FD-S003-01172025	1/17/2025	1220	Soil	X	1
JTA-009-N-S006-01172025	1/17/2025	1155	Soil		1
JTA-009-N-S010-01172025	1/17/2025	1200	Soil		1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

3. 7470.8 con IR006

Sampled and Relinquished by	Received by
Sign Breeyn Greer	Sign
Print Breeyn Greer	Print Macky Morris
Firm HA	Firm EETSPO
Date 1/20/25 Time 0040	Date 1/20/25 0840
Relinquished by	**Received by**
Sign Macky Morris	Sign
Print Macky Morris	Print FLV SOTO
Firm EETSPO	Firm EETSAC
Date 1/20/25 Time 1457	Date 1/21/25 1115
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

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_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are require

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

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Form 3003

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Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-001 | LABORATORY Eurofins Environmental Testing | DELIVERY DATE 1/20/25
PROJECT NAME Geiger Field PFAS Support | ADDRESS 11922 E 1st Ave, Spokane Valley, WA 99206 | TURNAROUND TIME Standard
H&A CONTACT Breeyn Greer | CONTACT Randee Arrington | PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	Number of Containers
JTA-009-N-S015-01172025	1/17/2025	1205	Soil		1
JTA-009-N-S020-01172025	1/17/2025	1210	Soil		1
JTA-009-N-S030-01172025	1/17/2025	1215	Soil		1
RT-003-N-S000-01172025	1/17/2025	1405	Soil		1
RT-003-N-S001-01172025	1/17/2025	1410	Soil	X	1
RT-003-N-S003-01172025	1/17/2025	1415	Soil	X	1
RT-003-FD-S003-01172025	1/17/2025	1420	Soil	X	1
RT-003-N-S006-01172025	1/17/2025	1425	Soil		1
RT-003-N-S010-01172025	1/17/2025	1430	Soil		1
RT-003-N-S015-01172025	1/17/2025	1435	Soil		1

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento
Laboratory to use applicable DEP CAM methods, unless otherwise directed.
– TOC: Total Organic Carbon
3.7 + 0.8 con IR006

Sampled and Relinquished by
Sign Breeyn Greer
Print Breeyn Greer
Firm HA
Date 1/20/25 Time 0040

Received by
Sign
Print Wacky Morris
Firm EETSPO
Date 1/20/25 840

Relinquished by
Sign
Print Wacky Morris
Firm EETSPO
Date 1/20/25 Time 1457

Received by
Sign
Print MW SOTO
Firm EETSAC
Date 1/21/25 1115

Relinquished by
Sign
Print
Firm
Date Time

Received by
Sign
Print
Firm
Date

LIQUID: VOA Vial | Amber Glass | Plastic Bottle | Preservative | Volume
SOLID: VOA Vial | Amber Glass | Clear Glass | Preservative | Volume

Sampling Comments
Evidence samples were tampered with? YES NO
If YES, please explain in section below.

PRESERVATION KEY
A Sample chilled | C NaOH | E H_2SO_4 | G Methanol
B Sample filtered | D HNO_3 | F HCL | H Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:
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Required Reporting Limits and Data Quality Objectives
☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

4.8C

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

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505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington

DELIVERY DATE 1/20/25
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	Number of Containers
RT-003-N-S020-01172025	1/17/2025	1440	Soil		1
RT-003-N-S030-01172025	1/17/2025	1445	Soil		1

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento
Laboratory to use applicable DEP CAM methods, unless otherwise directed.
– TOC: Total Organic Carbon

3.7 + 0.8 wet IP006

Sampled and Relinquished by	Received by
Sign Breeyn Greer	Sign
Print Breeyn Greer	Print Macky Morris
Firm HA	Firm EEI SAC
Date 1/20/25 Time 0840	Date 1/20/25 8440
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Pilar Soto
Firm EEI SAC	Firm EEI SAC
Date 1/20/25 Time 1457	Date 1/21/25 1115
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	SOLID
VOA Vial	VOA Vial
Amber Glass	Amber Glass
Plastic Bottle	Clear Glass
Preservative	Preservative
Volume	Volume

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

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Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

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November 2024

Form 3003

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington

DELIVERY DATE 1/20/25
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	Number of Containers
EB-01172025	1/17/2025	0940	H20	X	3
FB-01172025	1/17/2025	all day	H20	X	2

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento
Laboratory to use applicable DEP CAM methods, unless otherwise directed.
– TOC: Total Organic Carbon
3.7+0.8cor 1R006

Sampled and Relinquished by	Received by
Sign Breeyn Greer	Sign
Print Breeyn Greer	Print Macky Morris
Firm HA	Firm REC'D
Date 1/20/25 Time 0840	Date 1/20/25 840
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print FLOR SOTO
Firm REC'D	Firm CETSAC
Date 1/20/25 Time 1457	Date 1/21/25 1115
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	SOLID
VOA Vial	VOA Vial
Amber Glass	Amber Glass
Plastic Bottle	Clear Glass
Preservative	Preservative
Volume	Volume

Sampling Comments: EB taken from clean driller's soil bag

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

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Required Reporting Limits and Data Quality Objectives

☐ RC-S1	☐ S1	☐ GW1
☐ RC-S2	☐ S2	☐ GW2
☐ RC-GW1	☐ S3	☐ GW3
☐ RC-GW2		

4.8C

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Form 3003

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118424

Tracking # : 4242 5693 0243

Job:_____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Therm. ID: L-09 Corr. Factor: (+ / -) _____°C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: 26091503

Cooler ID: _____

Temp Observed: 4.8 °C Corrected: 4.8 °C

From: Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: RSH Date: 1/21/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: [signature] Date: 1.27.25

Notes:_____

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials: [signature] Date: 1.27.25

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

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JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118378-6

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

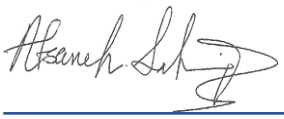
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118378-6
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118378-6 — Eurofins Sacramento

Job Narrative
320-118378-6

Receipt
The samples were received on 1/18/2025 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.4º C.

LCMS
Method 1633: The low level continuing calibration verification (CCVL) associated with batch 320-856044 recovered above the upper control limit for Perfluorotridecanoic acid (PFTrDA). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 28 days. The request for the analysis of the following samples in analytical batch 320-855265 was made outside this time period: JTA-002-N-S025-01152025 (320-118378-38).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 1633 Shake: The following sample was prepared outside of preparation holding time due to activation past holding time: JTA-002-N-S025-01152025 (320-118378-38).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Job ID: 320-118378-6
Project/Site: Spokane International Airport

Client Sample ID: JTA-002-N-S025-01152025 **Lab Sample ID: 320-118378-38**

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-6

Client Sample ID: JTA-002-N-S025-01152025
Date Collected: 01/15/25 16:28
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-38
Matrix: Solid
Percent Solids: 80.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND	H	0.40	0.099	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
Perfluoropentanoic acid (PFPeA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
Perfluorohexanoic acid (PFHxA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
Perfluoroheptanoic acid (PFHpA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
Perfluorooctanoic acid (PFOA)	ND	H	0.20	0.061	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
Perfluorononanoic acid (PFNA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
Perfluorodecanoic acid (PFDA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
Perfluoroundecanoic acid (PFUnA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
Perfluorododecanoic acid (PFDoA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
Perfluorotridecanoic acid (PFTrDA)	ND	H ^+	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
Perfluorotetradecanoic acid (PFTeDA)	ND	H	0.20	0.057	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
Perfluorobutanesulfonic acid (PFBS)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
Perfluoropentanesulfonic acid (PFPeS)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
Perfluorohexanesulfonic acid (PFHxS)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
Perfluoroheptanesulfonic acid (PFHpS)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
Perfluorooctanesulfonic acid (PFOS)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
Perfluorononanesulfonic acid (PFNS)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
Perfluorodecanesulfonic acid (PFDS)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
Perfluorododecanesulfonic acid (PFDoS)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND	H	0.40	0.099	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND	H	0.40	0.099	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND	H	0.40	0.099	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
Perfluorooctanesulfonamide (PFOSA)	ND	H	0.20	0.062	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND	H	0.99	0.25	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND	H	0.99	0.25	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	H	0.20	0.061	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1

Client Sample ID: JTA-002-N-S025-01152025
Lab Sample ID: 320-118378-38
Date Collected: 01/15/25 16:28
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 80.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	H	0.20	0.074	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND	H	0.40	0.099	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND	H	0.99	0.25	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND	H	0.99	0.25	ug/Kg	☼	06/05/25 04:25	06/07/25 05:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*93.5*		*8 - 130*	*06/05/25 04:25*	*06/07/25 05:50*	*1*
13C5 PFPeA	*94.5*		*35 - 130*	*06/05/25 04:25*	*06/07/25 05:50*	*1*
13C5 PFHxA	*93.4*		*40 - 130*	*06/05/25 04:25*	*06/07/25 05:50*	*1*
13C4 PFHpA	*95.6*		*40 - 130*	*06/05/25 04:25*	*06/07/25 05:50*	*1*
13C8 PFOA	*91.6*		*40 - 130*	*06/05/25 04:25*	*06/07/25 05:50*	*1*
13C9 PFNA	*87.2*		*40 - 130*	*06/05/25 04:25*	*06/07/25 05:50*	*1*
13C6 PFDA	*78.4*		*40 - 130*	*06/05/25 04:25*	*06/07/25 05:50*	*1*
13C7 PFUnA	*74.4*		*40 - 130*	*06/05/25 04:25*	*06/07/25 05:50*	*1*
13C2 PFDoA	*59.3*		*40 - 130*	*06/05/25 04:25*	*06/07/25 05:50*	*1*
13C2 PFTeDA	*57.4*		*20 - 130*	*06/05/25 04:25*	*06/07/25 05:50*	*1*
13C3 PFBS	*84.9*		*40 - 135*	*06/05/25 04:25*	*06/07/25 05:50*	*1*
13C3 PFHxS	*80.8*		*40 - 130*	*06/05/25 04:25*	*06/07/25 05:50*	*1*
13C8 PFOS	*72.7*		*40 - 130*	*06/05/25 04:25*	*06/07/25 05:50*	*1*
13C8 FOSA	*63.5*		*40 - 130*	*06/05/25 04:25*	*06/07/25 05:50*	*1*
d3-NMeFOSAA	*51.4*		*40 - 135*	*06/05/25 04:25*	*06/07/25 05:50*	*1*
d5-NEtFOSAA	*53.3*		*40 - 150*	*06/05/25 04:25*	*06/07/25 05:50*	*1*
13C2 4:2 FTS	*62.5*		*40 - 165*	*06/05/25 04:25*	*06/07/25 05:50*	*1*
13C2 6:2 FTS	*72.6*		*40 - 215*	*06/05/25 04:25*	*06/07/25 05:50*	*1*
13C2 8:2 FTS	*68.4*		*40 - 275*	*06/05/25 04:25*	*06/07/25 05:50*	*1*
13C3 HFPO-DA	*88.8*		*40 - 130*	*06/05/25 04:25*	*06/07/25 05:50*	*1*
d7-N-MeFOSE-M	*53.2*		*20 - 130*	*06/05/25 04:25*	*06/07/25 05:50*	*1*
d9-N-EtFOSE-M	*47.3*		*15 - 130*	*06/05/25 04:25*	*06/07/25 05:50*	*1*
d5-NEtPFOSA	*44.6*		*10 - 130*	*06/05/25 04:25*	*06/07/25 05:50*	*1*
d3-NMePFOSA	*44.6*		*10 - 130*	*06/05/25 04:25*	*06/07/25 05:50*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**20**	**H**	0.10	0.10	%			06/03/25 13:44	1
Percent Solids (EPA 1633)	**80**	**H**	0.10	0.10	%			06/03/25 13:44	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-6

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(8-130)	(35-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)
320-118378-38	JTA-002-N-S025-01152025	93.5	94.5	93.4	95.6	91.6	87.2	78.4	74.4
LCS 320-855628/3-A	Lab Control Sample	107	111	99.7	102	105	99.8	84.8	82.3
LCSD 320-855628/4-A	Lab Control Sample Dup	106	107	96.1	100	100	97.3	84.3	83.5
LLCS 320-855628/2-A	Lab Control Sample	107	104	104	101	105	102	88.6	88.8
MB 320-855628/1-A	Method Blank	106	114	107	109	101	98.0	85.5	91.2

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(40-130)	(20-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-135)	(40-150)
320-118378-38	JTA-002-N-S025-01152025	59.3	57.4	84.9	80.8	72.7	63.5	51.4	53.3
LCS 320-855628/3-A	Lab Control Sample	65.2	63.1	97.4	88.4	82.4	77.1	65.3	65.5
LCSD 320-855628/4-A	Lab Control Sample Dup	65.2	62.6	100	92.1	75.8	66.2	66.3	66.7
LLCS 320-855628/2-A	Lab Control Sample	75.2	67.9	95.4	91.9	84.1	82.1	71.6	76.2
MB 320-855628/1-A	Method Blank	77.6	70.7	95.1	90.8	81.9	77.5	71.3	72.9

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-165)	(40-215)	(40-275)	(40-130)	(20-130)	(15-130)	(10-130)	(10-130)
320-118378-38	JTA-002-N-S025-01152025	62.5	72.6	68.4	88.8	53.2	47.3	44.6	44.6
LCS 320-855628/3-A	Lab Control Sample	79.1	88.0	83.0	93.1	58.9	53.6	50.9	53.2
LCSD 320-855628/4-A	Lab Control Sample Dup	81.5	89.8	82.7	89.5	51.5	49.4	46.6	45.4
LLCS 320-855628/2-A	Lab Control Sample	78.2	87.9	88.5	92.9	68.4	61.8	57.1	55.5
MB 320-855628/1-A	Method Blank	76.8	94.0	88.1	96.8	63.0	57.4	46.7	46.0

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-855628/1-A
Matrix: Solid
Analysis Batch: 856045

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 855628

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-855628/1-A
Matrix: Solid
Analysis Batch: 856045

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 855628

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		06/05/25 04:25	06/07/25 04:27	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*106*		*8 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C5 PFPeA	*114*		*35 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C5 PFHxA	*107*		*40 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C4 PFHpA	*109*		*40 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C8 PFOA	*101*		*40 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C9 PFNA	*98.0*		*40 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C6 PFDA	*85.5*		*40 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C7 PFUnA	*91.2*		*40 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C2 PFDoA	*77.6*		*40 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C2 PFTeDA	*70.7*		*20 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C3 PFBS	*95.1*		*40 - 135*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C3 PFHxS	*90.8*		*40 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C8 PFOS	*81.9*		*40 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C8 FOSA	*77.5*		*40 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
d3-NMeFOSAA	*71.3*		*40 - 135*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
d5-NEtFOSAA	*72.9*		*40 - 150*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C2 4:2 FTS	*76.8*		*40 - 165*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C2 6:2 FTS	*94.0*		*40 - 215*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C2 8:2 FTS	*88.1*		*40 - 275*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C3 HFPO-DA	*96.8*		*40 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
d7-N-MeFOSE-M	*63.0*		*20 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
d9-N-EtFOSE-M	*57.4*		*15 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
d5-NEtPFOSA	*46.7*		*10 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
d3-NMePFOSA	*46.0*		*10 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*

Lab Sample ID: LCS 320-855628/3-A
Matrix: Solid
Analysis Batch: 856045

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 855628

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.66		ug/Kg		93	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	1.94		ug/Kg		78	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.14		ug/Kg		86	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.30		ug/Kg		92	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.18		ug/Kg		87	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.12		ug/Kg		85	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.45		ug/Kg		98	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-855628/3-A
Matrix: Solid
Analysis Batch: 856045

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 855628

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.17		ug/Kg		87	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.49		ug/Kg		100	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.74		ug/Kg		109	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.70		ug/Kg		108	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	1.99		ug/Kg		90	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.25		ug/Kg		96	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.17		ug/Kg		95	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.42		ug/Kg		101	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.24		ug/Kg		96	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.18		ug/Kg		91	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	1.90		ug/Kg		79	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	1.83		ug/Kg		75	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.48		ug/Kg		95	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.36		ug/Kg		92	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.43		ug/Kg		92	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.38		ug/Kg		95	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.46		ug/Kg		98	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.78		ug/Kg		111	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.53		ug/Kg		101	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.43		ug/Kg		97	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.5		ug/Kg		100	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.9		ug/Kg		103	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	2.05		ug/Kg		109	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.41		ug/Kg		102	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	1.99		ug/Kg		80	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.09		ug/Kg		84	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.06		ug/Kg		83	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-855628/3-A
Matrix: Solid
Analysis Batch: 856045

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 855628

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.18		ug/Kg		93	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.85		ug/Kg		78	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.07		ug/Kg		93	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.04		ug/Kg		81	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.3		ug/Kg		82	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.3		ug/Kg		91	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*107*		*8 - 130*
13C5 PFPeA	*111*		*35 - 130*
13C5 PFHxA	*99.7*		*40 - 130*
13C4 PFHpA	*102*		*40 - 130*
13C8 PFOA	*105*		*40 - 130*
13C9 PFNA	*99.8*		*40 - 130*
13C6 PFDA	*84.8*		*40 - 130*
13C7 PFUnA	*82.3*		*40 - 130*
13C2 PFDoA	*65.2*		*40 - 130*
13C2 PFTeDA	*63.1*		*20 - 130*
13C3 PFBS	*97.4*		*40 - 135*
13C3 PFHxS	*88.4*		*40 - 130*
13C8 PFOS	*82.4*		*40 - 130*
13C8 FOSA	*77.1*		*40 - 130*
d3-NMeFOSAA	*65.3*		*40 - 135*
d5-NEtFOSAA	*65.5*		*40 - 150*
13C2 4:2 FTS	*79.1*		*40 - 165*
13C2 6:2 FTS	*88.0*		*40 - 215*
13C2 8:2 FTS	*83.0*		*40 - 275*
13C3 HFPO-DA	*93.1*		*40 - 130*
d7-N-MeFOSE-M	*58.9*		*20 - 130*
d9-N-EtFOSE-M	*53.6*		*15 - 130*
d5-NEtPFOSA	*50.9*		*10 - 130*
d3-NMePFOSA	*53.2*		*10 - 130*

Lab Sample ID: LCSD 320-855628/4-A
Matrix: Solid
Analysis Batch: 856045

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 855628

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.62		ug/Kg		92	70 - 140	1	30
Perfluoropentanoic acid (PFPeA)			2.50	1.79		ug/Kg		72	60 - 150	8	30
Perfluorohexanoic acid (PFHxA)			2.50	2.26		ug/Kg		90	65 - 140	6	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.24		ug/Kg		89	65 - 145	3	30
Perfluorooctanoic acid (PFOA)			2.50	2.23		ug/Kg		89	70 - 150	2	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-855628/4-A
Matrix: Solid
Analysis Batch: 856045

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 855628

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.12		ug/Kg		85	70 - 155	0	30
Perfluorodecanoic acid (PFDA)	2.50	2.50		ug/Kg		100	70 - 155	2	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.16		ug/Kg		86	70 - 155	0	30
Perfluorododecanoic acid (PFDoA)	2.50	2.51		ug/Kg		100	70 - 150	1	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.74		ug/Kg		110	65 - 150	0	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.86		ug/Kg		115	65 - 150	6	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.18		ug/Kg		98	65 - 145	9	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.27		ug/Kg		97	55 - 160	1	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.15		ug/Kg		94	60 - 150	1	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.50		ug/Kg		105	65 - 155	3	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.33		ug/Kg		100	65 - 160	4	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.25		ug/Kg		94	55 - 140	3	30
Perfluorodecanesulfonic acid (PFDS)	2.41	1.87		ug/Kg		77	40 - 155	2	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	1.84		ug/Kg		76	25 - 160	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.59		ug/Kg		98	60 - 150	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.26		ug/Kg		89	55 - 200	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.72		ug/Kg		98	70 - 150	6	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.42		ug/Kg		97	70 - 140	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.55		ug/Kg		102	70 - 155	4	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.74		ug/Kg		109	70 - 140	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.58		ug/Kg		103	65 - 155	2	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.51		ug/Kg		100	65 - 165	3	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	13.0		ug/Kg		104	70 - 140	5	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.3		ug/Kg		99	70 - 135	5	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.90		ug/Kg		101	70 - 145	7	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.50		ug/Kg		106	70 - 160	4	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	1.99		ug/Kg		79	30 - 140	0	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.19		ug/Kg		88	60 - 150	5	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-855628/4-A
Matrix: Solid
Analysis Batch: 856045

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 855628

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	1.84		ug/Kg		73	60 - 155	12	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.05		ug/Kg		88	70 - 150	6	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.69		ug/Kg		72	45 - 160	9	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.09		ug/Kg		94	70 - 140	1	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.09		ug/Kg		82	45 - 130	1	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.8		ug/Kg		86	60 - 130	5	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.1		ug/Kg		89	60 - 150	2	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*106*		*8 - 130*
13C5 PFPeA	*107*		*35 - 130*
13C5 PFHxA	*96.1*		*40 - 130*
13C4 PFHpA	*100*		*40 - 130*
13C8 PFOA	*100*		*40 - 130*
13C9 PFNA	*97.3*		*40 - 130*
13C6 PFDA	*84.3*		*40 - 130*
13C7 PFUnA	*83.5*		*40 - 130*
13C2 PFDoA	*65.2*		*40 - 130*
13C2 PFTeDA	*62.6*		*20 - 130*
13C3 PFBS	*100*		*40 - 135*
13C3 PFHxS	*92.1*		*40 - 130*
13C8 PFOS	*75.8*		*40 - 130*
13C8 FOSA	*66.2*		*40 - 130*
d3-NMeFOSAA	*66.3*		*40 - 135*
d5-NEtFOSAA	*66.7*		*40 - 150*
13C2 4:2 FTS	*81.5*		*40 - 165*
13C2 6:2 FTS	*89.8*		*40 - 215*
13C2 8:2 FTS	*82.7*		*40 - 275*
13C3 HFPO-DA	*89.5*		*40 - 130*
d7-N-MeFOSE-M	*51.5*		*20 - 130*
d9-N-EtFOSE-M	*49.4*		*15 - 130*
d5-NEtPFOSA	*46.6*		*10 - 130*
d3-NMePFOSA	*45.4*		*10 - 130*

Lab Sample ID: LLCS 320-855628/2-A
Matrix: Solid
Analysis Batch: 856045

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 855628

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.729		ug/Kg		91	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.343		ug/Kg		86	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.319		ug/Kg		80	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-855628/2-A
Matrix: Solid
Analysis Batch: 856045

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 855628

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.376		ug/Kg		94	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.346		ug/Kg		86	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.336		ug/Kg		84	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.398		ug/Kg		99	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.350		ug/Kg		88	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.419		ug/Kg		105	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.463		ug/Kg		116	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.433		ug/Kg		108	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.314		ug/Kg		88	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.356		ug/Kg		95	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.346		ug/Kg		95	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.384		ug/Kg		101	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.390		ug/Kg		105	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.381		ug/Kg		99	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.340		ug/Kg		88	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.331		ug/Kg		85	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.696		ug/Kg		93	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.661		ug/Kg		87	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.730		ug/Kg		95	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.391		ug/Kg		98	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.411		ug/Kg		103	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.454		ug/Kg		114	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.405		ug/Kg		101	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.411		ug/Kg		103	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.96		ug/Kg		98	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.08		ug/Kg		104	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.301		ug/Kg		100	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.393		ug/Kg		104	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.320		ug/Kg		80	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-855628/2-A
Matrix: Solid
Analysis Batch: 856045

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 855628

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.400	0.329		ug/Kg		82	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.400	0.323		ug/Kg		81	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	0.374	0.350		ug/Kg		94	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	0.378	0.333		ug/Kg		88	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.357	0.286		ug/Kg		80	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.800	0.665		ug/Kg		83	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	2.00	1.59		ug/Kg		80	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	2.00	1.60		ug/Kg		80	60 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*107*		*8 - 130*
13C5 PFPeA	*104*		*35 - 130*
13C5 PFHxA	*104*		*40 - 130*
13C4 PFHpA	*101*		*40 - 130*
13C8 PFOA	*105*		*40 - 130*
13C9 PFNA	*102*		*40 - 130*
13C6 PFDA	*88.6*		*40 - 130*
13C7 PFUnA	*88.8*		*40 - 130*
13C2 PFDoA	*75.2*		*40 - 130*
13C2 PFTeDA	*67.9*		*20 - 130*
13C3 PFBS	*95.4*		*40 - 135*
13C3 PFHxS	*91.9*		*40 - 130*
13C8 PFOS	*84.1*		*40 - 130*
13C8 FOSA	*82.1*		*40 - 130*
d3-NMeFOSAA	*71.6*		*40 - 135*
d5-NEtFOSAA	*76.2*		*40 - 150*
13C2 4:2 FTS	*78.2*		*40 - 165*
13C2 6:2 FTS	*87.9*		*40 - 215*
13C2 8:2 FTS	*88.5*		*40 - 275*
13C3 HFPO-DA	*92.9*		*40 - 130*
d7-N-MeFOSE-M	*68.4*		*20 - 130*
d9-N-EtFOSE-M	*61.8*		*15 - 130*
d5-NEtPFOSA	*57.1*		*10 - 130*
d3-NMePFOSA	*55.5*		*10 - 130*

QC Association Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-6

LCMS

Prep Batch: 855628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-38	JTA-002-N-S025-01152025	Total/NA	Solid	1633 Shake	
MB 320-855628/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-855628/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-855628/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-855628/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 856045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-38	JTA-002-N-S025-01152025	Total/NA	Solid	1633	855628
MB 320-855628/1-A	Method Blank	Total/NA	Solid	1633	855628
LCS 320-855628/3-A	Lab Control Sample	Total/NA	Solid	1633	855628
LCSD 320-855628/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	855628
LLCS 320-855628/2-A	Lab Control Sample	Total/NA	Solid	1633	855628

General Chemistry

Analysis Batch: 855265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-38	JTA-002-N-S025-01152025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118378-6
Project/Site: Spokane International Airport

Client Sample ID: JTA-002-N-S025-01152025
Lab Sample ID: 320-118378-38

Date Collected: 01/15/25 16:28
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			855265	06/03/25 13:44	JCB	EET SAC

Client Sample ID: JTA-002-N-S025-01152025
Lab Sample ID: 320-118378-38

Date Collected: 01/15/25 16:28
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 80.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.52 g	5.0 mL	855628	06/05/25 04:25	R1T	EET SAC
Total/NA	Analysis	1633		1			856045	06/07/25 05:50	RS1	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118378-6
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-06-26

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture
1633		Solid	Percent Solids

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-6

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-6

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118378-38	JTA-002-N-S025-01152025	Solid	01/15/25 16:28	01/18/25 09:00

Afsaneh Salimpour

From: Emily K. Stashak <EKStashak@gsi-net.com>
Sent: Monday, June 2, 2025 1:50 PM
To: Randee Arrington; Afsaneh Salimpour
Cc: Kenia Whitehead; Mass, Sarah; Caleb Grant
Subject: Spokane International Airport / Geiger Field PFAS Support : Sixth Sample Run

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Hello Afsaneh & Randee,

See below for a list of the next batch of samples we'd like to have analyzed for the Spokane International Airport / Geiger Field PFAS Support projects.

- JTA-002-N-S025-01152025 (590-29042/ 320-118378)
- JTA-005-N-S025-01162025 (590-29043/ 320-118375)
- JTA-009-N-S030-01172025 (590-29051/ 320-118424)

Please let me know if you have any questions.

Thanks!

Emily K. Stashak
Environmental Scientist

GSI ENVIRONMENTAL

GSI Environmental Inc.
10801-2 N MoPac, Suite 350 | Austin, Texas 78759
O 512.346.4474 | **C** 832.295.1607
E ekstashak@gsienv.com | www.gsienv.com |

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

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JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118378-5

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

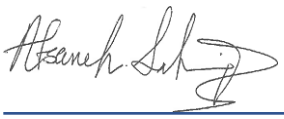
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118378-5
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118378-5 — Eurofins Sacramento

Job Narrative
320-118378-5

Receipt
The samples were received on 1/18/2025 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.4º C.

LCMS
Method 1633: The low level continuing calibration verification (CCVL) associated with batch 320-845716 recovered above the upper control limit for Nonafluoro-3,6-dioxaheptanoic acid (NFDHA). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 1633: The laboratory control sample duplicate (LCSD) for preparation batch 320-845125 and analytical batch 320-845716 recovered outside control limits for the following analytes: Nonafluoro-3,6-dioxaheptanoic acid (NFDHA). These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.(LCSD 320-845125/4-A)

Method 1633: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-845125 and analytical batch 320-845716 recovered outside control limits for the following analytes: Nonafluoro-3,6-dioxaheptanoic acid (NFDHA).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 28 days. The request for the analysis of the following sample in analytical batch 320-844782 occurred outside this time period: JTA-002-N-S020-01152025 (320-118378-37).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-5

Client Sample ID: JTA-002-N-S020-01152025

Lab Sample ID: 320-118378-37

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.30		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.42		0.20	0.049	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-5

Client Sample ID: JTA-002-N-S020-01152025
Date Collected: 01/15/25 16:25
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-37
Matrix: Solid
Percent Solids: 92.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
Perfluorohexanesulfonic acid (PFHxS)	**0.30**		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
Perfluorooctanesulfonic acid (PFOS)	**0.42**		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.25	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.25	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*+ *1	0.20	0.061	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-5

Client Sample ID: JTA-002-N-S020-01152025
Date Collected: 01/15/25 16:25
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-37
Matrix: Solid
Percent Solids: 92.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	04/09/25 14:02	04/11/25 12:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*21.1*		*8 - 130*	*04/09/25 14:02*	*04/11/25 12:04*	*1*
13C5 PFPeA	*102*		*35 - 130*	*04/09/25 14:02*	*04/11/25 12:04*	*1*
13C5 PFHxA	*106*		*40 - 130*	*04/09/25 14:02*	*04/11/25 12:04*	*1*
13C4 PFHpA	*108*		*40 - 130*	*04/09/25 14:02*	*04/11/25 12:04*	*1*
13C8 PFOA	*113*		*40 - 130*	*04/09/25 14:02*	*04/11/25 12:04*	*1*
13C9 PFNA	*98.2*		*40 - 130*	*04/09/25 14:02*	*04/11/25 12:04*	*1*
13C6 PFDA	*115*		*40 - 130*	*04/09/25 14:02*	*04/11/25 12:04*	*1*
13C7 PFUnA	*97.8*		*40 - 130*	*04/09/25 14:02*	*04/11/25 12:04*	*1*
13C2 PFDoA	*102*		*40 - 130*	*04/09/25 14:02*	*04/11/25 12:04*	*1*
13C2 PFTeDA	*67.4*		*20 - 130*	*04/09/25 14:02*	*04/11/25 12:04*	*1*
13C3 PFBS	*99.6*		*40 - 135*	*04/09/25 14:02*	*04/11/25 12:04*	*1*
13C3 PFHxS	*95.4*		*40 - 130*	*04/09/25 14:02*	*04/11/25 12:04*	*1*
13C8 PFOS	*101*		*40 - 130*	*04/09/25 14:02*	*04/11/25 12:04*	*1*
13C8 FOSA	*102*		*40 - 130*	*04/09/25 14:02*	*04/11/25 12:04*	*1*
d3-NMeFOSAA	*82.0*		*40 - 135*	*04/09/25 14:02*	*04/11/25 12:04*	*1*
d5-NEtFOSAA	*87.2*		*40 - 150*	*04/09/25 14:02*	*04/11/25 12:04*	*1*
13C2 4:2 FTS	*93.0*		*40 - 165*	*04/09/25 14:02*	*04/11/25 12:04*	*1*
13C2 6:2 FTS	*89.4*		*40 - 215*	*04/09/25 14:02*	*04/11/25 12:04*	*1*
13C2 8:2 FTS	*137*		*40 - 275*	*04/09/25 14:02*	*04/11/25 12:04*	*1*
13C3 HFPO-DA	*112*		*40 - 130*	*04/09/25 14:02*	*04/11/25 12:04*	*1*
d7-N-MeFOSE-M	*64.1*		*20 - 130*	*04/09/25 14:02*	*04/11/25 12:04*	*1*
d9-N-EtFOSE-M	*59.9*		*15 - 130*	*04/09/25 14:02*	*04/11/25 12:04*	*1*
d5-NEtPFOSA	*119*		*10 - 130*	*04/09/25 14:02*	*04/11/25 12:04*	*1*
d3-NMePFOSA	*85.6*		*10 - 130*	*04/09/25 14:02*	*04/11/25 12:04*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**7.9**	**H**	0.10	0.10	%			04/08/25 12:26	1
Percent Solids (EPA 1633)	**92**	**H**	0.10	0.10	%			04/08/25 12:26	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-5

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(8-130)	(35-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)
320-118378-37	JTA-002-N-S020-01152025	21.1	102	106	108	113	98.2	115	97.8
LCS 320-845125/3-A	Lab Control Sample	64.1	119	109	100	105	97.1	108	93.2
LCSD 320-845125/4-A	Lab Control Sample Dup	61.5	120	106	123	107	92.4	111	99.2
LLCS 320-845125/2-A	Lab Control Sample	58.7	119	99.0	106	96.2	84.6	112	91.6
MB 320-845125/1-A	Method Blank	69.3	109	97.5	110	110	99.1	115	94.3

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(40-130)	(20-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-135)	(40-150)
320-118378-37	JTA-002-N-S020-01152025	102	67.4	99.6	95.4	101	102	82.0	87.2
LCS 320-845125/3-A	Lab Control Sample	113	83.2	108	93.1	97.9	103	116	113
LCSD 320-845125/4-A	Lab Control Sample Dup	117	85.4	89.0	85.1	93.0	101	112	105
LLCS 320-845125/2-A	Lab Control Sample	107	86.9	89.6	85.9	85.6	92.2	102	96.0
MB 320-845125/1-A	Method Blank	114	89.5	101	85.8	92.0	105	116	116

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-165)	(40-215)	(40-275)	(40-130)	(20-130)	(15-130)	(10-130)	(10-130)
320-118378-37	JTA-002-N-S020-01152025	93.0	89.4	137	112	64.1	59.9	119	85.6
LCS 320-845125/3-A	Lab Control Sample	112	99.0	175	112	108	102	101	85.8
LCSD 320-845125/4-A	Lab Control Sample Dup	93.9	89.5	153	118	97.6	86.7	97.0	82.9
LLCS 320-845125/2-A	Lab Control Sample	79.5	94.6	166	113	102	92.1	92.6	76.4
MB 320-845125/1-A	Method Blank	112	104	165	110	97.3	87.9	102	86.1

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-5

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-845125/1-A
Matrix: Solid
Analysis Batch: 845716

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 845125

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-845125/1-A
Matrix: Solid
Analysis Batch: 845716

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 845125

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		04/09/25 14:02	04/11/25 09:53	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*69.3*		*8 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C5 PFPeA	*109*		*35 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C5 PFHxA	*97.5*		*40 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C4 PFHpA	*110*		*40 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C8 PFOA	*110*		*40 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C9 PFNA	*99.1*		*40 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C6 PFDA	*115*		*40 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C7 PFUnA	*94.3*		*40 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C2 PFDoA	*114*		*40 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C2 PFTeDA	*89.5*		*20 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C3 PFBS	*101*		*40 - 135*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C3 PFHxS	*85.8*		*40 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C8 PFOS	*92.0*		*40 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C8 FOSA	*105*		*40 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
d3-NMeFOSAA	*116*		*40 - 135*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
d5-NEtFOSAA	*116*		*40 - 150*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C2 4:2 FTS	*112*		*40 - 165*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C2 6:2 FTS	*104*		*40 - 215*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C2 8:2 FTS	*165*		*40 - 275*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C3 HFPO-DA	*110*		*40 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
d7-N-MeFOSE-M	*97.3*		*20 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
d9-N-EtFOSE-M	*87.9*		*15 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
d5-NEtPFOSA	*102*		*10 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
d3-NMePFOSA	*86.1*		*10 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*

Lab Sample ID: LCS 320-845125/3-A
Matrix: Solid
Analysis Batch: 845716

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 845125

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.75		ug/Kg		95	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.06		ug/Kg		82	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.22		ug/Kg		89	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.47		ug/Kg		99	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.55		ug/Kg		102	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.35		ug/Kg		94	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.31		ug/Kg		92	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-845125/3-A
Matrix: Solid
Analysis Batch: 845716

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 845125

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.40		ug/Kg		96	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.36		ug/Kg		95	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.37		ug/Kg		95	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.85		ug/Kg		114	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	1.94		ug/Kg		88	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.26		ug/Kg		96	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.97		ug/Kg		87	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.03		ug/Kg		85	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.03		ug/Kg		87	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.43		ug/Kg		101	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.28		ug/Kg		95	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.27		ug/Kg		93	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.25		ug/Kg		91	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.71		ug/Kg		99	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.34		ug/Kg		90	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.49		ug/Kg		100	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.75		ug/Kg		110	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.29		ug/Kg		92	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.33		ug/Kg		93	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.24		ug/Kg		90	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	10.7		ug/Kg		85	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	11.3		ug/Kg		90	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.73		ug/Kg		92	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.02		ug/Kg		86	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	1.71		ug/Kg		68	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.16		ug/Kg		87	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.23		ug/Kg		89	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-845125/3-A
Matrix: Solid
Analysis Batch: 845716

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 845125

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	1.99		ug/Kg		85	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.05		ug/Kg		87	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.98		ug/Kg		89	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	2.39		ug/Kg		48	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.9		ug/Kg		95	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.7		ug/Kg		94	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*64.1*		*8 - 130*
13C5 PFPeA	*119*		*35 - 130*
13C5 PFHxA	*109*		*40 - 130*
13C4 PFHpA	*100*		*40 - 130*
13C8 PFOA	*105*		*40 - 130*
13C9 PFNA	*97.1*		*40 - 130*
13C6 PFDA	*108*		*40 - 130*
13C7 PFUnA	*93.2*		*40 - 130*
13C2 PFDoA	*113*		*40 - 130*
13C2 PFTeDA	*83.2*		*20 - 130*
13C3 PFBS	*108*		*40 - 135*
13C3 PFHxS	*93.1*		*40 - 130*
13C8 PFOS	*97.9*		*40 - 130*
13C8 FOSA	*103*		*40 - 130*
d3-NMeFOSAA	*116*		*40 - 135*
d5-NEtFOSAA	*113*		*40 - 150*
13C2 4:2 FTS	*112*		*40 - 165*
13C2 6:2 FTS	*99.0*		*40 - 215*
13C2 8:2 FTS	*175*		*40 - 275*
13C3 HFPO-DA	*112*		*40 - 130*
d7-N-MeFOSE-M	*108*		*20 - 130*
d9-N-EtFOSE-M	*102*		*15 - 130*
d5-NEtPFOSA	*101*		*10 - 130*
d3-NMePFOSA	*85.8*		*10 - 130*

Lab Sample ID: LCSD 320-845125/4-A
Matrix: Solid
Analysis Batch: 845716

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 845125

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	5.01		ug/Kg		100	70 - 140	5	30
Perfluoropentanoic acid (PFPeA)			2.50	2.17		ug/Kg		87	60 - 150	5	30
Perfluorohexanoic acid (PFHxA)			2.50	2.24		ug/Kg		90	65 - 140	1	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.41		ug/Kg		97	65 - 145	2	30
Perfluorooctanoic acid (PFOA)			2.50	2.56		ug/Kg		102	70 - 150	0	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-845125/4-A
Matrix: Solid
Analysis Batch: 845716

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 845125

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.26		ug/Kg		90	70 - 155	4	30
Perfluorodecanoic acid (PFDA)	2.50	2.40		ug/Kg		96	70 - 155	4	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.31		ug/Kg		92	70 - 155	4	30
Perfluorododecanoic acid (PFDoA)	2.50	2.26		ug/Kg		90	70 - 150	4	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.19		ug/Kg		88	65 - 150	8	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.87		ug/Kg		115	65 - 150	1	30
Perfluorobutanesulfonic acid (PFBS)	2.22	1.97		ug/Kg		89	65 - 145	1	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.20		ug/Kg		94	55 - 160	3	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.94		ug/Kg		85	60 - 150	2	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.28		ug/Kg		96	65 - 155	12	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.08		ug/Kg		90	65 - 160	3	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.42		ug/Kg		101	55 - 140	0	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.35		ug/Kg		98	40 - 155	3	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.21		ug/Kg		91	25 - 160	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.55		ug/Kg		97	60 - 150	7	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.56		ug/Kg		96	55 - 200	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.43		ug/Kg		92	70 - 150	2	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.48		ug/Kg		99	70 - 140	0	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.70		ug/Kg		108	70 - 155	2	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.34		ug/Kg		93	70 - 140	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.24		ug/Kg		90	65 - 155	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.24		ug/Kg		90	65 - 165	0	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	10.7		ug/Kg		86	70 - 140	0	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.1		ug/Kg		97	70 - 135	7	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.76		ug/Kg		94	70 - 145	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.20		ug/Kg		93	70 - 160	9	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	1.93		ug/Kg		77	30 - 140	12	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.45		ug/Kg		98	60 - 150	12	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-845125/4-A
Matrix: Solid
Analysis Batch: 845716

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 845125

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	3.91	*+ *1	ug/Kg		156	60 - 155	55	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.08		ug/Kg		89	70 - 150	5	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.15		ug/Kg		91	45 - 160	4	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.03		ug/Kg		91	70 - 140	3	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	2.57		ug/Kg		51	45 - 130	7	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	13.3		ug/Kg		106	60 - 130	11	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	13.6		ug/Kg		109	60 - 150	15	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*61.5*		*8 - 130*
13C5 PFPeA	*120*		*35 - 130*
13C5 PFHxA	*106*		*40 - 130*
13C4 PFHpA	*123*		*40 - 130*
13C8 PFOA	*107*		*40 - 130*
13C9 PFNA	*92.4*		*40 - 130*
13C6 PFDA	*111*		*40 - 130*
13C7 PFUnA	*99.2*		*40 - 130*
13C2 PFDoA	*117*		*40 - 130*
13C2 PFTeDA	*85.4*		*20 - 130*
13C3 PFBS	*89.0*		*40 - 135*
13C3 PFHxS	*85.1*		*40 - 130*
13C8 PFOS	*93.0*		*40 - 130*
13C8 FOSA	*101*		*40 - 130*
d3-NMeFOSAA	*112*		*40 - 135*
d5-NEtFOSAA	*105*		*40 - 150*
13C2 4:2 FTS	*93.9*		*40 - 165*
13C2 6:2 FTS	*89.5*		*40 - 215*
13C2 8:2 FTS	*153*		*40 - 275*
13C3 HFPO-DA	*118*		*40 - 130*
d7-N-MeFOSE-M	*97.6*		*20 - 130*
d9-N-EtFOSE-M	*86.7*		*15 - 130*
d5-NEtPFOSA	*97.0*		*10 - 130*
d3-NMePFOSA	*82.9*		*10 - 130*

Lab Sample ID: LLCS 320-845125/2-A
Matrix: Solid
Analysis Batch: 845716

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 845125

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.805		ug/Kg		101	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.354		ug/Kg		88	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.386		ug/Kg		97	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-845125/2-A
Matrix: Solid
Analysis Batch: 845716

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 845125

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.451		ug/Kg		113	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.450		ug/Kg		112	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.449		ug/Kg		112	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.382		ug/Kg		95	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.407		ug/Kg		102	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.398		ug/Kg		99	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.407		ug/Kg		102	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.454		ug/Kg		114	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.358		ug/Kg		101	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.394		ug/Kg		105	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.360		ug/Kg		99	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.374		ug/Kg		98	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.353		ug/Kg		95	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.406		ug/Kg		106	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.402		ug/Kg		104	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.382		ug/Kg		98	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.889		ug/Kg		118	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.819		ug/Kg		108	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.777		ug/Kg		101	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.429		ug/Kg		107	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.467		ug/Kg		117	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.389		ug/Kg		97	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.410		ug/Kg		102	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.397		ug/Kg		99	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.78		ug/Kg		89	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	1.91		ug/Kg		96	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.293		ug/Kg		98	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.387		ug/Kg		102	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.277		ug/Kg		69	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-845125/2-A
Matrix: Solid
Analysis Batch: 845716

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 845125

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.391		ug/Kg		98	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.427		ug/Kg		107	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.350		ug/Kg		94	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.342		ug/Kg		90	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.381		ug/Kg		107	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.366	J	ug/Kg		46	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	2.22		ug/Kg		111	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	2.33		ug/Kg		117	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*58.7*		*8 - 130*
13C5 PFPeA	*119*		*35 - 130*
13C5 PFHxA	*99.0*		*40 - 130*
13C4 PFHpA	*106*		*40 - 130*
13C8 PFOA	*96.2*		*40 - 130*
13C9 PFNA	*84.6*		*40 - 130*
13C6 PFDA	*112*		*40 - 130*
13C7 PFUnA	*91.6*		*40 - 130*
13C2 PFDoA	*107*		*40 - 130*
13C2 PFTeDA	*86.9*		*20 - 130*
13C3 PFBS	*89.6*		*40 - 135*
13C3 PFHxS	*85.9*		*40 - 130*
13C8 PFOS	*85.6*		*40 - 130*
13C8 FOSA	*92.2*		*40 - 130*
d3-NMeFOSAA	*102*		*40 - 135*
d5-NEtFOSAA	*96.0*		*40 - 150*
13C2 4:2 FTS	*79.5*		*40 - 165*
13C2 6:2 FTS	*94.6*		*40 - 215*
13C2 8:2 FTS	*166*		*40 - 275*
13C3 HFPO-DA	*113*		*40 - 130*
d7-N-MeFOSE-M	*102*		*20 - 130*
d9-N-EtFOSE-M	*92.1*		*15 - 130*
d5-NEtPFOSA	*92.6*		*10 - 130*
d3-NMePFOSA	*76.4*		*10 - 130*

QC Association Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-5

LCMS

Prep Batch: 845125

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-37	JTA-002-N-S020-01152025	Total/NA	Solid	1633 Shake	
MB 320-845125/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-845125/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-845125/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-845125/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 845716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-37	JTA-002-N-S020-01152025	Total/NA	Solid	1633	845125
MB 320-845125/1-A	Method Blank	Total/NA	Solid	1633	845125
LCS 320-845125/3-A	Lab Control Sample	Total/NA	Solid	1633	845125
LCSD 320-845125/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	845125
LLCS 320-845125/2-A	Lab Control Sample	Total/NA	Solid	1633	845125

General Chemistry

Analysis Batch: 844782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-37	JTA-002-N-S020-01152025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118378-5
Project/Site: Spokane International Airport

Client Sample ID: JTA-002-N-S020-01152025
Lab Sample ID: 320-118378-37

Date Collected: 01/15/25 16:25
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			844782	04/08/25 12:26	JCB	EET SAC

Client Sample ID: JTA-002-N-S020-01152025
Lab Sample ID: 320-118378-37

Date Collected: 01/15/25 16:25
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 92.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.21 g	5.0 mL	845125	04/09/25 14:02	ATB	EET SAC
Total/NA	Analysis	1633		1			845716	04/11/25 12:04	EMF	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118378-5
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture
1633		Solid	Percent Solids

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-5

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-5

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118378-37	JTA-002-N-S020-01152025	Solid	01/15/25 16:25	01/18/25 09:00

Afsaneh Salimpour

From: Emily K. Stashak <EKStashak@gsi-net.com>
Sent: Monday, April 28, 2025 2:59 PM
To: Afsaneh Salimpour
Cc: Kenia Whitehead; Caleb Grant; Mass, Sarah
Subject: RE: Spokane International Airport - Fifth Round Analysis & Sample Extraction

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Hello Afsaneh,

Please proceed with 1633 analysis for the following soil samples:

COC	Client Sample ID
320-118378	JTA-002-N-S020-01152025
320-118375	JTA-005-N-S017-01162025
320-118424	JTA-008-N-S017-01172025
320-118424	JTA-009-N-S020-01172025

Let me know if you have any questions.

Best,

Emily K. Stashak
Environmental Scientist
GSI Environmental Inc.
O 512.346.4474 | **C** 832.295.1607

From: Afsaneh Salimpour <Afsaneh.Salimpour@et.eurofinsus.com>
Sent: Tuesday, April 8, 2025 3:08 PM
To: Emily K. Stashak <EKStashak@gsi-net.com>
Cc: Kenia Whitehead <kwhitehead@gsi-net.com>; Caleb Grant <cgrant@gsi-net.com>; Mass, Sarah <SMass@haleyaldrich.com>
Subject: RE: Spokane International Airport - Fifth Round Analysis & Sample Extraction

I will make the changes.
thanks

Afsaneh Salimpour
(she/her)
Project Manager

Eurofins Environment Testing Northern California, LLC-Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
USA

Phone: 510-410-7009
Main office: 916-373-5600
E-mail: Afsaneh.Salimpour@et.eurofinsus.com
www.eurofinsus.com/env

From: Emily K. Stashak <EKStashak@gsi-net.com>
Sent: Tuesday, April 8, 2025 12:53 PM
To: Afsaneh Salimpour <Afsaneh.Salimpour@et.eurofinsus.com>
Cc: Kenia Whitehead <kwhitehead@gsi-net.com>; Caleb Grant <cgrant@gsi-net.com>; Mass, Sarah <SMass@haleyaldrich.com>
Subject: RE: Spokane International Airport - Fifth Round Analysis & Sample Extraction

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Correct.

Thanks!

Emily K. Stashak
Environmental Scientist

GSI Environmental Inc.
O 512.346.4474 | **C** 832.295.1607

From: Afsaneh Salimpour <Afsaneh.Salimpour@et.eurofinsus.com>
Sent: Tuesday, April 8, 2025 2:52 PM
To: Emily K. Stashak <EKStashak@gsi-net.com>
Cc: Kenia Whitehead <kwhitehead@gsi-net.com>; Caleb Grant <cgrant@gsi-net.com>; Mass, Sarah <SMass@haleyaldrich.com>
Subject: RE: Spokane International Airport - Fifth Round Analysis & Sample Extraction

Emily,
To confirm you all the attached samples to be extracted but hold for the analysis? Correct?
thanks

Afsaneh Salimpour
(she/her)
Project Manager

Eurofins Environment Testing Northern California, LLC-Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
USA

Phone: 510-410-7009
Main office: 916-373-5600
E-mail: Afsaneh.Salimpour@et.eurofinsus.com
www.eurofinsus.com/env

From: Emily K. Stashak <EKStashak@gsi-net.com>
Sent: Tuesday, April 8, 2025 12:47 PM

To: Afsaneh Salimpour <Afsaneh.Salimpour@et.eurofinsus.com>
Cc: Kenia Whitehead <kwhitehead@gsi-net.com>; Caleb Grant <cgrant@gsi-net.com>; Mass, Sarah <SMass@haleyaldrich.com>
Subject: RE: Spokane International Airport - Fifth Round Analysis & Sample Extraction

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Hello Afsaneh,

So sorry to change our fifth sample analysis request again, can we modify so that *all samples* listed in the sheet I sent are extracted but on hold for 1633 analysis?

Best,

Emily K. Stashak
Environmental Scientist

GSI Environmental Inc.
O 512.346.4474 | **C** 832.295.1607

From: Emily K. Stashak
Sent: Monday, April 7, 2025 7:24 PM
To: Afsaneh.Salimpour@et.eurofinsus.com
Cc: Kenia Whitehead <kwhitehead@gsi-net.com>; Caleb Grant <cgrant@gsi-net.com>; Mass, Sarah <SMass@haleyaldrich.com>
Subject: Spokane International Airport - Fifth Round Analysis & Sample Extraction

Hello Afsaneh,

Please see the attached list of the next samples to run for the fifth round of analysis or those to be extracted to extend the hold time for PFAS.
While we're still waiting on a couple of results from the fourth round of analysis, I wanted to make sure we get the extraction done before the hold time expires for samples still under consideration for analysis.
Let me know if you have any questions.

Best,

Emily K. Stashak
Environmental Scientist

GSI ENVIRONMENTAL

GSI Environmental Inc.
10801-2 N MoPac, Suite 350 | Austin, Texas 78759
O 512.346.4474 | **C** 832.295.1607
E ekstashak@gsienv.com | www.gsienv.com |

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 4/3/2025 12:13:56 PM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118378-4

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

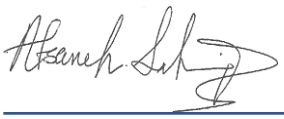
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118378-4
Project/Site: Spokane International Airport

Qualifiers

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118378-4 — Eurofins Sacramento

Job Narrative
320-118378-4

Receipt
The samples were received on 1/18/2025 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.4º C.

Receipt Exceptions

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): LTA-001-FD-S012-01152025 (320-118378-7). Sample 7, container ID ends in -011525. Sample logged in and labeled according to COC.

LCMS
Method 1633: The low level continuing calibration verification (CCVL) associated with batch 320-843420 recovered above the upper control limit for Perfluoropentanoic acid (PFPeA). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVL 320-843420/2).

Method 1633: Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: (CCB 320-843420/1). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 1633: The transition mass ratio was outside of the established ratio limit for Perfluoropentanoic acid (PFPeA) and Perfluorooctanesulfonamide (PFOSA) in (CCVL 320-843420/2) associated to this data set. This is indicated by the "R" flag in the raw data. As the flagged data is in control in the low level continuing calibration verification (CCVL), there is no adverse impact to the data.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 28 days. The following samples in analytical batch 320-841906 were prepared and analyzed outside this time period because the request for the analysis came after 28 days had passed : JTA-002-N-S015-01152025 (320-118378-36).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-4

Client Sample ID: JTA-002-N-S015-01152025

Lab Sample ID: 320-118378-36

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.48		0.20	0.050	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: JTA-002-N-S015-01152025
Date Collected: 01/15/25 16:20
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-36
Matrix: Solid
Percent Solids: 90.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
Perfluorohexanesulfonic acid (PFHxS)	**0.48**		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1

Client Sample ID: JTA-002-N-S015-01152025
Lab Sample ID: 320-118378-36

Date Collected: 01/15/25 16:20
Matrix: Solid

Date Received: 01/18/25 09:00
Percent Solids: 90.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	03/31/25 07:16	04/02/25 12:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99.9*		*8 - 130*	*03/31/25 07:16*	*04/02/25 12:54*	*1*
13C5 PFPeA	*93.7*		*35 - 130*	*03/31/25 07:16*	*04/02/25 12:54*	*1*
13C5 PFHxA	*99.1*		*40 - 130*	*03/31/25 07:16*	*04/02/25 12:54*	*1*
13C4 PFHpA	*95.9*		*40 - 130*	*03/31/25 07:16*	*04/02/25 12:54*	*1*
13C8 PFOA	*93.3*		*40 - 130*	*03/31/25 07:16*	*04/02/25 12:54*	*1*
13C9 PFNA	*91.6*		*40 - 130*	*03/31/25 07:16*	*04/02/25 12:54*	*1*
13C6 PFDA	*83.8*		*40 - 130*	*03/31/25 07:16*	*04/02/25 12:54*	*1*
13C7 PFUnA	*65.9*		*40 - 130*	*03/31/25 07:16*	*04/02/25 12:54*	*1*
13C2 PFDoA	*58.6*		*40 - 130*	*03/31/25 07:16*	*04/02/25 12:54*	*1*
13C2 PFTeDA	*61.1*		*20 - 130*	*03/31/25 07:16*	*04/02/25 12:54*	*1*
13C3 PFBS	*77.0*		*40 - 135*	*03/31/25 07:16*	*04/02/25 12:54*	*1*
13C3 PFHxS	*76.8*		*40 - 130*	*03/31/25 07:16*	*04/02/25 12:54*	*1*
13C8 PFOS	*76.4*		*40 - 130*	*03/31/25 07:16*	*04/02/25 12:54*	*1*
13C8 FOSA	*54.6*		*40 - 130*	*03/31/25 07:16*	*04/02/25 12:54*	*1*
d3-NMeFOSAA	*72.6*		*40 - 135*	*03/31/25 07:16*	*04/02/25 12:54*	*1*
d5-NEtFOSAA	*66.2*		*40 - 150*	*03/31/25 07:16*	*04/02/25 12:54*	*1*
13C2 4:2 FTS	*86.8*		*40 - 165*	*03/31/25 07:16*	*04/02/25 12:54*	*1*
13C2 6:2 FTS	*90.2*		*40 - 215*	*03/31/25 07:16*	*04/02/25 12:54*	*1*
13C2 8:2 FTS	*83.2*		*40 - 275*	*03/31/25 07:16*	*04/02/25 12:54*	*1*
13C3 HFPO-DA	*106*		*40 - 130*	*03/31/25 07:16*	*04/02/25 12:54*	*1*
d7-N-MeFOSE-M	*41.3*		*20 - 130*	*03/31/25 07:16*	*04/02/25 12:54*	*1*
d9-N-EtFOSE-M	*34.7*		*15 - 130*	*03/31/25 07:16*	*04/02/25 12:54*	*1*
d5-NEtPFOSA	*36.9*		*10 - 130*	*03/31/25 07:16*	*04/02/25 12:54*	*1*
d3-NMePFOSA	*36.1*		*10 - 130*	*03/31/25 07:16*	*04/02/25 12:54*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**9.9**	**H**	0.10	0.10	%			03/24/25 13:12	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-4

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(8-130)	(35-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)
320-118378-36	JTA-002-N-S015-01152025	99.9	93.7	99.1	95.9	93.3	91.6	83.8	65.9
LCS 320-843241/3-A	Lab Control Sample	94.9	76.7	95.7	99.1	98.9	95.6	92.6	83.3
LCSD 320-843241/4-A	Lab Control Sample Dup	93.8	75.6	94.6	96.3	93.0	91.9	92.5	85.1
LLCS 320-843241/2-A	Lab Control Sample	97.8	76.3	96.9	99.5	92.7	95.3	89.7	81.2
MB 320-843241/1-A	Method Blank	97.4	75.7	94.0	103	97.1	94.2	89.8	75.6

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(40-130)	(20-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-135)	(40-150)
320-118378-36	JTA-002-N-S015-01152025	58.6	61.1	77.0	76.8	76.4	54.6	72.6	66.2
LCS 320-843241/3-A	Lab Control Sample	75.0	62.2	87.1	87.5	84.3	78.1	78.6	72.3
LCSD 320-843241/4-A	Lab Control Sample Dup	82.1	68.0	92.5	83.6	82.1	87.9	81.2	77.1
LLCS 320-843241/2-A	Lab Control Sample	85.1	70.9	83.3	83.5	84.3	87.7	82.6	79.5
MB 320-843241/1-A	Method Blank	66.7	60.5	83.8	86.1	85.6	75.2	75.1	68.9

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-165)	(40-215)	(40-275)	(40-130)	(20-130)	(15-130)	(10-130)	(10-130)
320-118378-36	JTA-002-N-S015-01152025	86.8	90.2	83.2	106	41.3	34.7	36.9	36.1
LCS 320-843241/3-A	Lab Control Sample	74.0	68.7	70.9	105	63.7	60.2	56.5	55.6
LCSD 320-843241/4-A	Lab Control Sample Dup	70.8	70.1	76.1	104	69.2	71.3	63.4	57.4
LLCS 320-843241/2-A	Lab Control Sample	70.9	65.6	76.9	102	80.0	76.4	58.6	58.0
MB 320-843241/1-A	Method Blank	67.7	68.5	72.0	105	58.4	60.5	54.6	52.0

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-843241/1-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 843241

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-843241/1-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 843241

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 02:32	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*97.4*		*8 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C5 PFPeA	*75.7*		*35 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C5 PFHxA	*94.0*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C4 PFHpA	*103*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C8 PFOA	*97.1*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C9 PFNA	*94.2*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C6 PFDA	*89.8*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C7 PFUnA	*75.6*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 PFDoA	*66.7*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 PFTeDA	*60.5*		*20 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C3 PFBS	*83.8*		*40 - 135*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C3 PFHxS	*86.1*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C8 PFOS	*85.6*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C8 FOSA	*75.2*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d3-NMeFOSAA	*75.1*		*40 - 135*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d5-NEtFOSAA	*68.9*		*40 - 150*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 4:2 FTS	*67.7*		*40 - 165*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 6:2 FTS	*68.5*		*40 - 215*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 8:2 FTS	*72.0*		*40 - 275*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C3 HFPO-DA	*105*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d7-N-MeFOSE-M	*58.4*		*20 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d9-N-EtFOSE-M	*60.5*		*15 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d5-NEtPFOSA	*54.6*		*10 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d3-NMePFOSA	*52.0*		*10 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*

Lab Sample ID: LCS 320-843241/3-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.68		ug/Kg		94	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.96		ug/Kg		118	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.31		ug/Kg		92	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.48		ug/Kg		99	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.42		ug/Kg		97	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.51		ug/Kg		101	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.51		ug/Kg		101	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-843241/3-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.63		ug/Kg		105	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.51		ug/Kg		100	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.70		ug/Kg		108	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	3.03		ug/Kg		121	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.07		ug/Kg		93	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.17		ug/Kg		92	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.03		ug/Kg		89	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.53		ug/Kg		106	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.17		ug/Kg		93	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.38		ug/Kg		99	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.09		ug/Kg		87	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	1.91		ug/Kg		79	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.09		ug/Kg		87	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.54		ug/Kg		95	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.57		ug/Kg		95	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.39		ug/Kg		96	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.45		ug/Kg		98	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.26		ug/Kg		90	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.19		ug/Kg		88	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.21		ug/Kg		88	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.1		ug/Kg		97	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.5		ug/Kg		100	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.66		ug/Kg		89	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	1.87		ug/Kg		79	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.57		ug/Kg		103	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.96		ug/Kg		118	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.17		ug/Kg		87	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-843241/3-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.07		ug/Kg		89	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.70		ug/Kg		72	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.99		ug/Kg		89	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.25		ug/Kg		105	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.8		ug/Kg		86	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.4		ug/Kg		91	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*94.9*		*8 - 130*
13C5 PFPeA	*76.7*		*35 - 130*
13C5 PFHxA	*95.7*		*40 - 130*
13C4 PFHpA	*99.1*		*40 - 130*
13C8 PFOA	*98.9*		*40 - 130*
13C9 PFNA	*95.6*		*40 - 130*
13C6 PFDA	*92.6*		*40 - 130*
13C7 PFUnA	*83.3*		*40 - 130*
13C2 PFDoA	*75.0*		*40 - 130*
13C2 PFTeDA	*62.2*		*20 - 130*
13C3 PFBS	*87.1*		*40 - 135*
13C3 PFHxS	*87.5*		*40 - 130*
13C8 PFOS	*84.3*		*40 - 130*
13C8 FOSA	*78.1*		*40 - 130*
d3-NMeFOSAA	*78.6*		*40 - 135*
d5-NEtFOSAA	*72.3*		*40 - 150*
13C2 4:2 FTS	*74.0*		*40 - 165*
13C2 6:2 FTS	*68.7*		*40 - 215*
13C2 8:2 FTS	*70.9*		*40 - 275*
13C3 HFPO-DA	*105*		*40 - 130*
d7-N-MeFOSE-M	*63.7*		*20 - 130*
d9-N-EtFOSE-M	*60.2*		*15 - 130*
d5-NEtPFOSA	*56.5*		*10 - 130*
d3-NMePFOSA	*55.6*		*10 - 130*

Lab Sample ID: LCSD 320-843241/4-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.58		ug/Kg		92	70 - 140	2	30
Perfluoropentanoic acid (PFPeA)			2.50	2.90		ug/Kg		116	60 - 150	2	30
Perfluorohexanoic acid (PFHxA)			2.50	2.30		ug/Kg		92	65 - 140	0	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.49		ug/Kg		100	65 - 145	0	30
Perfluorooctanoic acid (PFOA)			2.50	2.49		ug/Kg		99	70 - 150	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-843241/4-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.57		ug/Kg		103	70 - 155	2	30
Perfluorodecanoic acid (PFDA)	2.50	2.67		ug/Kg		107	70 - 155	6	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.64		ug/Kg		105	70 - 155	0	30
Perfluorododecanoic acid (PFDoA)	2.50	2.49		ug/Kg		100	70 - 150	1	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.57		ug/Kg		103	65 - 150	5	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.95		ug/Kg		118	65 - 150	3	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.01		ug/Kg		90	65 - 145	3	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.20		ug/Kg		94	55 - 160	1	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.11		ug/Kg		93	60 - 150	4	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.62		ug/Kg		110	65 - 155	4	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.29		ug/Kg		98	65 - 160	6	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.48		ug/Kg		103	55 - 140	4	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.24		ug/Kg		93	40 - 155	7	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.09		ug/Kg		86	25 - 160	9	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.52		ug/Kg		96	60 - 150	10	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.39		ug/Kg		92	55 - 200	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.48		ug/Kg		93	70 - 150	2	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.45		ug/Kg		98	70 - 140	2	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.54		ug/Kg		101	70 - 155	3	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.18		ug/Kg		87	70 - 140	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.28		ug/Kg		91	65 - 155	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.22		ug/Kg		89	65 - 165	0	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.6		ug/Kg		101	70 - 140	4	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	11.5		ug/Kg		92	70 - 135	8	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.63		ug/Kg		87	70 - 145	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	1.84		ug/Kg		78	70 - 160	1	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.44		ug/Kg		98	30 - 140	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.77		ug/Kg		111	60 - 150	6	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-843241/4-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.22		ug/Kg		89	60 - 155	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	1.94		ug/Kg		83	70 - 150	7	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.61		ug/Kg		68	45 - 160	5	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.97		ug/Kg		88	70 - 140	1	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.17		ug/Kg		103	45 - 130	2	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.8		ug/Kg		87	60 - 130	0	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 150	1	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*93.8*		*8 - 130*
13C5 PFPeA	*75.6*		*35 - 130*
13C5 PFHxA	*94.6*		*40 - 130*
13C4 PFHpA	*96.3*		*40 - 130*
13C8 PFOA	*93.0*		*40 - 130*
13C9 PFNA	*91.9*		*40 - 130*
13C6 PFDA	*92.5*		*40 - 130*
13C7 PFUnA	*85.1*		*40 - 130*
13C2 PFDoA	*82.1*		*40 - 130*
13C2 PFTeDA	*68.0*		*20 - 130*
13C3 PFBS	*92.5*		*40 - 135*
13C3 PFHxS	*83.6*		*40 - 130*
13C8 PFOS	*82.1*		*40 - 130*
13C8 FOSA	*87.9*		*40 - 130*
d3-NMeFOSAA	*81.2*		*40 - 135*
d5-NEtFOSAA	*77.1*		*40 - 150*
13C2 4:2 FTS	*70.8*		*40 - 165*
13C2 6:2 FTS	*70.1*		*40 - 215*
13C2 8:2 FTS	*76.1*		*40 - 275*
13C3 HFPO-DA	*104*		*40 - 130*
d7-N-MeFOSE-M	*69.2*		*20 - 130*
d9-N-EtFOSE-M	*71.3*		*15 - 130*
d5-NEtPFOSA	*63.4*		*10 - 130*
d3-NMePFOSA	*57.4*		*10 - 130*

Lab Sample ID: LLCS 320-843241/2-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.807		ug/Kg		101	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.501		ug/Kg		125	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.408		ug/Kg		102	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-843241/2-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.419		ug/Kg		105	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.447		ug/Kg		112	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.441		ug/Kg		110	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.438		ug/Kg		110	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.437		ug/Kg		109	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.423		ug/Kg		106	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.473		ug/Kg		118	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.545		ug/Kg		136	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.336		ug/Kg		94	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.372		ug/Kg		99	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.349		ug/Kg		96	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.438		ug/Kg		115	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.373		ug/Kg		100	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.414		ug/Kg		107	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.379		ug/Kg		98	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.409		ug/Kg		105	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.754		ug/Kg		101	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.726		ug/Kg		95	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.738		ug/Kg		96	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.404		ug/Kg		101	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.403		ug/Kg		101	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.394		ug/Kg		98	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.399		ug/Kg		100	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.357		ug/Kg		89	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	2.01		ug/Kg		100	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.15		ug/Kg		107	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.291		ug/Kg		97	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.334		ug/Kg		88	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.436		ug/Kg		109	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-843241/2-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.484		ug/Kg		121	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.350		ug/Kg		87	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.364		ug/Kg		97	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.338		ug/Kg		90	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.319		ug/Kg		89	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.848		ug/Kg		106	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	1.81		ug/Kg		91	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	1.99		ug/Kg		100	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*97.8*		*8 - 130*
13C5 PFPeA	*76.3*		*35 - 130*
13C5 PFHxA	*96.9*		*40 - 130*
13C4 PFHpA	*99.5*		*40 - 130*
13C8 PFOA	*92.7*		*40 - 130*
13C9 PFNA	*95.3*		*40 - 130*
13C6 PFDA	*89.7*		*40 - 130*
13C7 PFUnA	*81.2*		*40 - 130*
13C2 PFDoA	*85.1*		*40 - 130*
13C2 PFTeDA	*70.9*		*20 - 130*
13C3 PFBS	*83.3*		*40 - 135*
13C3 PFHxS	*83.5*		*40 - 130*
13C8 PFOS	*84.3*		*40 - 130*
13C8 FOSA	*87.7*		*40 - 130*
d3-NMeFOSAA	*82.6*		*40 - 135*
d5-NEtFOSAA	*79.5*		*40 - 150*
13C2 4:2 FTS	*70.9*		*40 - 165*
13C2 6:2 FTS	*65.6*		*40 - 215*
13C2 8:2 FTS	*76.9*		*40 - 275*
13C3 HFPO-DA	*102*		*40 - 130*
d7-N-MeFOSE-M	*80.0*		*20 - 130*
d9-N-EtFOSE-M	*76.4*		*15 - 130*
d5-NEtPFOSA	*58.6*		*10 - 130*
d3-NMePFOSA	*58.0*		*10 - 130*

QC Association Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-4

LCMS

Prep Batch: 843241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-36	JTA-002-N-S015-01152025	Total/NA	Solid	1633 Shake	
MB 320-843241/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-843241/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-843241/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-843241/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 843420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-843241/1-A	Method Blank	Total/NA	Solid	1633	843241
LCS 320-843241/3-A	Lab Control Sample	Total/NA	Solid	1633	843241
LCSD 320-843241/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	843241
LLCS 320-843241/2-A	Lab Control Sample	Total/NA	Solid	1633	843241

Analysis Batch: 843806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-36	JTA-002-N-S015-01152025	Total/NA	Solid	1633	843241

General Chemistry

Analysis Batch: 841906

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-36	JTA-002-N-S015-01152025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118378-4
Project/Site: Spokane International Airport

Client Sample ID: JTA-002-N-S015-01152025
Lab Sample ID: 320-118378-36
Date Collected: 01/15/25 16:20
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			841906	03/24/25 13:12	JCB	EET SAC

Client Sample ID: JTA-002-N-S015-01152025
Lab Sample ID: 320-118378-36
Date Collected: 01/15/25 16:20
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 90.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.21 g	5.0 mL	843241	03/31/25 07:16	CGL	EET SAC
Total/NA	Analysis	1633		1			843806	04/02/25 12:54	RS1	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118378-4
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-4

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-4

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118378-36	JTA-002-N-S015-01152025	Solid	01/15/25 16:20	01/18/25 09:00

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-002
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 880 Riverside Parkway W.Sac. CA 95605
CONTACT Afsaneh Salimpour

DELIVERY DATE 1/16/2025
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	HOLD	Number of Containers
LTA-001-N-S000-01152025	1/15/2025	8:05	Soil		X	3
LTA-001-N-S001-01152025	1/15/2025	8.10	Soil	X		3
LTA-001-N-S003-01152025	1/15/2025	8.15	Soil	X		3
LTA-001-N-S006-01152025	1/15/2025	8:20	Soil		X	3
LTA-001-N-S010-01152025	1/15/2025	8:25	Soil		X	3
LTA-001-N-S012-01152025	1/15/2025	8:30	Soil		X	3
LTA-001-FD-S012-01152025	1/15/2025	9:00	Soil		X	3
LTA-002-N-S000-01152025	1/15/2025	9:20	Soil		X	3
LTA-002-N-S001-01152025	1/15/2025	9:25	Soil	X	X	3
LTA-002-N-S003-01152025	1/15/2025	9:30	Soil	X		3

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118378 Chain of Custody

3.7, 5.8 ccw VPeck

Sampled and Relinquished by	Received by
Sign	Sign
Print Luke Peden	Print Macky Morris
Firm Haley & Aldrich	Firm EEC SPO
Date 1/16/25 Time 13 50	Date 1/16/25 1330
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Adam Medeiros
Firm EEC SPO	Firm Eurofins
Date 1/17/25 Time 1514	Date 1/18/25 0940
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.
_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
_____ This Chain of Custody Record (specify) _____includes _____does not include samples defined as Drinking Water Samples.
_____
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory

Form 3003

November 2024

2.4

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-002
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS
CONTACT

DELIVERY DATE 1/16/2025
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content								HOLD	Number of Containers
LTA-002-N-S006-01152025	1/15/2025	9:35	Soil												X	3
LTA-002-N-S010-01152025	1/15/2025	9:40	Soil												X	3
LTA-003-N-S000-01152025	1/15/2025	10:00	Soil												X	3
LTA-003-N-S001-01152025	1/15/2025	10:05	Soil	X												3
LTA-003-N-S003-01152025	1/15/2025	10:10	Soil	X												3
LTA-003-N-S006-01152025	1/15/2025	10:15	Soil												X	3
LTA-003-N-S010-01152025	1/15/2025	10:20	Soil												X	3
LTA-003-N-S015-01152025	1/15/2025	10:25	Soil												X	3
LTA-003-N-S017-01152025	1/15/2025	10:30	Soil												X	3
LTA-003-FD-S001-01152025	1/15/2025	10:30	Soil	X												3

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

3.7+5.8 con 1R006

Sampled and Relinquished by	Received by
Sign	Sign
Print Luke Pilon	Print Macky Morris
Firm HoA	Firm EEESPO
Date 1/16/25 Time 13 37	Date 1/16/25 1330
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Kevin Mickelson
Firm EEESPO	Firm Eurofins
Date 1/17/25 Time 1515	Date 1/18/25 0940
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

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Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

Form 3003 WHITE - Laboratory CANARY Project Manager PINK - Haley & Aldrich Laboratory November 2024

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-002
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS
CONTACT

DELIVERY DATE 1/16/2025
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
JTA-001-N-S000-01152025	1/15/2025	15:00	Soil					X	3
JTA-001-N-S001-01152025	1/15/2025	15:05	Soil	X					3
JTA-001-N-S003-01152025	1/15/2025	15 10	Soil	X					3
JTA-001-N-S006-01152025	1/15/2025	15 15	Soil					X	3
JTA-001-N-S010-01152025	1/15/2025	15:20	Soil					X	3
JTA-001-N-S015-01152025	1/15/2025	15:25	Soil					X	3
JTA-001-N-S020-01152025	1/15/2025	15.30	Soil					X	3
JTA-001-N-S023-01152025	1/15/2025	15.35	Soil					X	3
JTA-001-FD-S006-01152025	1/15/2025	15:45	Soil					X	3
JTA-002-N-S000-01152025	1/15/2025	15:55	Soil					X	3

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

3.7.5.8 from 1P0004

Sampled and Relinquished by	Received by
Sign	Sign
Print Luke Tiden	Print Macky Morris
Firm H&A	Firm EEC&P
Date 1/16/25 Time 3 30	Date 1/16/25 1330
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Ryan Mahoney
Firm EEC&P	Firm Eurofins
Date 1/17/25 Time 1615	Date 1/18/25 0900
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
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Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-002
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 800 Riverside Parkway, West Sacramento CA. 95605
CONTACT

DELIVERY DATE 1/16/2025
TURNAROUND TIME 5 -day Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content								HOLD	Number of Containers
JTA-002-N-S001-01152025	1/15/2025	16:00	Soil	X												3
JTA-002-N-S003-01152025	1/15/2025	16:05	Soil	X												3
JTA-002-FD-S003-01152025	1/15/2025	16:35	Soil	X												3
JTA-002-N-S006-01152025	1/15/2025	16:10	Soil												X	3
JTA-002-N-S010-01152025	1/15/2025	16:15	Soil												X	3
JTA-002-N-S015-01152025	1/15/2025	16:20	Soil												X	3
JTA-002-N-S020-01152025	1/15/2025	16:25	Soil												X	3
JTA-002-N-S025-01152025	1/15/2025	16:28	Soil												X	3
JTA-002-N-S030-01152025	1/15/2025	16:30	Soil												X	3

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

3.7 & 5.8 con IR006

Sampled and Relinquished by
Sign
Print Luke P'cen
Firm HJA
Date 1/16/25 Time 13

Received by
Sign
Print Macky Morris
Firm EESPO
Date 1/16/25 1330

Relinquished by
Sign
Print Macky Morris
Firm EESPO
Date 1/17/25 Time 1515

Received by
Sign
Print
Firm
Date 1/16/25 0900

Relinquished by
Sign
Print
Firm
Date Time

Received by
Sign
Print
Firm
Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

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Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

Form 3003

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

24

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-002
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS
CONTACT

DELIVERY DATE 1/16/2025
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
EB-01152025	1/15/2025	10 00	Water	X					3
HDW01152025	1/15/2025	15:20	Water	X					3
FB-01152025	1/15/2025	0·00	Water	X					1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

3.7, 5.8 ice Received

Sampled and Relinquished by	Received by
Sign	Sign
Print Luke Tiden	Print Macky Morris
Firm HgA	Firm EE&S20
Date 1/16/25 Time 3 3x	Date 1/16/25 1330
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Kevin Richards
Firm EE&S20	Firm EE&S20
Date 1/17/25 Time 1515	Date 1/18/25 0900
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

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Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

Form 3003 WHITE Laboratory CANARY Project Manager PINK - Haley & Aldrich Laboratory November 2024

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118378

Tracking # 4242 5693 0007

Job _____

SO / PO / FO (SAT) 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm. ID: 412 Corr Factor (+ / -) _____ °C

Ice ✓ Wet _____ Gel _____ Other _____

Cooler Custody Seal: 2287490

Cooler ID 1 of 2

Temp Observed 2.4 °C Corrected: 2.4 °C

From: Temp Blank ☐ Sandwich ☒ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☒	☐
Cooler Temperature is acceptable?	☒	☐	☐
Frozen samples show signs of thaw?	☐	☐	☒

Initials JM Date 1/18/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☒	☐	☐
Samples compromised/tampered with?	☐	☒	☐
COC is complete w/o discrepancies	☒	☐	☐
Sample custody seal?	☐	☐	☒
Sample containers have legible labels?	☒	☐	☐
Sample date/times are provided?	☒	☐	☐
Appropriate containers are used?	☒	☐	☐
Sample bottles are completely filled?	☒	☐	☐
Sample preservatives verified?	☐	☐	☒
Is the Field Sampler's name on COC?	☒	☐	☐
Samples w/o discrepancies?	☒	☐	☐
Zero headspace?* SO 1/20/25	☐	☐	☒
Alkalinity has no headspace?	☐	☐	☒
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☒
Multiphasic samples are not present?	☒	☐	☐

Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials SO Date 1/20/25

Notes: 10
(7) ends - 011525

Trizma Lot #(s) _____

Ammonium
Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☒	☐	☐
NCM Filed?	☒	☐	☐
Samples received within hold time?	☒	☐	☐
Log Release checked in TALS?	☒	☐	☐

Initials SO Date 1/20/25

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 3/13/2025 1:42:12 PM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118378-3

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

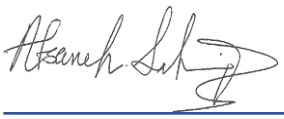
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118378-3
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118378-3 — Eurofins Sacramento

Job Narrative
320-118378-3

Receipt
The samples were received on 1/18/2025 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.4º C.

LCMS
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 28 days. The request for the analysis of the following samples in analytical batch 320-838822 occurred outside of this time period : JTA-002-N-S010-01152025 (320-118378-35).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-3

Client Sample ID: JTA-002-N-S010-01152025

Lab Sample ID: 320-118378-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.14	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.2		0.20	0.050	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-3

Client Sample ID: JTA-002-N-S010-01152025
Date Collected: 01/15/25 16:15
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-35
Matrix: Solid
Percent Solids: 86.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.099	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
Perfluorohexanoic acid (PFHxA)	**0.14**	**J**	0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
Perfluorohexanesulfonic acid (PFHxS)	**1.2**		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.099	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.099	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-3

Client Sample ID: JTA-002-N-S010-01152025
Date Collected: 01/15/25 16:15
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-35
Matrix: Solid
Percent Solids: 86.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.099	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	03/12/25 12:05	03/12/25 23:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91.4*		*8 - 130*	*03/12/25 12:05*	*03/12/25 23:57*	*1*
13C5 PFPeA	*109*		*35 - 130*	*03/12/25 12:05*	*03/12/25 23:57*	*1*
13C5 PFHxA	*97.0*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:57*	*1*
13C4 PFHpA	*106*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:57*	*1*
13C8 PFOA	*102*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:57*	*1*
13C9 PFNA	*83.8*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:57*	*1*
13C6 PFDA	*93.4*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:57*	*1*
13C7 PFUnA	*88.6*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:57*	*1*
13C2 PFDoA	*80.7*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:57*	*1*
13C2 PFTeDA	*60.3*		*20 - 130*	*03/12/25 12:05*	*03/12/25 23:57*	*1*
13C3 PFBS	*79.3*		*40 - 135*	*03/12/25 12:05*	*03/12/25 23:57*	*1*
13C3 PFHxS	*86.0*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:57*	*1*
13C8 PFOS	*87.5*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:57*	*1*
13C8 FOSA	*86.0*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:57*	*1*
d3-NMeFOSAA	*98.8*		*40 - 135*	*03/12/25 12:05*	*03/12/25 23:57*	*1*
d5-NEtFOSAA	*87.1*		*40 - 150*	*03/12/25 12:05*	*03/12/25 23:57*	*1*
13C2 4:2 FTS	*96.3*		*40 - 165*	*03/12/25 12:05*	*03/12/25 23:57*	*1*
13C2 6:2 FTS	*92.1*		*40 - 215*	*03/12/25 12:05*	*03/12/25 23:57*	*1*
13C2 8:2 FTS	*86.6*		*40 - 275*	*03/12/25 12:05*	*03/12/25 23:57*	*1*
13C3 HFPO-DA	*105*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:57*	*1*
d7-N-MeFOSE-M	*59.5*		*20 - 130*	*03/12/25 12:05*	*03/12/25 23:57*	*1*
d9-N-EtFOSE-M	*49.2*		*15 - 130*	*03/12/25 12:05*	*03/12/25 23:57*	*1*
d5-NEtPFOSA	*71.9*		*10 - 130*	*03/12/25 12:05*	*03/12/25 23:57*	*1*
d3-NMePFOSA	*75.1*		*10 - 130*	*03/12/25 12:05*	*03/12/25 23:57*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**14**	**H**	0.10	0.10	%			03/10/25 15:22	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-3

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(8-130)	(35-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)
320-118378-35	JTA-002-N-S010-01152025	91.4	109	97.0	106	102	83.8	93.4	88.6
LCS 320-839244/3-A	Lab Control Sample	69.6	104	90.6	99.9	93.4	84.3	99.9	97.1
LCSD 320-839244/4-A	Lab Control Sample Dup	88.0	101	89.0	98.5	100	83.1	100	97.9
LLCS 320-839244/2-A	Lab Control Sample	76.1	92.5	90.1	92.4	89.4	83.5	102	99.6
MB 320-839244/1-A	Method Blank	71.9	89.5	86.1	88.7	85.9	82.8	97.5	94.6

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(40-130)	(20-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-135)	(40-150)
320-118378-35	JTA-002-N-S010-01152025	80.7	60.3	79.3	86.0	87.5	86.0	98.8	87.1
LCS 320-839244/3-A	Lab Control Sample	97.6	82.8	80.1	87.1	95.7	92.7	109	104
LCSD 320-839244/4-A	Lab Control Sample Dup	98.9	81.8	85.7	89.9	88.1	85.9	104	90.3
LLCS 320-839244/2-A	Lab Control Sample	97.6	88.4	87.2	89.8	87.4	87.6	103	95.4
MB 320-839244/1-A	Method Blank	96.7	83.5	82.0	84.5	87.9	84.7	99.8	90.9

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-165)	(40-215)	(40-275)	(40-130)	(20-130)	(15-130)	(10-130)	(10-130)
320-118378-35	JTA-002-N-S010-01152025	96.3	92.1	86.6	105	59.5	49.2	71.9	75.1
LCS 320-839244/3-A	Lab Control Sample	88.2	94.7	91.1	99.9	84.1	73.4	88.6	87.9
LCSD 320-839244/4-A	Lab Control Sample Dup	92.6	98.7	91.8	94.7	72.6	61.2	81.0	80.5
LLCS 320-839244/2-A	Lab Control Sample	88.6	102	92.9	93.6	78.8	68.0	82.3	82.4
MB 320-839244/1-A	Method Blank	87.7	96.2	87.3	92.3	78.7	67.6	81.6	83.2

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-839244/1-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 839244

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-839244/1-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 839244

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		03/12/25 12:05	03/12/25 21:45	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*71.9*		*8 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C5 PFPeA	*89.5*		*35 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C5 PFHxA	*86.1*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C4 PFHpA	*88.7*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C8 PFOA	*85.9*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C9 PFNA	*82.8*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C6 PFDA	*97.5*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C7 PFUnA	*94.6*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 PFDoA	*96.7*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 PFTeDA	*83.5*		*20 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C3 PFBS	*82.0*		*40 - 135*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C3 PFHxS	*84.5*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C8 PFOS	*87.9*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C8 FOSA	*84.7*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d3-NMeFOSAA	*99.8*		*40 - 135*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d5-NEtFOSAA	*90.9*		*40 - 150*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 4:2 FTS	*87.7*		*40 - 165*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 6:2 FTS	*96.2*		*40 - 215*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 8:2 FTS	*87.3*		*40 - 275*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C3 HFPO-DA	*92.3*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d7-N-MeFOSE-M	*78.7*		*20 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d9-N-EtFOSE-M	*67.6*		*15 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d5-NEtPFOSA	*81.6*		*10 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d3-NMePFOSA	*83.2*		*10 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*

Lab Sample ID: LCS 320-839244/3-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.84		ug/Kg		97	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.13		ug/Kg		85	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.31		ug/Kg		92	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.53		ug/Kg		101	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.21		ug/Kg		88	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.48		ug/Kg		99	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.29		ug/Kg		91	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-839244/3-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.60		ug/Kg		104	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.49		ug/Kg		100	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.62		ug/Kg		105	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.68		ug/Kg		107	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	1.75		ug/Kg		79	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.05		ug/Kg		87	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.89		ug/Kg		83	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.42		ug/Kg		102	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.28		ug/Kg		98	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.36		ug/Kg		98	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.35		ug/Kg		98	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.30		ug/Kg		95	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.87		ug/Kg		104	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.83		ug/Kg		101	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.87		ug/Kg		102	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.36		ug/Kg		94	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.49		ug/Kg		100	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.47		ug/Kg		99	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.21		ug/Kg		89	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.32		ug/Kg		93	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.9		ug/Kg		95	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	13.0		ug/Kg		104	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.90		ug/Kg		102	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.17		ug/Kg		92	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	1.95		ug/Kg		78	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.15		ug/Kg		86	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.09		ug/Kg		84	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-839244/3-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.29		ug/Kg		98	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.21		ug/Kg		94	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.14		ug/Kg		96	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	2.99		ug/Kg		60	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.6		ug/Kg		93	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*69.6*		*8 - 130*
13C5 PFPeA	*104*		*35 - 130*
13C5 PFHxA	*90.6*		*40 - 130*
13C4 PFHpA	*99.9*		*40 - 130*
13C8 PFOA	*93.4*		*40 - 130*
13C9 PFNA	*84.3*		*40 - 130*
13C6 PFDA	*99.9*		*40 - 130*
13C7 PFUnA	*97.1*		*40 - 130*
13C2 PFDoA	*97.6*		*40 - 130*
13C2 PFTeDA	*82.8*		*20 - 130*
13C3 PFBS	*80.1*		*40 - 135*
13C3 PFHxS	*87.1*		*40 - 130*
13C8 PFOS	*95.7*		*40 - 130*
13C8 FOSA	*92.7*		*40 - 130*
d3-NMeFOSAA	*109*		*40 - 135*
d5-NEtFOSAA	*104*		*40 - 150*
13C2 4:2 FTS	*88.2*		*40 - 165*
13C2 6:2 FTS	*94.7*		*40 - 215*
13C2 8:2 FTS	*91.1*		*40 - 275*
13C3 HFPO-DA	*99.9*		*40 - 130*
d7-N-MeFOSE-M	*84.1*		*20 - 130*
d9-N-EtFOSE-M	*73.4*		*15 - 130*
d5-NEtPFOSA	*88.6*		*10 - 130*
d3-NMePFOSA	*87.9*		*10 - 130*

Lab Sample ID: LCSD 320-839244/4-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.82		ug/Kg		96	70 - 140	0	30
Perfluoropentanoic acid (PFPeA)			2.50	2.14		ug/Kg		86	60 - 150	0	30
Perfluorohexanoic acid (PFHxA)			2.50	2.38		ug/Kg		95	65 - 140	3	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.35		ug/Kg		94	65 - 145	7	30
Perfluorooctanoic acid (PFOA)			2.50	2.14		ug/Kg		86	70 - 150	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-839244/4-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 839244

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.33		ug/Kg		93	70 - 155	6	30
Perfluorodecanoic acid (PFDA)	2.50	2.27		ug/Kg		91	70 - 155	1	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.59		ug/Kg		104	70 - 155	0	30
Perfluorododecanoic acid (PFDoA)	2.50	2.39		ug/Kg		96	70 - 150	4	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.53		ug/Kg		101	65 - 150	3	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.57		ug/Kg		103	65 - 150	4	30
Perfluorobutanesulfonic acid (PFBS)	2.22	1.61		ug/Kg		73	65 - 145	8	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.01		ug/Kg		86	55 - 160	2	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.88		ug/Kg		83	60 - 150	1	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.39		ug/Kg		100	65 - 155	2	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.24		ug/Kg		96	65 - 160	2	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.33		ug/Kg		97	55 - 140	1	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.36		ug/Kg		98	40 - 155	0	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.10		ug/Kg		87	25 - 160	9	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	5.00		ug/Kg		107	60 - 150	3	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.84		ug/Kg		102	55 - 200	0	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.88		ug/Kg		102	70 - 150	0	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.34		ug/Kg		94	70 - 140	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.44		ug/Kg		97	70 - 155	2	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.39		ug/Kg		95	70 - 140	3	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.14		ug/Kg		85	65 - 155	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.50		ug/Kg		100	65 - 165	7	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.6		ug/Kg		93	70 - 140	3	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.6		ug/Kg		101	70 - 135	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.83		ug/Kg		97	70 - 145	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.12		ug/Kg		89	70 - 160	3	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	1.98		ug/Kg		79	30 - 140	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.04		ug/Kg		82	60 - 150	5	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-839244/4-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	1.69		ug/Kg		67	60 - 155	22	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.26		ug/Kg		97	70 - 150	1	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.11		ug/Kg		90	45 - 160	4	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.27		ug/Kg		102	70 - 140	6	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.04		ug/Kg		81	45 - 130	30	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 130	0	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 150	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*88.0*		*8 - 130*
13C5 PFPeA	*101*		*35 - 130*
13C5 PFHxA	*89.0*		*40 - 130*
13C4 PFHpA	*98.5*		*40 - 130*
13C8 PFOA	*100*		*40 - 130*
13C9 PFNA	*83.1*		*40 - 130*
13C6 PFDA	*100*		*40 - 130*
13C7 PFUnA	*97.9*		*40 - 130*
13C2 PFDoA	*98.9*		*40 - 130*
13C2 PFTeDA	*81.8*		*20 - 130*
13C3 PFBS	*85.7*		*40 - 135*
13C3 PFHxS	*89.9*		*40 - 130*
13C8 PFOS	*88.1*		*40 - 130*
13C8 FOSA	*85.9*		*40 - 130*
d3-NMeFOSAA	*104*		*40 - 135*
d5-NEtFOSAA	*90.3*		*40 - 150*
13C2 4:2 FTS	*92.6*		*40 - 165*
13C2 6:2 FTS	*98.7*		*40 - 215*
13C2 8:2 FTS	*91.8*		*40 - 275*
13C3 HFPO-DA	*94.7*		*40 - 130*
d7-N-MeFOSE-M	*72.6*		*20 - 130*
d9-N-EtFOSE-M	*61.2*		*15 - 130*
d5-NEtPFOSA	*81.0*		*10 - 130*
d3-NMePFOSA	*80.5*		*10 - 130*

Lab Sample ID: LLCS 320-839244/2-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.786		ug/Kg		98	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.364		ug/Kg		91	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.407		ug/Kg		102	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-839244/2-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.433		ug/Kg		108	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.411		ug/Kg		103	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.396		ug/Kg		99	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.394		ug/Kg		99	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.431		ug/Kg		108	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.421		ug/Kg		105	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.450		ug/Kg		113	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.439		ug/Kg		110	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.283		ug/Kg		80	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.341		ug/Kg		91	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.302		ug/Kg		83	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.392		ug/Kg		103	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.378		ug/Kg		101	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.400		ug/Kg		104	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.398		ug/Kg		103	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.340		ug/Kg		88	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.807		ug/Kg		108	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.803		ug/Kg		105	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.747		ug/Kg		97	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.396		ug/Kg		99	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.381		ug/Kg		95	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.387		ug/Kg		97	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.348		ug/Kg		87	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.364		ug/Kg		91	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.88		ug/Kg		94	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.06		ug/Kg		103	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.278		ug/Kg		93	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.361		ug/Kg		95	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.352		ug/Kg		88	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-839244/2-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.368		ug/Kg		92	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.367		ug/Kg		92	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.377		ug/Kg		101	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.365		ug/Kg		97	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.337		ug/Kg		95	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.587		ug/Kg		73	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	1.78		ug/Kg		89	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	1.83		ug/Kg		91	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*76.1*		*8 - 130*
13C5 PFPeA	*92.5*		*35 - 130*
13C5 PFHxA	*90.1*		*40 - 130*
13C4 PFHpA	*92.4*		*40 - 130*
13C8 PFOA	*89.4*		*40 - 130*
13C9 PFNA	*83.5*		*40 - 130*
13C6 PFDA	*102*		*40 - 130*
13C7 PFUnA	*99.6*		*40 - 130*
13C2 PFDoA	*97.6*		*40 - 130*
13C2 PFTeDA	*88.4*		*20 - 130*
13C3 PFBS	*87.2*		*40 - 135*
13C3 PFHxS	*89.8*		*40 - 130*
13C8 PFOS	*87.4*		*40 - 130*
13C8 FOSA	*87.6*		*40 - 130*
d3-NMeFOSAA	*103*		*40 - 135*
d5-NEtFOSAA	*95.4*		*40 - 150*
13C2 4:2 FTS	*88.6*		*40 - 165*
13C2 6:2 FTS	*102*		*40 - 215*
13C2 8:2 FTS	*92.9*		*40 - 275*
13C3 HFPO-DA	*93.6*		*40 - 130*
d7-N-MeFOSE-M	*78.8*		*20 - 130*
d9-N-EtFOSE-M	*68.0*		*15 - 130*
d5-NEtPFOSA	*82.3*		*10 - 130*
d3-NMePFOSA	*82.4*		*10 - 130*

QC Association Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-3

LCMS

Prep Batch: 839244

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-35	JTA-002-N-S010-01152025	Total/NA	Solid	1633 Shake	
MB 320-839244/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-839244/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-839244/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-839244/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 839392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-35	JTA-002-N-S010-01152025	Total/NA	Solid	1633	839244
MB 320-839244/1-A	Method Blank	Total/NA	Solid	1633	839244
LCS 320-839244/3-A	Lab Control Sample	Total/NA	Solid	1633	839244
LCSD 320-839244/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	839244
LLCS 320-839244/2-A	Lab Control Sample	Total/NA	Solid	1633	839244

General Chemistry

Analysis Batch: 838822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-35	JTA-002-N-S010-01152025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118378-3
Project/Site: Spokane International Airport

Client Sample ID: JTA-002-N-S010-01152025
Lab Sample ID: 320-118378-35

Date Collected: 01/15/25 16:15
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			838822	03/10/25 15:22	CFR	EET SAC

Client Sample ID: JTA-002-N-S010-01152025
Lab Sample ID: 320-118378-35

Date Collected: 01/15/25 16:15
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 86.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.33 g	5.0 mL	839244	03/12/25 12:05	MKC	EET SAC
Total/NA	Analysis	1633		1			839392	03/12/25 23:57	C1P	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118378-3
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-3

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118378-35	JTA-002-N-S010-01152025	Solid	01/15/25 16:15	01/18/25 09:00

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-002
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 880 Riverside Parkway W.Sac. CA 95605
CONTACT Afsaneh Salimpour

DELIVERY DATE 1/16/2025
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	HOLD	Number of Containers
LTA-001-N-S000-01152025	1/15/2025	8:05	Soil		X	3
LTA-001-N-S001-01152025	1/15/2025	8.10	Soil	X		3
LTA-001-N-S003-01152025	1/15/2025	8.15	Soil	X		3
LTA-001-N-S006-01152025	1/15/2025	8:20	Soil		X	3
LTA-001-N-S010-01152025	1/15/2025	8:25	Soil		X	3
LTA-001-N-S012-01152025	1/15/2025	8:30	Soil		X	3
LTA-001-FD-S012-01152025	1/15/2025	9:00	Soil		X	3
LTA-002-N-S000-01152025	1/15/2025	9:20	Soil		X	3
LTA-002-N-S001-01152025	1/15/2025	9:25	Soil	X	X	3
LTA-002-N-S003-01152025	1/15/2025	9:30	Soil	X		3

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118378 Chain of Custody

3.7, 5.8 ccw IPC

Sampled and Relinquished by	Received by
Sign	Sign
Print Luke Peden	Print Macky Morris
Firm Haley & Aldrich	Firm EEC SPO
Date 1/16/25 Time 13 50	Date 1/16/25 1330
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Adam Medeiros
Firm EEC SPO	Firm Eurofins
Date 1/17/25 Time 1514	Date 1/18/25 0940
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.
_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
_____ This Chain of Custody Record (specify) _____includes _____does not include samples defined as Drinking Water Samples.
_____
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory

Form 3003

November 2024

2.9

3/13/2025

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-002
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS
CONTACT

DELIVERY DATE 1/16/2025
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content								HOLD	Number of Containers
LTA-002-N-S006-01152025	1/15/2025	9:35	Soil												X	3
LTA-002-N-S010-01152025	1/15/2025	9:40	Soil												X	3
LTA-003-N-S000-01152025	1/15/2025	10:00	Soil												X	3
LTA-003-N-S001-01152025	1/15/2025	10:05	Soil	X												3
LTA-003-N-S003-01152025	1/15/2025	10:10	Soil	X												3
LTA-003-N-S006-01152025	1/15/2025	10:15	Soil												X	3
LTA-003-N-S010-01152025	1/15/2025	10:20	Soil												X	3
LTA-003-N-S015-01152025	1/15/2025	10:25	Soil												X	3
LTA-003-N-S017-01152025	1/15/2025	10:30	Soil												X	3
LTA-003-FD-S001-01152025	1/15/2025	10:30	Soil	X												3

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

3.7+5.8 con IR006

Sampled and Relinquished by	Received by
Sign	Sign
Print Luke Pilon	Print Macky Moore
Firm HoA	Firm EEESPO
Date 1/16/25 Time 13 37	Date 1/16/25 1330
Relinquished by	**Received by**
Sign	Sign
Print Macky Moore	Print Kevin Mickelson
Firm EEESPO	Firm Eurofins
Date 1/17/25 Time 1515	Date 1/18/25 0940
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

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Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

Form 3003 WHITE - Laboratory CANARY Project Manager PINK - Haley & Aldrich Laboratory November 2024

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-002
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS
CONTACT

DELIVERY DATE 1/16/2025
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
JTA-001-N-S000-01152025	1/15/2025	15:00	Soil					X	3
JTA-001-N-S001-01152025	1/15/2025	15:05	Soil	X					3
JTA-001-N-S003-01152025	1/15/2025	15 10	Soil	X					3
JTA-001-N-S006-01152025	1/15/2025	15 15	Soil					X	3
JTA-001-N-S010-01152025	1/15/2025	15:20	Soil					X	3
JTA-001-N-S015-01152025	1/15/2025	15:25	Soil					X	3
JTA-001-N-S020-01152025	1/15/2025	15.30	Soil					X	3
JTA-001-N-S023-01152025	1/15/2025	15.35	Soil					X	3
JTA-001-FD-S006-01152025	1/15/2025	15:45	Soil					X	3
JTA-002-N-S000-01152025	1/15/2025	15:55	Soil					X	3

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

3.7.5.8 from 1P0004

Sampled and Relinquished by	Received by
Sign	Sign
Print Luke Tiden	Print Macky Morris
Firm H&A	Firm EEC&P
Date 1/16/25 Time 3 30	Date 1/16/25 1330
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Ryan Mahoney
Firm EEC&P	Firm Eurofins
Date 1/17/25 Time 1615	Date 1/18/25 0900
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

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_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE Laboratory CANARY - Project Manager PINK Haley & Aldrich Laboratory

Form 3003

November 2024

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-002
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 800 Riverside Parkway, West Sacramento CA. 95605
CONTACT

DELIVERY DATE 1/16/2025
TURNAROUND TIME 5 -day Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content							HOLD	Number of Containers
JTA-002-N-S001-01152025	1/15/2025	16:00	Soil	X											3
JTA-002-N-S003-01152025	1/15/2025	16:05	Soil	X											3
JTA-002-FD-S003-01152025	1/15/2025	16:35	Soil	X											3
JTA-002-N-S006-01152025	1/15/2025	16:10	Soil											X	3
JTA-002-N-S010-01152025	1/15/2025	16:15	Soil											X	3
JTA-002-N-S015-01152025	1/15/2025	16:20	Soil											X	3
JTA-002-N-S020-01152025	1/15/2025	16:25	Soil											X	3
JTA-002-N-S025-01152025	1/15/2025	16:28	Soil											X	3
JTA-002-N-S030-01152025	1/15/2025	16:30	Soil											X	3

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

3.7 & 5.8 can IR006

Sampled and Relinquished by	Received by
Sign	Sign
Print Luke Pisan	Print Macky Morris
Firm HJA	Firm ESSAPO
Date 1/16/25 Time 13	Date 1/16/25 1330
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print
Firm ESSAPO	Firm
Date 1/17/25 Time 1515	Date
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID															
															VOA Vial
															Amber Glass
															Plastic Bottle
															Preservative
															Volume

SOLID															
															VOA Vial
															Amber Glass
															Clear Glass
															Preservative
															Volume

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

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_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

Form 3003 WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory November 2024

24

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-002
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS
CONTACT

DELIVERY DATE 1/16/2025
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
EB-01152025	1/15/2025	10 00	Water	X					3
HDW01152025	1/15/2025	15:20	Water	X					3
FB-01152025	1/15/2025	0·00	Water	X					1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

3.7, 5.8 on Receipt

Sampled and Relinquished by	Received by
Sign	Sign
Print Luke Tiden	Print Macky Morris
Firm HgA	Firm EE Eurofins
Date 1/16/25 Time 3 3x	Date 1/16/25 1330
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Kevin Richardson
Firm EE Eurofins	Firm EE Eurofins
Date 1/17/25 Time 1515	Date 1/18/25 0900
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

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Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118378

Tracking # 4242 5693 0007

Job _____

SO / PO / FO / (SAT) / 2-Day / Ground / UPS / CDO / Courier

GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm. ID: 412 Corr Factor (+/-) _____ °C

Ice ✓ Wet _____ Gel _____ Other _____

Cooler Custody Seal: 2287490

Cooler ID 1 of 2

Temp Observed 2.4 °C Corrected: 2.4 °C

From: Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials JM Date 1/18/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☑	☐	☐
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?* SO 1/20/25	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials SO Date 1/20/25

Notes: 10
(7) ends - 011525

Trizma Lot #(s) _____

Ammonium
Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials SO Date 1/20/25

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 3/3/2025 11:52:51 AM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118378-2

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

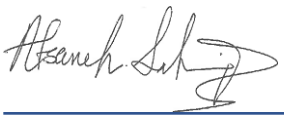
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118378-2
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
G	The reported quantitation limit has been raised due to an exhibited elevated noise or matrix interference
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-118378-2

Receipt
The samples were received on 1/18/2025 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.4º C.

Receipt Exceptions

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): LTA-001-FD-S012-01152025 (320-118378-7). Sample 7, container ID ends in -011525. Sample logged in and labeled according to COC.

LCMS
Method 1633: Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: LTA-002-N-S000-01152025 (320-118378-8). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 1633: The following samples exhibited matrix interferences for Perfluorobutanesulfonic acid (PFBS) causing elevation of the reporting limit (RL): LTA-002-N-S000-01152025 (320-118378-8). The RL for the affected analyte has been raised to be equal to the matrix interference and a "G" qualifier applied.

Method 1633: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-835793 and analytical batch 320-836090 recovered outside control limits for the following analytes: Nonafluoro-3,6-dioxaheptanoic acid (NFDHA).

Method 1633: The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. The associated analytes have been flagged: JTA-002-N-S006-01152025 (320-118378-34).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 14 days. The following samples in analytical batch 320-834661 were prepared and analyzed outside this time period : LTA-001-N-S000-01152025 (320-118378-1), LTA-002-N-S000-01152025 (320-118378-8), LTA-002-N-S006-01152025 (320-118378-11), LTA-003-N-S000-01152025 (320-118378-13), JTA-001-N-S000-01152025 (320-118378-21), JTA-002-N-S000-01152025 (320-118378-30) and JTA-002-N-S006-01152025 (320-118378-34).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-2

Client Sample ID: LTA-001-N-S000-01152025 — Lab Sample ID: 320-118378-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.11	J	0.39	0.098	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.070	J	0.20	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.16	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA) - RA	0.051	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: LTA-002-N-S000-01152025 — Lab Sample ID: 320-118378-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.059	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.057	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.29		0.19	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.53		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	3.7		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.45		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.91		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.10	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.25		0.19	0.056	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.068	J G	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.11	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.23	J	0.39	0.097	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	3.1		0.97	0.24	ug/Kg	1	☼	1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	1.9		0.97	0.24	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: LTA-002-N-S006-01152025 — Lab Sample ID: 320-118378-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.16	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.092	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: LTA-003-N-S000-01152025 — Lab Sample ID: 320-118378-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.32	J	0.39	0.098	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.31		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.43		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.37		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	2.6		0.20	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.12	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.12	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.088	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-001-N-S000-01152025 — Lab Sample ID: 320-118378-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorononanoic acid (PFNA)	0.052	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.13	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-002-N-S000-01152025 — Lab Sample ID: 320-118378-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	2.0		0.20	0.050	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample ID: JTA-002-N-S000-01152025 (Continued) — Lab Sample ID: 320-118378-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorononanesulfonic acid (PFNS)	0.14	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.12	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.066	J	0.20	0.062	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-002-N-S006-01152025 — Lab Sample ID: 320-118378-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.065	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.13	J	0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.19	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.072	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	22	I	0.20	0.050	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-2

Client Sample ID: LTA-001-N-S000-01152025
Date Collected: 01/15/25 08:05
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-1
Matrix: Solid
Percent Solids: 86.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.11**	**J**	0.39	0.098	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
Perfluorooctanoic acid (PFOA)	**0.070**	**J**	0.20	0.060	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
Perfluorooctanesulfonic acid (PFOS)	**0.16**	**J**	0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.061	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.24	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.24	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.060	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.073	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1

Client Sample ID: LTA-001-N-S000-01152025
Date Collected: 01/15/25 08:05
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-1
Matrix: Solid
Percent Solids: 86.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	02/26/25 09:29	02/27/25 14:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*68.9*		*8 - 130*	*02/26/25 09:29*	*02/27/25 14:24*	*1*
13C5 PFPeA	*101*		*35 - 130*	*02/26/25 09:29*	*02/27/25 14:24*	*1*
13C5 PFHxA	*113*		*40 - 130*	*02/26/25 09:29*	*02/27/25 14:24*	*1*
13C4 PFHpA	*86.6*		*40 - 130*	*02/26/25 09:29*	*02/27/25 14:24*	*1*
13C8 PFOA	*83.7*		*40 - 130*	*02/26/25 09:29*	*02/27/25 14:24*	*1*
13C9 PFNA	*77.3*		*40 - 130*	*02/26/25 09:29*	*02/27/25 14:24*	*1*
13C6 PFDA	*82.1*		*40 - 130*	*02/26/25 09:29*	*02/27/25 14:24*	*1*
13C7 PFUnA	*93.3*		*40 - 130*	*02/26/25 09:29*	*02/27/25 14:24*	*1*
13C2 PFDoA	*93.2*		*40 - 130*	*02/26/25 09:29*	*02/27/25 14:24*	*1*
13C2 PFTeDA	*115*		*20 - 130*	*02/26/25 09:29*	*02/27/25 14:24*	*1*
13C3 PFBS	*93.3*		*40 - 135*	*02/26/25 09:29*	*02/27/25 14:24*	*1*
13C3 PFHxS	*109*		*40 - 130*	*02/26/25 09:29*	*02/27/25 14:24*	*1*
13C8 PFOS	*85.9*		*40 - 130*	*02/26/25 09:29*	*02/27/25 14:24*	*1*
13C8 FOSA	*76.7*		*40 - 130*	*02/26/25 09:29*	*02/27/25 14:24*	*1*
d3-NMeFOSAA	*63.9*		*40 - 135*	*02/26/25 09:29*	*02/27/25 14:24*	*1*
d5-NEtFOSAA	*65.2*		*40 - 150*	*02/26/25 09:29*	*02/27/25 14:24*	*1*
13C2 4:2 FTS	*107*		*40 - 165*	*02/26/25 09:29*	*02/27/25 14:24*	*1*
13C2 6:2 FTS	*96.0*		*40 - 215*	*02/26/25 09:29*	*02/27/25 14:24*	*1*
13C2 8:2 FTS	*87.8*		*40 - 275*	*02/26/25 09:29*	*02/27/25 14:24*	*1*
13C3 HFPO-DA	*87.7*		*40 - 130*	*02/26/25 09:29*	*02/27/25 14:24*	*1*
d7-N-MeFOSE-M	*74.8*		*20 - 130*	*02/26/25 09:29*	*02/27/25 14:24*	*1*
d9-N-EtFOSE-M	*67.8*		*15 - 130*	*02/26/25 09:29*	*02/27/25 14:24*	*1*
d5-NEtPFOSA	*79.7*		*10 - 130*	*02/26/25 09:29*	*02/27/25 14:24*	*1*
d3-NMePFOSA	*87.8*		*10 - 130*	*02/26/25 09:29*	*02/27/25 14:24*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	**0.051**	**J**	0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/28/25 15:12	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/28/25 15:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C9 PFNA	*85.9*		*40 - 130*	*02/26/25 09:29*	*02/28/25 15:12*	*1*
13C3 HFPO-DA	*92.9*		*40 - 130*	*02/26/25 09:29*	*02/28/25 15:12*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**14**	**H**	0.10	0.10	%			02/20/25 14:31	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-2

Client Sample ID: LTA-002-N-S000-01152025
Date Collected: 01/15/25 09:20
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-8
Matrix: Solid
Percent Solids: 83.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.097	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
Perfluoropentanoic acid (PFPeA)	**0.059**	**J**	0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
Perfluorohexanoic acid (PFHxA)	**0.057**	**J**	0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
Perfluorooctanoic acid (PFOA)	**0.29**		0.19	0.060	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
Perfluorononanoic acid (PFNA)	**0.53**		0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
Perfluorodecanoic acid (PFDA)	**3.7**		0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
Perfluoroundecanoic acid (PFUnA)	**0.45**		0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
Perfluorododecanoic acid (PFDoA)	**0.91**		0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
Perfluorotridecanoic acid (PFTrDA)	**0.10**	**J**	0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
Perfluorotetradecanoic acid (PFTeDA)	**0.25**		0.19	0.056	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
Perfluorobutanesulfonic acid (PFBS)	**0.068**	**J G**	0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
Perfluorooctanesulfonic acid (PFOS)	**0.11**	**J**	0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1

Client Sample ID: LTA-002-N-S000-01152025

Lab Sample ID: 320-118378-8
Date Collected: 01/15/25 09:20
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 83.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.073	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	**0.23**	**J**	0.39	0.097	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**3.1**		0.97	0.24	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	**1.9**		0.97	0.24	ug/Kg	☼	02/26/25 09:29	02/26/25 20:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91.5*		*8 - 130*	*02/26/25 09:29*	*02/26/25 20:38*	*1*
13C5 PFPeA	*83.4*		*35 - 130*	*02/26/25 09:29*	*02/26/25 20:38*	*1*
13C5 PFHxA	*94.2*		*40 - 130*	*02/26/25 09:29*	*02/26/25 20:38*	*1*
13C4 PFHpA	*100*		*40 - 130*	*02/26/25 09:29*	*02/26/25 20:38*	*1*
13C8 PFOA	*86.4*		*40 - 130*	*02/26/25 09:29*	*02/26/25 20:38*	*1*
13C9 PFNA	*78.7*		*40 - 130*	*02/26/25 09:29*	*02/26/25 20:38*	*1*
13C6 PFDA	*82.8*		*40 - 130*	*02/26/25 09:29*	*02/26/25 20:38*	*1*
13C7 PFUnA	*85.5*		*40 - 130*	*02/26/25 09:29*	*02/26/25 20:38*	*1*
13C2 PFDoA	*81.0*		*40 - 130*	*02/26/25 09:29*	*02/26/25 20:38*	*1*
13C2 PFTeDA	*102*		*20 - 130*	*02/26/25 09:29*	*02/26/25 20:38*	*1*
13C3 PFBS	*86.1*		*40 - 135*	*02/26/25 09:29*	*02/26/25 20:38*	*1*
13C3 PFHxS	*105*		*40 - 130*	*02/26/25 09:29*	*02/26/25 20:38*	*1*
13C8 PFOS	*77.0*		*40 - 130*	*02/26/25 09:29*	*02/26/25 20:38*	*1*
13C8 FOSA	*68.8*		*40 - 130*	*02/26/25 09:29*	*02/26/25 20:38*	*1*
d3-NMeFOSAA	*73.8*		*40 - 135*	*02/26/25 09:29*	*02/26/25 20:38*	*1*
d5-NEtFOSAA	*77.5*		*40 - 150*	*02/26/25 09:29*	*02/26/25 20:38*	*1*
13C2 4:2 FTS	*173*	**5+*	*40 - 165*	*02/26/25 09:29*	*02/26/25 20:38*	*1*
13C2 6:2 FTS	*150*		*40 - 215*	*02/26/25 09:29*	*02/26/25 20:38*	*1*
13C2 8:2 FTS	*136*		*40 - 275*	*02/26/25 09:29*	*02/26/25 20:38*	*1*
13C3 HFPO-DA	*87.3*		*40 - 130*	*02/26/25 09:29*	*02/26/25 20:38*	*1*
d7-N-MeFOSE-M	*70.2*		*20 - 130*	*02/26/25 09:29*	*02/26/25 20:38*	*1*
d9-N-EtFOSE-M	*53.0*		*15 - 130*	*02/26/25 09:29*	*02/26/25 20:38*	*1*
d5-NEtPFOSA	*67.7*		*10 - 130*	*02/26/25 09:29*	*02/26/25 20:38*	*1*
d3-NMePFOSA	*66.5*		*10 - 130*	*02/26/25 09:29*	*02/26/25 20:38*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**16**	**H**	0.10	0.10	%			02/20/25 14:31	1

Client Sample ID: LTA-002-N-S006-01152025

Lab Sample ID: 320-118378-11
Date Collected: 01/15/25 09:35
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 95.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
Perfluoropentanoic acid (PFPeA)	**0.16**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-2

Client Sample ID: LTA-002-N-S006-01152025
Date Collected: 01/15/25 09:35
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-11
Matrix: Solid
Percent Solids: 95.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.092**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.20	0.062	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1

Client Sample ID: LTA-002-N-S006-01152025

Lab Sample ID: 320-118378-11

Date Collected: 01/15/25 09:35
Date Received: 01/18/25 09:00

Matrix: Solid
Percent Solids: 95.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 01:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*115*		*8 - 130*	*02/26/25 07:12*	*02/27/25 01:51*	*1*
13C5 PFPeA	*82.3*		*35 - 130*	*02/26/25 07:12*	*02/27/25 01:51*	*1*
13C5 PFHxA	*102*		*40 - 130*	*02/26/25 07:12*	*02/27/25 01:51*	*1*
13C4 PFHpA	*92.0*		*40 - 130*	*02/26/25 07:12*	*02/27/25 01:51*	*1*
13C8 PFOA	*83.7*		*40 - 130*	*02/26/25 07:12*	*02/27/25 01:51*	*1*
13C9 PFNA	*85.6*		*40 - 130*	*02/26/25 07:12*	*02/27/25 01:51*	*1*
13C6 PFDA	*89.8*		*40 - 130*	*02/26/25 07:12*	*02/27/25 01:51*	*1*
13C7 PFUnA	*89.1*		*40 - 130*	*02/26/25 07:12*	*02/27/25 01:51*	*1*
13C2 PFDoA	*82.7*		*40 - 130*	*02/26/25 07:12*	*02/27/25 01:51*	*1*
13C2 PFTeDA	*85.9*		*20 - 130*	*02/26/25 07:12*	*02/27/25 01:51*	*1*
13C3 PFBS	*83.3*		*40 - 135*	*02/26/25 07:12*	*02/27/25 01:51*	*1*
13C3 PFHxS	*103*		*40 - 130*	*02/26/25 07:12*	*02/27/25 01:51*	*1*
13C8 PFOS	*82.8*		*40 - 130*	*02/26/25 07:12*	*02/27/25 01:51*	*1*
13C8 FOSA	*73.1*		*40 - 130*	*02/26/25 07:12*	*02/27/25 01:51*	*1*
d3-NMeFOSAA	*79.0*		*40 - 135*	*02/26/25 07:12*	*02/27/25 01:51*	*1*
d5-NEtFOSAA	*84.7*		*40 - 150*	*02/26/25 07:12*	*02/27/25 01:51*	*1*
13C2 4:2 FTS	*94.1*		*40 - 165*	*02/26/25 07:12*	*02/27/25 01:51*	*1*
13C2 6:2 FTS	*89.6*		*40 - 215*	*02/26/25 07:12*	*02/27/25 01:51*	*1*
13C2 8:2 FTS	*79.5*		*40 - 275*	*02/26/25 07:12*	*02/27/25 01:51*	*1*
13C3 HFPO-DA	*80.4*		*40 - 130*	*02/26/25 07:12*	*02/27/25 01:51*	*1*
d7-N-MeFOSE-M	*75.3*		*20 - 130*	*02/26/25 07:12*	*02/27/25 01:51*	*1*
d9-N-EtFOSE-M	*71.3*		*15 - 130*	*02/26/25 07:12*	*02/27/25 01:51*	*1*
d5-NEtPFOSA	*51.6*		*10 - 130*	*02/26/25 07:12*	*02/27/25 01:51*	*1*
d3-NMePFOSA	*50.4*		*10 - 130*	*02/26/25 07:12*	*02/27/25 01:51*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**4.9**	**H**	0.10	0.10	%			02/20/25 14:31	1

Client Sample ID: LTA-003-N-S000-01152025

Lab Sample ID: 320-118378-13

Date Collected: 01/15/25 10:00
Date Received: 01/18/25 09:00

Matrix: Solid
Percent Solids: 77.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.32**	**J**	0.39	0.098	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
Perfluoropentanoic acid (PFPeA)	**0.31**		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
Perfluorohexanoic acid (PFHxA)	**0.43**		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
Perfluoroheptanoic acid (PFHpA)	**0.37**		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
Perfluorooctanoic acid (PFOA)	**2.6**		0.20	0.060	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
Perfluorononanoic acid (PFNA)	**0.12**	**J**	0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
Perfluorodecanoic acid (PFDA)	**0.12**	**J**	0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-2

Client Sample ID: LTA-003-N-S000-01152025
Date Collected: 01/15/25 10:00
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-13
Matrix: Solid
Percent Solids: 77.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
Perfluorooctanesulfonic acid (PFOS)	**0.088**	**J**	0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.061	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.24	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.24	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.20	0.060	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.073	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1

Client Sample ID: LTA-003-N-S000-01152025

Lab Sample ID: 320-118378-13

Date Collected: 01/15/25 10:00
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 77.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	02/26/25 07:12	02/27/25 02:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*85.9*		*8 - 130*	*02/26/25 07:12*	*02/27/25 02:08*	*1*
13C5 PFPeA	*73.7*		*35 - 130*	*02/26/25 07:12*	*02/27/25 02:08*	*1*
13C5 PFHxA	*83.6*		*40 - 130*	*02/26/25 07:12*	*02/27/25 02:08*	*1*
13C4 PFHpA	*82.8*		*40 - 130*	*02/26/25 07:12*	*02/27/25 02:08*	*1*
13C8 PFOA	*66.7*		*40 - 130*	*02/26/25 07:12*	*02/27/25 02:08*	*1*
13C9 PFNA	*69.8*		*40 - 130*	*02/26/25 07:12*	*02/27/25 02:08*	*1*
13C6 PFDA	*68.2*		*40 - 130*	*02/26/25 07:12*	*02/27/25 02:08*	*1*
13C7 PFUnA	*65.4*		*40 - 130*	*02/26/25 07:12*	*02/27/25 02:08*	*1*
13C2 PFDoA	*55.4*		*40 - 130*	*02/26/25 07:12*	*02/27/25 02:08*	*1*
13C2 PFTeDA	*65.3*		*20 - 130*	*02/26/25 07:12*	*02/27/25 02:08*	*1*
13C3 PFBS	*64.9*		*40 - 135*	*02/26/25 07:12*	*02/27/25 02:08*	*1*
13C3 PFHxS	*79.9*		*40 - 130*	*02/26/25 07:12*	*02/27/25 02:08*	*1*
13C8 PFOS	*66.5*		*40 - 130*	*02/26/25 07:12*	*02/27/25 02:08*	*1*
13C8 FOSA	*47.9*		*40 - 130*	*02/26/25 07:12*	*02/27/25 02:08*	*1*
d3-NMeFOSAA	*56.4*		*40 - 135*	*02/26/25 07:12*	*02/27/25 02:08*	*1*
d5-NEtFOSAA	*58.2*		*40 - 150*	*02/26/25 07:12*	*02/27/25 02:08*	*1*
13C2 4:2 FTS	*84.1*		*40 - 165*	*02/26/25 07:12*	*02/27/25 02:08*	*1*
13C2 6:2 FTS	*81.8*		*40 - 215*	*02/26/25 07:12*	*02/27/25 02:08*	*1*
13C2 8:2 FTS	*67.6*		*40 - 275*	*02/26/25 07:12*	*02/27/25 02:08*	*1*
13C3 HFPO-DA	*67.7*		*40 - 130*	*02/26/25 07:12*	*02/27/25 02:08*	*1*
d7-N-MeFOSE-M	*42.7*		*20 - 130*	*02/26/25 07:12*	*02/27/25 02:08*	*1*
d9-N-EtFOSE-M	*42.9*		*15 - 130*	*02/26/25 07:12*	*02/27/25 02:08*	*1*
d5-NEtPFOSA	*44.7*		*10 - 130*	*02/26/25 07:12*	*02/27/25 02:08*	*1*
d3-NMePFOSA	*40.3*		*10 - 130*	*02/26/25 07:12*	*02/27/25 02:08*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**22**	**H**	0.10	0.10	%			02/20/25 14:31	1

Client Sample ID: JTA-001-N-S000-01152025

Lab Sample ID: 320-118378-21

Date Collected: 01/15/25 15:00
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 86.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.099	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
Perfluorononanoic acid (PFNA)	**0.052**	**J**	0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1

Client Sample ID: JTA-001-N-S000-01152025
Date Collected: 01/15/25 15:00
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-21
Matrix: Solid
Percent Solids: 86.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
Perfluorooctanesulfonic acid (PFOS)	**0.13**	**J**	0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.099	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.099	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.099	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.20	0.061	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.099	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 02:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*102*		*8 - 130*	*02/26/25 07:12*	*02/27/25 02:24*	*1*
13C5 PFPeA	*84.3*		*35 - 130*	*02/26/25 07:12*	*02/27/25 02:24*	*1*

Client Sample ID: JTA-001-N-S000-01152025

Lab Sample ID: 320-118378-21

Date Collected: 01/15/25 15:00
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 86.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFHxA	102		40 - 130	02/26/25 07:12	02/27/25 02:24	1
13C4 PFHpA	85.5		40 - 130	02/26/25 07:12	02/27/25 02:24	1
13C8 PFOA	79.6		40 - 130	02/26/25 07:12	02/27/25 02:24	1
13C9 PFNA	76.4		40 - 130	02/26/25 07:12	02/27/25 02:24	1
13C6 PFDA	66.0		40 - 130	02/26/25 07:12	02/27/25 02:24	1
13C7 PFUnA	52.8		40 - 130	02/26/25 07:12	02/27/25 02:24	1
13C2 PFDoA	45.6		40 - 130	02/26/25 07:12	02/27/25 02:24	1
13C2 PFTeDA	55.5		20 - 130	02/26/25 07:12	02/27/25 02:24	1
13C3 PFBS	77.9		40 - 135	02/26/25 07:12	02/27/25 02:24	1
13C3 PFHxS	94.5		40 - 130	02/26/25 07:12	02/27/25 02:24	1
13C8 PFOS	72.4		40 - 130	02/26/25 07:12	02/27/25 02:24	1
13C8 FOSA	51.0		40 - 130	02/26/25 07:12	02/27/25 02:24	1
d3-NMeFOSAA	57.7		40 - 135	02/26/25 07:12	02/27/25 02:24	1
d5-NEtFOSAA	54.1		40 - 150	02/26/25 07:12	02/27/25 02:24	1
13C2 4:2 FTS	95.7		40 - 165	02/26/25 07:12	02/27/25 02:24	1
13C2 6:2 FTS	80.8		40 - 215	02/26/25 07:12	02/27/25 02:24	1
13C2 8:2 FTS	77.6		40 - 275	02/26/25 07:12	02/27/25 02:24	1
13C3 HFPO-DA	79.4		40 - 130	02/26/25 07:12	02/27/25 02:24	1
d7-N-MeFOSE-M	40.8		20 - 130	02/26/25 07:12	02/27/25 02:24	1
d9-N-EtFOSE-M	40.2		15 - 130	02/26/25 07:12	02/27/25 02:24	1
d5-NEtPFOSA	41.8		10 - 130	02/26/25 07:12	02/27/25 02:24	1
d3-NMePFOSA	40.3		10 - 130	02/26/25 07:12	02/27/25 02:24	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	13	H	0.10	0.10	%			02/20/25 14:31	1

Client Sample ID: JTA-002-N-S000-01152025

Lab Sample ID: 320-118378-30

Date Collected: 01/15/25 15:55
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 85.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.099	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1

Client Sample ID: JTA-002-N-S000-01152025
Date Collected: 01/15/25 15:55
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-30
Matrix: Solid
Percent Solids: 85.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**2.0**		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
Perfluorononanesulfonic acid (PFNS)	**0.14**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
Perfluorodecanesulfonic acid (PFDS)	**0.12**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
Perfluorooctanesulfonamide (PFOSA)	**0.066**	**J**	0.20	0.062	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.20	0.061	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.099	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 02:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*64.7*		*8 - 130*	*02/26/25 07:12*	*02/27/25 02:41*	*1*
13C5 PFPeA	*60.5*		*35 - 130*	*02/26/25 07:12*	*02/27/25 02:41*	*1*
13C5 PFHxA	*67.3*		*40 - 130*	*02/26/25 07:12*	*02/27/25 02:41*	*1*
13C4 PFHpA	*69.2*		*40 - 130*	*02/26/25 07:12*	*02/27/25 02:41*	*1*

Client Sample ID: JTA-002-N-S000-01152025

Lab Sample ID: 320-118378-30

Date Collected: 01/15/25 15:55
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 85.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOA	65.7		40 - 130	02/26/25 07:12	02/27/25 02:41	1
13C9 PFNA	59.3		40 - 130	02/26/25 07:12	02/27/25 02:41	1
13C6 PFDA	62.7		40 - 130	02/26/25 07:12	02/27/25 02:41	1
13C7 PFUnA	57.9		40 - 130	02/26/25 07:12	02/27/25 02:41	1
13C2 PFDoA	55.5		40 - 130	02/26/25 07:12	02/27/25 02:41	1
13C2 PFTeDA	48.5		20 - 130	02/26/25 07:12	02/27/25 02:41	1
13C3 PFBS	61.2		40 - 135	02/26/25 07:12	02/27/25 02:41	1
13C3 PFHxS	75.9		40 - 130	02/26/25 07:12	02/27/25 02:41	1
13C8 PFOS	62.2		40 - 130	02/26/25 07:12	02/27/25 02:41	1
13C8 FOSA	55.8		40 - 130	02/26/25 07:12	02/27/25 02:41	1
d3-NMeFOSAA	56.9		40 - 135	02/26/25 07:12	02/27/25 02:41	1
d5-NEtFOSAA	58.7		40 - 150	02/26/25 07:12	02/27/25 02:41	1
13C2 4:2 FTS	82.5		40 - 165	02/26/25 07:12	02/27/25 02:41	1
13C2 6:2 FTS	69.2		40 - 215	02/26/25 07:12	02/27/25 02:41	1
13C2 8:2 FTS	63.2		40 - 275	02/26/25 07:12	02/27/25 02:41	1
13C3 HFPO-DA	60.5		40 - 130	02/26/25 07:12	02/27/25 02:41	1
d7-N-MeFOSE-M	38.9		20 - 130	02/26/25 07:12	02/27/25 02:41	1
d9-N-EtFOSE-M	34.2		15 - 130	02/26/25 07:12	02/27/25 02:41	1
d5-NEtPFOSA	57.7		10 - 130	02/26/25 07:12	02/27/25 02:41	1
d3-NMePFOSA	57.8		10 - 130	02/26/25 07:12	02/27/25 02:41	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	14	H	0.10	0.10	%			02/20/25 14:31	1

Client Sample ID: JTA-002-N-S006-01152025

Lab Sample ID: 320-118378-34

Date Collected: 01/15/25 16:10
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 90.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
Perfluorohexanoic acid (PFHxA)	0.065	J	0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
Perfluorooctanoic acid (PFOA)	0.13	J	0.20	0.062	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
Perfluorohexanesulfonic acid (PFHxS)	0.19	J	0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
Perfluoroheptanesulfonic acid (PFHpS)	0.072	J	0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
Perfluorooctanesulfonic acid (PFOS)	22	I	0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-2

Client Sample ID: JTA-002-N-S006-01152025
Date Collected: 01/15/25 16:10
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-34
Matrix: Solid
Percent Solids: 90.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.20	0.062	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/26/25 07:12	02/27/25 02:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*100*		*8 - 130*	*02/26/25 07:12*	*02/27/25 02:57*	*1*
13C5 PFPeA	*76.8*		*35 - 130*	*02/26/25 07:12*	*02/27/25 02:57*	*1*
13C5 PFHxA	*99.8*		*40 - 130*	*02/26/25 07:12*	*02/27/25 02:57*	*1*
13C4 PFHpA	*89.4*		*40 - 130*	*02/26/25 07:12*	*02/27/25 02:57*	*1*
13C8 PFOA	*81.5*		*40 - 130*	*02/26/25 07:12*	*02/27/25 02:57*	*1*
13C9 PFNA	*75.3*		*40 - 130*	*02/26/25 07:12*	*02/27/25 02:57*	*1*
13C6 PFDA	*78.0*		*40 - 130*	*02/26/25 07:12*	*02/27/25 02:57*	*1*
13C7 PFUnA	*80.6*		*40 - 130*	*02/26/25 07:12*	*02/27/25 02:57*	*1*

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-2

Client Sample ID: JTA-002-N-S006-01152025
Date Collected: 01/15/25 16:10
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-34
Matrix: Solid
Percent Solids: 90.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDoA	77.2		40 - 130	02/26/25 07:12	02/27/25 02:57	1
13C2 PFTeDA	81.1		20 - 130	02/26/25 07:12	02/27/25 02:57	1
13C3 PFBS	75.5		40 - 135	02/26/25 07:12	02/27/25 02:57	1
13C3 PFHxS	92.3		40 - 130	02/26/25 07:12	02/27/25 02:57	1
13C8 PFOS	80.7		40 - 130	02/26/25 07:12	02/27/25 02:57	1
13C8 FOSA	70.3		40 - 130	02/26/25 07:12	02/27/25 02:57	1
d3-NMeFOSAA	76.3		40 - 135	02/26/25 07:12	02/27/25 02:57	1
d5-NEtFOSAA	77.6		40 - 150	02/26/25 07:12	02/27/25 02:57	1
13C2 4:2 FTS	76.9		40 - 165	02/26/25 07:12	02/27/25 02:57	1
13C2 6:2 FTS	87.0		40 - 215	02/26/25 07:12	02/27/25 02:57	1
13C2 8:2 FTS	76.7		40 - 275	02/26/25 07:12	02/27/25 02:57	1
13C3 HFPO-DA	76.5		40 - 130	02/26/25 07:12	02/27/25 02:57	1
d7-N-MeFOSE-M	72.3		20 - 130	02/26/25 07:12	02/27/25 02:57	1
d9-N-EtFOSE-M	72.4		15 - 130	02/26/25 07:12	02/27/25 02:57	1
d5-NEtPFOSA	55.8		10 - 130	02/26/25 07:12	02/27/25 02:57	1
d3-NMePFOSA	54.1		10 - 130	02/26/25 07:12	02/27/25 02:57	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	9.4	H	0.10	0.10	%			02/20/25 14:31	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118378-2
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (8-130)	PFPeA (35-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (40-130)
320-118378-1	LTA-001-N-S000-01152025	68.9	101	113	86.6	83.7	77.3	82.1	93.3
320-118378-1 - RA	LTA-001-N-S000-01152025						85.9		
320-118378-8	LTA-002-N-S000-01152025	91.5	83.4	94.2	100	86.4	78.7	82.8	85.5
320-118378-11	LTA-002-N-S006-01152025	115	82.3	102	92.0	83.7	85.6	89.8	89.1
320-118378-13	LTA-003-N-S000-01152025	85.9	73.7	83.6	82.8	66.7	69.8	68.2	65.4
320-118378-21	JTA-001-N-S000-01152025	102	84.3	102	85.5	79.6	76.4	66.0	52.8
320-118378-30	JTA-002-N-S000-01152025	64.7	60.5	67.3	69.2	65.7	59.3	62.7	57.9
320-118378-34	JTA-002-N-S006-01152025	100	76.8	99.8	89.4	81.5	75.3	78.0	80.6
LCS 320-835793/3-A	Lab Control Sample	101	84.7	97.9	92.1	88.8	80.6	86.9	91.2
LCS 320-835844/3-A	Lab Control Sample	93.7	97.2	120	107	106	89.9	88.2	97.7
LCSD 320-835793/4-A	Lab Control Sample Dup	113	82.9	107	90.8	91.1	85.1	87.8	92.1
LCSD 320-835844/4-A	Lab Control Sample Dup	98.7	91.9	106	102	88.3	91.3	88.0	97.7
LLCS 320-835793/2-A	Lab Control Sample	83.9	82.5	107	93.9	89.5	89.4	87.4	87.9
LLCS 320-835844/2-A	Lab Control Sample	110	91.8	111	99.3	95.7	94.5	99.5	96.3
MB 320-835793/1-A	Method Blank	106	84.8	108	87.9	87.0	84.8	88.1	87.2
MB 320-835844/1-A	Method Blank	116	108	118	110	91.5	89.3	95.3	93.8

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (40-130)	PFTDA (20-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-135)	d5NEFOS (40-150)
320-118378-1	LTA-001-N-S000-01152025	93.2	115	93.3	109	85.9	76.7	63.9	65.2
320-118378-1 - RA	LTA-001-N-S000-01152025								
320-118378-8	LTA-002-N-S000-01152025	81.0	102	86.1	105	77.0	68.8	73.8	77.5
320-118378-11	LTA-002-N-S006-01152025	82.7	85.9	83.3	103	82.8	73.1	79.0	84.7
320-118378-13	LTA-003-N-S000-01152025	55.4	65.3	64.9	79.9	66.5	47.9	56.4	58.2
320-118378-21	JTA-001-N-S000-01152025	45.6	55.5	77.9	94.5	72.4	51.0	57.7	54.1
320-118378-30	JTA-002-N-S000-01152025	55.5	48.5	61.2	75.9	62.2	55.8	56.9	58.7
320-118378-34	JTA-002-N-S006-01152025	77.2	81.1	75.5	92.3	80.7	70.3	76.3	77.6
LCS 320-835793/3-A	Lab Control Sample	92.6	85.4	83.0	101	86.2	80.3	94.2	98.2
LCS 320-835844/3-A	Lab Control Sample	102	93.0	86.0	116	94.9	81.5	93.8	94.6
LCSD 320-835793/4-A	Lab Control Sample Dup	92.8	92.4	86.3	106	81.6	76.8	87.8	90.5
LCSD 320-835844/4-A	Lab Control Sample Dup	98.4	98.8	83.3	109	96.9	84.2	94.4	100
LLCS 320-835793/2-A	Lab Control Sample	95.5	93.1	80.8	105	82.6	79.1	88.2	91.0
LLCS 320-835844/2-A	Lab Control Sample	101	97.6	94.5	108	91.3	78.5	94.8	94.4
MB 320-835793/1-A	Method Blank	92.5	92.3	84.8	104	86.1	77.9	88.3	95.1
MB 320-835844/1-A	Method Blank	98.4	89.9	88.6	117	86.8	82.2	90.2	95.9

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118378-1	LTA-001-N-S000-01152025	107	96.0	87.8	87.7	74.8	67.8	79.7	87.8
320-118378-1 - RA	LTA-001-N-S000-01152025				92.9				
320-118378-8	LTA-002-N-S000-01152025	173 *5+	150	136	87.3	70.2	53.0	67.7	66.5
320-118378-11	LTA-002-N-S006-01152025	94.1	89.6	79.5	80.4	75.3	71.3	51.6	50.4
320-118378-13	LTA-003-N-S000-01152025	84.1	81.8	67.6	67.7	42.7	42.9	44.7	40.3
320-118378-21	JTA-001-N-S000-01152025	95.7	80.8	77.6	79.4	40.8	40.2	41.8	40.3
320-118378-30	JTA-002-N-S000-01152025	82.5	69.2	63.2	60.5	38.9	34.2	57.7	57.8
320-118378-34	JTA-002-N-S006-01152025	76.9	87.0	76.7	76.5	72.3	72.4	55.8	54.1
LCS 320-835793/3-A	Lab Control Sample	94.4	92.4	86.7	80.6	79.9	78.2	80.9	83.7
LCS 320-835844/3-A	Lab Control Sample	98.6	94.4	99.8	96.6	86.5	68.5	87.7	84.4
LCSD 320-835793/4-A	Lab Control Sample Dup	92.8	103	89.2	82.0	82.3	75.3	79.3	81.1

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118378-2
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Solid
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
LCSD 320-835844/4-A	Lab Control Sample Dup	90.3	99.4	92.9	90.3	85.6	80.0	87.7	87.3
LLCS 320-835793/2-A	Lab Control Sample	103	96.9	85.8	84.1	77.2	79.5	86.8	83.9
LLCS 320-835844/2-A	Lab Control Sample	104	104	99.4	89.0	77.8	60.6	76.7	80.9
MB 320-835793/1-A	Method Blank	91.8	93.7	94.1	82.4	78.7	75.9	80.9	85.5
MB 320-835844/1-A	Method Blank	113	101	92.9	99.1	73.2	59.6	77.2	80.9

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-835793/1-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 835793

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-835793/1-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 835793

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		02/26/25 07:12	02/27/25 00:45	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		02/26/25 07:12	02/27/25 00:45	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*106*		*8 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C5 PFPeA	*84.8*		*35 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C5 PFHxA	*108*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C4 PFHpA	*87.9*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C8 PFOA	*87.0*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C9 PFNA	*84.8*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C6 PFDA	*88.1*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C7 PFUnA	*87.2*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C2 PFDoA	*92.5*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C2 PFTeDA	*92.3*		*20 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C3 PFBS	*84.8*		*40 - 135*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C3 PFHxS	*104*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C8 PFOS	*86.1*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C8 FOSA	*77.9*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
d3-NMeFOSAA	*88.3*		*40 - 135*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
d5-NEtFOSAA	*95.1*		*40 - 150*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C2 4:2 FTS	*91.8*		*40 - 165*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C2 6:2 FTS	*93.7*		*40 - 215*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C2 8:2 FTS	*94.1*		*40 - 275*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
13C3 HFPO-DA	*82.4*		*40 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
d7-N-MeFOSE-M	*78.7*		*20 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
d9-N-EtFOSE-M	*75.9*		*15 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
d5-NEtPFOSA	*80.9*		*10 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*
d3-NMePFOSA	*85.5*		*10 - 130*	*02/26/25 07:12*	*02/27/25 00:45*	*1*

Lab Sample ID: LCS 320-835793/3-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835793

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.10		ug/Kg		82	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.46		ug/Kg		98	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.01		ug/Kg		81	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.36		ug/Kg		94	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.48		ug/Kg		99	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.54		ug/Kg		102	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.47		ug/Kg		99	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-835793/3-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835793

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.49		ug/Kg		100	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.33		ug/Kg		93	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.32		ug/Kg		93	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.63		ug/Kg		105	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.21		ug/Kg		100	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	1.98		ug/Kg		84	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.79		ug/Kg		79	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.17		ug/Kg		91	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.27		ug/Kg		98	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.25		ug/Kg		93	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.32		ug/Kg		96	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.23		ug/Kg		92	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.32		ug/Kg		92	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.44		ug/Kg		93	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.77		ug/Kg		99	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.40		ug/Kg		96	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.55		ug/Kg		102	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.41		ug/Kg		96	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.48		ug/Kg		99	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.34		ug/Kg		93	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.2		ug/Kg		90	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	10.7		ug/Kg		86	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.79		ug/Kg		95	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.34		ug/Kg		99	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.51		ug/Kg		100	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.54		ug/Kg		102	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.83		ug/Kg		113	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-835793/3-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835793

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.35		ug/Kg		101	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.28		ug/Kg		97	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.67		ug/Kg		75	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.61		ug/Kg		92	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	9.95		ug/Kg		80	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	8.87		ug/Kg		71	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*101*		*8 - 130*
13C5 PFPeA	*84.7*		*35 - 130*
13C5 PFHxA	*97.9*		*40 - 130*
13C4 PFHpA	*92.1*		*40 - 130*
13C8 PFOA	*88.8*		*40 - 130*
13C9 PFNA	*80.6*		*40 - 130*
13C6 PFDA	*86.9*		*40 - 130*
13C7 PFUnA	*91.2*		*40 - 130*
13C2 PFDoA	*92.6*		*40 - 130*
13C2 PFTeDA	*85.4*		*20 - 130*
13C3 PFBS	*83.0*		*40 - 135*
13C3 PFHxS	*101*		*40 - 130*
13C8 PFOS	*86.2*		*40 - 130*
13C8 FOSA	*80.3*		*40 - 130*
d3-NMeFOSAA	*94.2*		*40 - 135*
d5-NEtFOSAA	*98.2*		*40 - 150*
13C2 4:2 FTS	*94.4*		*40 - 165*
13C2 6:2 FTS	*92.4*		*40 - 215*
13C2 8:2 FTS	*86.7*		*40 - 275*
13C3 HFPO-DA	*80.6*		*40 - 130*
d7-N-MeFOSE-M	*79.9*		*20 - 130*
d9-N-EtFOSE-M	*78.2*		*15 - 130*
d5-NEtPFOSA	*80.9*		*10 - 130*
d3-NMePFOSA	*83.7*		*10 - 130*

Lab Sample ID: LCSD 320-835793/4-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 835793

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.17		ug/Kg		83	70 - 140	2	30
Perfluoropentanoic acid (PFPeA)			2.50	2.57		ug/Kg		103	60 - 150	4	30
Perfluorohexanoic acid (PFHxA)			2.50	2.17		ug/Kg		87	65 - 140	7	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.35		ug/Kg		94	65 - 145	0	30
Perfluorooctanoic acid (PFOA)			2.50	2.58		ug/Kg		103	70 - 150	4	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-835793/4-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 835793

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.75		ug/Kg		110	70 - 155	8	30
Perfluorodecanoic acid (PFDA)	2.50	2.45		ug/Kg		98	70 - 155	1	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.41		ug/Kg		96	70 - 155	3	30
Perfluorododecanoic acid (PFDoA)	2.50	2.32		ug/Kg		93	70 - 150	0	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.27		ug/Kg		91	65 - 150	3	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.56		ug/Kg		102	65 - 150	3	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.23		ug/Kg		100	65 - 145	1	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.01		ug/Kg		86	55 - 160	2	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.90		ug/Kg		83	60 - 150	6	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.34		ug/Kg		98	65 - 155	8	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.32		ug/Kg		100	65 - 160	2	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.35		ug/Kg		98	55 - 140	4	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.27		ug/Kg		94	40 - 155	2	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.34		ug/Kg		97	25 - 160	5	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	5.20		ug/Kg		111	60 - 150	18	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.46		ug/Kg		94	55 - 200	0	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.79		ug/Kg		100	70 - 150	0	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.49		ug/Kg		100	70 - 140	4	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.70		ug/Kg		108	70 - 155	6	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.37		ug/Kg		95	70 - 140	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.62		ug/Kg		105	65 - 155	6	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.32		ug/Kg		93	65 - 165	1	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.6		ug/Kg		93	70 - 140	4	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	11.5		ug/Kg		92	70 - 135	7	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.91		ug/Kg		102	70 - 145	7	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.33		ug/Kg		98	70 - 160	0	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.61		ug/Kg		104	30 - 140	4	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.46		ug/Kg		98	60 - 150	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-835793/4-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 835793

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	1.61	*1	ug/Kg		64	60 - 155	55	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.33		ug/Kg		100	70 - 150	1	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.26		ug/Kg		96	45 - 160	1	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.67		ug/Kg		75	70 - 140	0	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.09		ug/Kg		102	45 - 130	10	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	8.88		ug/Kg		71	60 - 130	11	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	8.20		ug/Kg		66	60 - 150	8	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*113*		*8 - 130*
13C5 PFPeA	*82.9*		*35 - 130*
13C5 PFHxA	*107*		*40 - 130*
13C4 PFHpA	*90.8*		*40 - 130*
13C8 PFOA	*91.1*		*40 - 130*
13C9 PFNA	*85.1*		*40 - 130*
13C6 PFDA	*87.8*		*40 - 130*
13C7 PFUnA	*92.1*		*40 - 130*
13C2 PFDoA	*92.8*		*40 - 130*
13C2 PFTeDA	*92.4*		*20 - 130*
13C3 PFBS	*86.3*		*40 - 135*
13C3 PFHxS	*106*		*40 - 130*
13C8 PFOS	*81.6*		*40 - 130*
13C8 FOSA	*76.8*		*40 - 130*
d3-NMeFOSAA	*87.8*		*40 - 135*
d5-NEtFOSAA	*90.5*		*40 - 150*
13C2 4:2 FTS	*92.8*		*40 - 165*
13C2 6:2 FTS	*103*		*40 - 215*
13C2 8:2 FTS	*89.2*		*40 - 275*
13C3 HFPO-DA	*82.0*		*40 - 130*
d7-N-MeFOSE-M	*82.3*		*20 - 130*
d9-N-EtFOSE-M	*75.3*		*15 - 130*
d5-NEtPFOSA	*79.3*		*10 - 130*
d3-NMePFOSA	*81.1*		*10 - 130*

Lab Sample ID: LLCS 320-835793/2-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835793

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.781		ug/Kg		98	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.466		ug/Kg		116	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.346		ug/Kg		86	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-835793/2-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835793

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.405		ug/Kg		101	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.389		ug/Kg		97	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.404		ug/Kg		101	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.432		ug/Kg		108	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.429		ug/Kg		107	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.354		ug/Kg		88	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.399		ug/Kg		100	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.404		ug/Kg		101	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.368		ug/Kg		104	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.344		ug/Kg		91	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.328		ug/Kg		90	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.375		ug/Kg		98	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.381		ug/Kg		102	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.371		ug/Kg		96	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.374		ug/Kg		97	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.346		ug/Kg		89	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.730		ug/Kg		97	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.774		ug/Kg		102	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.786		ug/Kg		102	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.399		ug/Kg		100	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.429		ug/Kg		107	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.385		ug/Kg		96	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.420		ug/Kg		105	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.398		ug/Kg		100	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.87		ug/Kg		93	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	1.69		ug/Kg		85	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.328		ug/Kg		109	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.400		ug/Kg		106	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.404		ug/Kg		101	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-835793/2-A
Matrix: Solid
Analysis Batch: 836090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835793

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.400	0.468		ug/Kg		117	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.400	0.326		ug/Kg		81	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	0.374	0.387		ug/Kg		104	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	0.378	0.384		ug/Kg		102	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.357	0.268		ug/Kg		75	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.800	0.644		ug/Kg		81	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	2.00	1.58		ug/Kg		79	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	2.00	1.48		ug/Kg		74	60 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*83.9*		*8 - 130*
13C5 PFPeA	*82.5*		*35 - 130*
13C5 PFHxA	*107*		*40 - 130*
13C4 PFHpA	*93.9*		*40 - 130*
13C8 PFOA	*89.5*		*40 - 130*
13C9 PFNA	*89.4*		*40 - 130*
13C6 PFDA	*87.4*		*40 - 130*
13C7 PFUnA	*87.9*		*40 - 130*
13C2 PFDoA	*95.5*		*40 - 130*
13C2 PFTeDA	*93.1*		*20 - 130*
13C3 PFBS	*80.8*		*40 - 135*
13C3 PFHxS	*105*		*40 - 130*
13C8 PFOS	*82.6*		*40 - 130*
13C8 FOSA	*79.1*		*40 - 130*
d3-NMeFOSAA	*88.2*		*40 - 135*
d5-NEtFOSAA	*91.0*		*40 - 150*
13C2 4:2 FTS	*103*		*40 - 165*
13C2 6:2 FTS	*96.9*		*40 - 215*
13C2 8:2 FTS	*85.8*		*40 - 275*
13C3 HFPO-DA	*84.1*		*40 - 130*
d7-N-MeFOSE-M	*77.2*		*20 - 130*
d9-N-EtFOSE-M	*79.5*		*15 - 130*
d5-NEtPFOSA	*86.8*		*10 - 130*
d3-NMePFOSA	*83.9*		*10 - 130*

Lab Sample ID: MB 320-835844/1-A
Matrix: Solid
Analysis Batch: 836105

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 835844

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		02/26/25 09:29	02/26/25 19:15	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-835844/1-A
Matrix: Solid
Analysis Batch: 836105

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 835844

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-835844/1-A
Matrix: Solid
Analysis Batch: 836105

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 835844

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		02/26/25 09:29	02/26/25 19:15	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*116*		*8 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C5 PFPeA	*108*		*35 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C5 PFHxA	*118*		*40 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C4 PFHpA	*110*		*40 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C8 PFOA	*91.5*		*40 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C9 PFNA	*89.3*		*40 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C6 PFDA	*95.3*		*40 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C7 PFUnA	*93.8*		*40 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C2 PFDoA	*98.4*		*40 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C2 PFTeDA	*89.9*		*20 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C3 PFBS	*88.6*		*40 - 135*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C3 PFHxS	*117*		*40 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C8 PFOS	*86.8*		*40 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C8 FOSA	*82.2*		*40 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
d3-NMeFOSAA	*90.2*		*40 - 135*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
d5-NEtFOSAA	*95.9*		*40 - 150*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C2 4:2 FTS	*113*		*40 - 165*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C2 6:2 FTS	*101*		*40 - 215*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C2 8:2 FTS	*92.9*		*40 - 275*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C3 HFPO-DA	*99.1*		*40 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
d7-N-MeFOSE-M	*73.2*		*20 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
d9-N-EtFOSE-M	*59.6*		*15 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
d5-NEtPFOSA	*77.2*		*10 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
d3-NMePFOSA	*80.9*		*10 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*

Lab Sample ID: LCS 320-835844/3-A
Matrix: Solid
Analysis Batch: 836105

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835844

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.27		ug/Kg		85	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.68		ug/Kg		107	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.18		ug/Kg		87	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.46		ug/Kg		98	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.50		ug/Kg		100	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.64		ug/Kg		106	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.77		ug/Kg		111	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-835844/3-A
Matrix: Solid
Analysis Batch: 836105

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835844

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.51		ug/Kg		100	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.39		ug/Kg		95	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.47		ug/Kg		99	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.51		ug/Kg		100	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.30		ug/Kg		104	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	1.87		ug/Kg		79	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.93		ug/Kg		85	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.05		ug/Kg		86	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.30		ug/Kg		99	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.15		ug/Kg		89	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.24		ug/Kg		93	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.02		ug/Kg		83	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.77		ug/Kg		102	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.58		ug/Kg		96	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.80		ug/Kg		100	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.49		ug/Kg		100	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.62		ug/Kg		105	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.23		ug/Kg		89	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.57		ug/Kg		103	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.58		ug/Kg		103	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.3		ug/Kg		90	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	13.3		ug/Kg		106	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.86		ug/Kg		99	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.30		ug/Kg		97	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.29		ug/Kg		91	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.74		ug/Kg		110	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	1.95		ug/Kg		78	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-835844/3-A
Matrix: Solid
Analysis Batch: 836105

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835844

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.07		ug/Kg		89	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.33		ug/Kg		99	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.85		ug/Kg		83	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	3.72		ug/Kg		74	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.2		ug/Kg		81	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	9.36		ug/Kg		75	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*93.7*		*8 - 130*
13C5 PFPeA	*97.2*		*35 - 130*
13C5 PFHxA	*120*		*40 - 130*
13C4 PFHpA	*107*		*40 - 130*
13C8 PFOA	*106*		*40 - 130*
13C9 PFNA	*89.9*		*40 - 130*
13C6 PFDA	*88.2*		*40 - 130*
13C7 PFUnA	*97.7*		*40 - 130*
13C2 PFDoA	*102*		*40 - 130*
13C2 PFTeDA	*93.0*		*20 - 130*
13C3 PFBS	*86.0*		*40 - 135*
13C3 PFHxS	*116*		*40 - 130*
13C8 PFOS	*94.9*		*40 - 130*
13C8 FOSA	*81.5*		*40 - 130*
d3-NMeFOSAA	*93.8*		*40 - 135*
d5-NEtFOSAA	*94.6*		*40 - 150*
13C2 4:2 FTS	*98.6*		*40 - 165*
13C2 6:2 FTS	*94.4*		*40 - 215*
13C2 8:2 FTS	*99.8*		*40 - 275*
13C3 HFPO-DA	*96.6*		*40 - 130*
d7-N-MeFOSE-M	*86.5*		*20 - 130*
d9-N-EtFOSE-M	*68.5*		*15 - 130*
d5-NEtPFOSA	*87.7*		*10 - 130*
d3-NMePFOSA	*84.4*		*10 - 130*

Lab Sample ID: LCSD 320-835844/4-A
Matrix: Solid
Analysis Batch: 836105

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 835844

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.08		ug/Kg		82	70 - 140	4	30
Perfluoropentanoic acid (PFPeA)			2.50	2.53		ug/Kg		101	60 - 150	6	30
Perfluorohexanoic acid (PFHxA)			2.50	2.23		ug/Kg		89	65 - 140	2	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.40		ug/Kg		96	65 - 145	2	30
Perfluorooctanoic acid (PFOA)			2.50	2.51		ug/Kg		101	70 - 150	0	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-835844/4-A
Matrix: Solid
Analysis Batch: 836105

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 835844

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.45		ug/Kg		98	70 - 155	7	30
Perfluorodecanoic acid (PFDA)	2.50	2.62		ug/Kg		105	70 - 155	6	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.40		ug/Kg		96	70 - 155	5	30
Perfluorododecanoic acid (PFDoA)	2.50	2.47		ug/Kg		99	70 - 150	4	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.39		ug/Kg		96	65 - 150	3	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.43		ug/Kg		97	65 - 150	3	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.38		ug/Kg		107	65 - 145	3	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	1.88		ug/Kg		80	55 - 160	1	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.84		ug/Kg		81	60 - 150	5	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.10		ug/Kg		88	65 - 155	2	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.26		ug/Kg		97	65 - 160	2	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.14		ug/Kg		89	55 - 140	0	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.16		ug/Kg		90	40 - 155	4	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.13		ug/Kg		88	25 - 160	5	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.66		ug/Kg		99	60 - 150	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.40		ug/Kg		92	55 - 200	4	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	5.08		ug/Kg		106	70 - 150	6	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.32		ug/Kg		93	70 - 140	7	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.48		ug/Kg		99	70 - 155	6	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.21		ug/Kg		88	70 - 140	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.55		ug/Kg		102	65 - 155	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.46		ug/Kg		98	65 - 165	5	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.3		ug/Kg		90	70 - 140	0	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	11.4		ug/Kg		91	70 - 135	15	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.85		ug/Kg		99	70 - 145	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.18		ug/Kg		92	70 - 160	5	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.41		ug/Kg		96	30 - 140	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.54		ug/Kg		102	60 - 150	7	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-835844/4-A
Matrix: Solid
Analysis Batch: 836105

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 835844

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.20		ug/Kg		88	60 - 155	12	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.42		ug/Kg		103	70 - 150	15	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.34		ug/Kg		99	45 - 160	1	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.86		ug/Kg		83	70 - 140	1	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.00		ug/Kg		80	45 - 130	7	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.8		ug/Kg		86	60 - 130	6	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	9.88		ug/Kg		79	60 - 150	5	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*98.7*		*8 - 130*
13C5 PFPeA	*91.9*		*35 - 130*
13C5 PFHxA	*106*		*40 - 130*
13C4 PFHpA	*102*		*40 - 130*
13C8 PFOA	*88.3*		*40 - 130*
13C9 PFNA	*91.3*		*40 - 130*
13C6 PFDA	*88.0*		*40 - 130*
13C7 PFUnA	*97.7*		*40 - 130*
13C2 PFDoA	*98.4*		*40 - 130*
13C2 PFTeDA	*98.8*		*20 - 130*
13C3 PFBS	*83.3*		*40 - 135*
13C3 PFHxS	*109*		*40 - 130*
13C8 PFOS	*96.9*		*40 - 130*
13C8 FOSA	*84.2*		*40 - 130*
d3-NMeFOSAA	*94.4*		*40 - 135*
d5-NEtFOSAA	*100*		*40 - 150*
13C2 4:2 FTS	*90.3*		*40 - 165*
13C2 6:2 FTS	*99.4*		*40 - 215*
13C2 8:2 FTS	*92.9*		*40 - 275*
13C3 HFPO-DA	*90.3*		*40 - 130*
d7-N-MeFOSE-M	*85.6*		*20 - 130*
d9-N-EtFOSE-M	*80.0*		*15 - 130*
d5-NEtPFOSA	*87.7*		*10 - 130*
d3-NMePFOSA	*87.3*		*10 - 130*

Lab Sample ID: LLCS 320-835844/2-A
Matrix: Solid
Analysis Batch: 836105

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835844

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.678		ug/Kg		85	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.490		ug/Kg		123	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.350		ug/Kg		87	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-835844/2-A
Matrix: Solid
Analysis Batch: 836105

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835844

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.408		ug/Kg		102	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.404		ug/Kg		101	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.417		ug/Kg		104	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.394		ug/Kg		99	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.434		ug/Kg		109	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.422		ug/Kg		106	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.397		ug/Kg		99	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.415		ug/Kg		104	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.385		ug/Kg		108	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.347		ug/Kg		92	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.347		ug/Kg		95	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.359		ug/Kg		94	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.365		ug/Kg		98	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.364		ug/Kg		95	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.367		ug/Kg		95	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.333		ug/Kg		86	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.756		ug/Kg		101	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.695		ug/Kg		91	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.858		ug/Kg		112	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.403		ug/Kg		101	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.408		ug/Kg		102	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.393		ug/Kg		98	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.392		ug/Kg		98	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.397		ug/Kg		99	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.85		ug/Kg		93	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.17		ug/Kg		109	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.328		ug/Kg		109	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.380		ug/Kg		100	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.401		ug/Kg		100	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-835844/2-A
Matrix: Solid
Analysis Batch: 836105

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835844

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.432		ug/Kg		108	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.239		ug/Kg		60	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.387		ug/Kg		104	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.380		ug/Kg		101	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.293		ug/Kg		82	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.688		ug/Kg		86	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	1.55		ug/Kg		77	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	1.49		ug/Kg		74	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*110*		*8 - 130*
13C5 PFPeA	*91.8*		*35 - 130*
13C5 PFHxA	*111*		*40 - 130*
13C4 PFHpA	*99.3*		*40 - 130*
13C8 PFOA	*95.7*		*40 - 130*
13C9 PFNA	*94.5*		*40 - 130*
13C6 PFDA	*99.5*		*40 - 130*
13C7 PFUnA	*96.3*		*40 - 130*
13C2 PFDoA	*101*		*40 - 130*
13C2 PFTeDA	*97.6*		*20 - 130*
13C3 PFBS	*94.5*		*40 - 135*
13C3 PFHxS	*108*		*40 - 130*
13C8 PFOS	*91.3*		*40 - 130*
13C8 FOSA	*78.5*		*40 - 130*
d3-NMeFOSAA	*94.8*		*40 - 135*
d5-NEtFOSAA	*94.4*		*40 - 150*
13C2 4:2 FTS	*104*		*40 - 165*
13C2 6:2 FTS	*104*		*40 - 215*
13C2 8:2 FTS	*99.4*		*40 - 275*
13C3 HFPO-DA	*89.0*		*40 - 130*
d7-N-MeFOSE-M	*77.8*		*20 - 130*
d9-N-EtFOSE-M	*60.6*		*15 - 130*
d5-NEtPFOSA	*76.7*		*10 - 130*
d3-NMePFOSA	*80.9*		*10 - 130*

LCMS

Prep Batch: 835793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-11	LTA-002-N-S006-01152025	Total/NA	Solid	1633 Shake	
320-118378-13	LTA-003-N-S000-01152025	Total/NA	Solid	1633 Shake	
320-118378-21	JTA-001-N-S000-01152025	Total/NA	Solid	1633 Shake	
320-118378-30	JTA-002-N-S000-01152025	Total/NA	Solid	1633 Shake	
320-118378-34	JTA-002-N-S006-01152025	Total/NA	Solid	1633 Shake	
MB 320-835793/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-835793/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-835793/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-835793/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Prep Batch: 835844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-1	LTA-001-N-S000-01152025	Total/NA	Solid	1633 Shake	
320-118378-1 - RA	LTA-001-N-S000-01152025	Total/NA	Solid	1633 Shake	
320-118378-8	LTA-002-N-S000-01152025	Total/NA	Solid	1633 Shake	
MB 320-835844/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-835844/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-835844/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-835844/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 836090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-11	LTA-002-N-S006-01152025	Total/NA	Solid	1633	835793
320-118378-13	LTA-003-N-S000-01152025	Total/NA	Solid	1633	835793
320-118378-21	JTA-001-N-S000-01152025	Total/NA	Solid	1633	835793
320-118378-30	JTA-002-N-S000-01152025	Total/NA	Solid	1633	835793
320-118378-34	JTA-002-N-S006-01152025	Total/NA	Solid	1633	835793
MB 320-835793/1-A	Method Blank	Total/NA	Solid	1633	835793
LCS 320-835793/3-A	Lab Control Sample	Total/NA	Solid	1633	835793
LCSD 320-835793/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	835793
LLCS 320-835793/2-A	Lab Control Sample	Total/NA	Solid	1633	835793

Analysis Batch: 836105

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-8	LTA-002-N-S000-01152025	Total/NA	Solid	1633	835844
MB 320-835844/1-A	Method Blank	Total/NA	Solid	1633	835844
LCS 320-835844/3-A	Lab Control Sample	Total/NA	Solid	1633	835844
LCSD 320-835844/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	835844
LLCS 320-835844/2-A	Lab Control Sample	Total/NA	Solid	1633	835844

Analysis Batch: 836143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-1	LTA-001-N-S000-01152025	Total/NA	Solid	1633	835844

Analysis Batch: 836607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-1 - RA	LTA-001-N-S000-01152025	Total/NA	Solid	1633	835844

Client: GSI Environmental Inc
Job ID: 320-118378-2
Project/Site: Spokane International Airport

General Chemistry

Analysis Batch: 834661

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-1	LTA-001-N-S000-01152025	Total/NA	Solid	1633	
320-118378-8	LTA-002-N-S000-01152025	Total/NA	Solid	1633	
320-118378-11	LTA-002-N-S006-01152025	Total/NA	Solid	1633	
320-118378-13	LTA-003-N-S000-01152025	Total/NA	Solid	1633	
320-118378-21	JTA-001-N-S000-01152025	Total/NA	Solid	1633	
320-118378-30	JTA-002-N-S000-01152025	Total/NA	Solid	1633	
320-118378-34	JTA-002-N-S006-01152025	Total/NA	Solid	1633	

Client Sample ID: LTA-001-N-S000-01152025
Lab Sample ID: 320-118378-1
Date Collected: 01/15/25 08:05
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834661	02/20/25 14:31	CFR	EET SAC

Client Sample ID: LTA-001-N-S000-01152025
Lab Sample ID: 320-118378-1
Date Collected: 01/15/25 08:05
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 86.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.38 g	5.0 mL	835844	02/26/25 09:29	KTH	EET SAC
Total/NA	Analysis	1633		1			836143	02/27/25 14:24	RS1	EET SAC
Total/NA	Prep	1633 Shake	RA		2.38 g	5.0 mL	835844	02/26/25 09:29	KTH	EET SAC
Total/NA	Analysis	1633	RA	1			836607	02/28/25 15:12	K1S	EET SAC

Client Sample ID: LTA-002-N-S000-01152025
Lab Sample ID: 320-118378-8
Date Collected: 01/15/25 09:20
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834661	02/20/25 14:31	CFR	EET SAC

Client Sample ID: LTA-002-N-S000-01152025
Lab Sample ID: 320-118378-8
Date Collected: 01/15/25 09:20
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 83.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.45 g	5.0 mL	835844	02/26/25 09:29	KTH	EET SAC
Total/NA	Analysis	1633		1			836105	02/26/25 20:38	K1D	EET SAC

Client Sample ID: LTA-002-N-S006-01152025
Lab Sample ID: 320-118378-11
Date Collected: 01/15/25 09:35
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834661	02/20/25 14:31	CFR	EET SAC

Client Sample ID: LTA-002-N-S006-01152025
Lab Sample ID: 320-118378-11
Date Collected: 01/15/25 09:35
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 95.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.10 g	5.0 mL	835793	02/26/25 07:12	BMS	EET SAC
Total/NA	Analysis	1633		1			836090	02/27/25 01:51	K1D	EET SAC

Client Sample ID: LTA-003-N-S000-01152025
Lab Sample ID: 320-118378-13
Date Collected: 01/15/25 10:00
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834661	02/20/25 14:31	CFR	EET SAC

Client Sample ID: LTA-003-N-S000-01152025
Lab Sample ID: 320-118378-13
Date Collected: 01/15/25 10:00
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 77.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.63 g	5.0 mL	835793	02/26/25 07:12	BMS	EET SAC
Total/NA	Analysis	1633		1			836090	02/27/25 02:08	K1D	EET SAC

Client Sample ID: JTA-001-N-S000-01152025
Lab Sample ID: 320-118378-21
Date Collected: 01/15/25 15:00
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834661	02/20/25 14:31	CFR	EET SAC

Client Sample ID: JTA-001-N-S000-01152025
Lab Sample ID: 320-118378-21
Date Collected: 01/15/25 15:00
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 86.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.34 g	5.0 mL	835793	02/26/25 07:12	BMS	EET SAC
Total/NA	Analysis	1633		1			836090	02/27/25 02:24	K1D	EET SAC

Client Sample ID: JTA-002-N-S000-01152025
Lab Sample ID: 320-118378-30
Date Collected: 01/15/25 15:55
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834661	02/20/25 14:31	CFR	EET SAC

Client Sample ID: JTA-002-N-S000-01152025
Lab Sample ID: 320-118378-30
Date Collected: 01/15/25 15:55
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 85.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.35 g	5.0 mL	835793	02/26/25 07:12	BMS	EET SAC
Total/NA	Analysis	1633		1			836090	02/27/25 02:41	K1D	EET SAC

Client Sample ID: JTA-002-N-S006-01152025
Lab Sample ID: 320-118378-34
Date Collected: 01/15/25 16:10
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834661	02/20/25 14:31	CFR	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118378-2
Project/Site: Spokane International Airport

Client Sample ID: JTA-002-N-S006-01152025
Lab Sample ID: 320-118378-34
Date Collected: 01/15/25 16:10
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 90.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.21 g	5.0 mL	835793	02/26/25 07:12	BMS	EET SAC
Total/NA	Analysis	1633		1			836090	02/27/25 02:57	K1D	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118378-2
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-2

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Job ID: 320-118378-2
Project/Site: Spokane International Airport

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118378-1	LTA-001-N-S000-01152025	Solid	01/15/25 08:05	01/18/25 09:00
320-118378-8	LTA-002-N-S000-01152025	Solid	01/15/25 09:20	01/18/25 09:00
320-118378-11	LTA-002-N-S006-01152025	Solid	01/15/25 09:35	01/18/25 09:00
320-118378-13	LTA-003-N-S000-01152025	Solid	01/15/25 10:00	01/18/25 09:00
320-118378-21	JTA-001-N-S000-01152025	Solid	01/15/25 15:00	01/18/25 09:00
320-118378-30	JTA-002-N-S000-01152025	Solid	01/15/25 15:55	01/18/25 09:00
320-118378-34	JTA-002-N-S006-01152025	Solid	01/15/25 16:10	01/18/25 09:00

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-002
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 880 Riverside Parkway W.Sac. CA 95605
CONTACT Afsaneh Salimpour

DELIVERY DATE 1/16/2025
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	HOLD	Number of Containers
LTA-001-N-S000-01152025	1/15/2025	8:05	Soil		X	3
LTA-001-N-S001-01152025	1/15/2025	8.10	Soil	X		3
LTA-001-N-S003-01152025	1/15/2025	8.15	Soil	X		3
LTA-001-N-S006-01152025	1/15/2025	8:20	Soil		X	3
LTA-001-N-S010-01152025	1/15/2025	8:25	Soil		X	3
LTA-001-N-S012-01152025	1/15/2025	8:30	Soil		X	3
LTA-001-FD-S012-01152025	1/15/2025	9:00	Soil		X	3
LTA-002-N-S000-01152025	1/15/2025	9:20	Soil		X	3
LTA-002-N-S001-01152025	1/15/2025	9:25	Soil	X	X	3
LTA-002-N-S003-01152025	1/15/2025	9:30	Soil	X		3

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118378 Chain of Custody

3.7, 5.8 ccw VPeck

Sampled and Relinquished by	Received by
Sign	Sign
Print Luke Peden	Print Macky Morris
Firm Haley & Aldrich	Firm EEC SPO
Date 1/16/25 Time 13 50	Date 1/16/25 1330
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Adam Medeiros
Firm EEC SPO	Firm Eurofins
Date 1/17/25 Time 1514	Date 1/18/25 0940
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.
_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
_____ This Chain of Custody Record (specify) _____includes _____does not include samples defined as Drinking Water Samples.
_____
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory

Form 3003

November 2024

2.4

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-002
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS
CONTACT

DELIVERY DATE 1/16/2025
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content							HOLD	Number of Containers
LTA-002-N-S006-01152025	1/15/2025	9:35	Soil											X	3
LTA-002-N-S010-01152025	1/15/2025	9:40	Soil											X	3
LTA-003-N-S000-01152025	1/15/2025	10:00	Soil											X	3
LTA-003-N-S001-01152025	1/15/2025	10:05	Soil	X											3
LTA-003-N-S003-01152025	1/15/2025	10:10	Soil	X											3
LTA-003-N-S006-01152025	1/15/2025	10:15	Soil											X	3
LTA-003-N-S010-01152025	1/15/2025	10:20	Soil											X	3
LTA-003-N-S015-01152025	1/15/2025	10:25	Soil											X	3
LTA-003-N-S017-01152025	1/15/2025	10:30	Soil											X	3
LTA-003-FD-S001-01152025	1/15/2025	10:30	Soil	X											3

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

3.7+5.8 cor 1R006

Sampled and Relinquished by	Received by
Sign	Sign
Print Luke Pilon	Print Macky Moore
Firm HoA	Firm EEESPO
Date 1/16/25 Time 13 37	Date 1/16/25 1330
Relinquished by	**Received by**
Sign	Sign
Print Macky Moore	Print Kevin Mickelson
Firm EEESPO	Firm Eurofins
Date 1/17/25 Time 1515	Date 1/18/25 0940
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

Form 3003 WHITE - Laboratory CANARY Project Manager PINK - Haley & Aldrich Laboratory November 2024

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-002
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS
CONTACT

DELIVERY DATE 1/16/2025
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
JTA-001-N-S000-01152025	1/15/2025	15:00	Soil					X	3
JTA-001-N-S001-01152025	1/15/2025	15:05	Soil	X					3
JTA-001-N-S003-01152025	1/15/2025	15 10	Soil	X					3
JTA-001-N-S006-01152025	1/15/2025	15 15	Soil					X	3
JTA-001-N-S010-01152025	1/15/2025	15:20	Soil					X	3
JTA-001-N-S015-01152025	1/15/2025	15:25	Soil					X	3
JTA-001-N-S020-01152025	1/15/2025	15.30	Soil					X	3
JTA-001-N-S023-01152025	1/15/2025	15.35	Soil					X	3
JTA-001-FD-S006-01152025	1/15/2025	15:45	Soil					X	3
JTA-002-N-S000-01152025	1/15/2025	15:55	Soil					X	3

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

3.7.5.8 from 1P0004

Sampled and Relinquished by	Received by
Sign	Sign
Print Luke Tiden	Print Macky Morris
Firm H&A	Firm EEC&P
Date 1/16/25 Time 3 30	Date 1/16/25 1330
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Ryan Mahoney
Firm EEC&P	Firm EEC&P
Date 1/17/25 Time 1615	Date 1/18/25 0900
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

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_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

HALEY ALDRICH

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-002
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 800 Riverside Parkway, West Sacramento CA. 95605
CONTACT

DELIVERY DATE 1/16/2025
TURNAROUND TIME 5 -day Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content								HOLD	Number of Containers
JTA-002-N-S001-01152025	1/15/2025	16:00	Soil	X												3
JTA-002-N-S003-01152025	1/15/2025	16:05	Soil	X												3
JTA-002-FD-S003-01152025	1/15/2025	16:35	Soil	X												3
JTA-002-N-S006-01152025	1/15/2025	16:10	Soil												X	3
JTA-002-N-S010-01152025	1/15/2025	16:15	Soil												X	3
JTA-002-N-S015-01152025	1/15/2025	16:20	Soil												X	3
JTA-002-N-S020-01152025	1/15/2025	16:25	Soil												X	3
JTA-002-N-S025-01152025	1/15/2025	16:28	Soil												X	3
JTA-002-N-S030-01152025	1/15/2025	16:30	Soil												X	3

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

3.7 & 5.8 con IR006

Sampled and Relinquished by	Received by
Sign	Sign
Print Luke Pisan	Print Macky Morris
Firm HJA	Firm EECBPO
Date 1/16/25 Time 13	Date 1/16/25 1330
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print
Firm EECBPO	Firm
Date 1/17/25 Time 1515	Date
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID														
														VOA Vial
														Amber Glass
														Plastic Bottle
														Preservative
														Volume

SOLID														
														VOA Vial
														Amber Glass
														Clear Glass
														Preservative
														Volume

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.
_____
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

Form 3003

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

24

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-002
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS
CONTACT

DELIVERY DATE 1/16/2025
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
EB-01152025	1/15/2025	10 00	Water	X					3
HDW01152025	1/15/2025	15:20	Water	X					3
FB-01152025	1/15/2025	0·00	Water	X					1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

3.7, 5.8 per Breeyn

Sampled and Relinquished by	Received by
Sign	Sign
Print Luke Tiden	Print Macky Morris
Firm HgA	Firm EE&S20
Date 1/16/25 Time 3 3c	Date 1/16/25 1330
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Kevin Richards
Firm EE&S20	Firm EE&S20
Date 1/17/25 Time 1515	Date 1/18/25 0900
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

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_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.
_____
If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

Form 3003 WHITE Laboratory CANARY Project Manager PINK - Haley & Aldrich Laboratory November 2024

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118378

Tracking # 4242 5693 0007

Job _____

SO / PO / FO / (SAT) / 2-Day / Ground / UPS / CDO / Courier

GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm. ID: 412 Corr Factor (+/-) _____ °C

Ice ✓ Wet _____ Gel _____ Other _____

Cooler Custody Seal: 2287490

Cooler ID 1 of 2

Temp Observed 2.4 °C Corrected: 2.4 °C

From: Temp Blank ☐ Sandwich ☒ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☒	☐
Cooler Temperature is acceptable?	☒	☐	☐
Frozen samples show signs of thaw?	☐	☐	☒

Initials JM Date 1/18/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☒	☐	☐
Samples compromised/tampered with?	☐	☒	☐
COC is complete w/o discrepancies	☒	☐	☐
Sample custody seal?	☐	☐	☒
Sample containers have legible labels?	☒	☐	☐
Sample date/times are provided?	☒	☐	☐
Appropriate containers are used?	☒	☐	☐
Sample bottles are completely filled?	☒	☐	☐
Sample preservatives verified?	☐	☐	☒
Is the Field Sampler's name on COC?	☒	☐	☐
Samples w/o discrepancies?	☒	☐	☐
Zero headspace?* SO 1/20/25	☐	☐	☒
Alkalinity has no headspace?	☐	☐	☒
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☒
Multiphasic samples are not present?	☒	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials SO Date 1/20/25

Notes: 10
(7) ends - 011525

Trizma Lot #(s) _____

Ammonium
Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☒	☐	☐
NCM Filed?	☒	☐	☐
Samples received within hold time?	☒	☐	☐
Log Release checked in TALS?	☒	☐	☐

Initials SO Date 1/20/25

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 1/29/2025 9:19:12 AM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118378-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

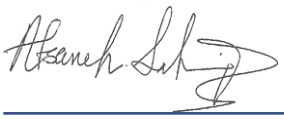
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



Generated
1/29/2025 9:19:12 AM

Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118378-1
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
*3	ISTD response or retention time outside acceptable limits.
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118378-1 — Eurofins Sacramento

Job Narrative
320-118378-1

Receipt
The samples were received on 1/18/2025 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.4º C.

Receipt Exceptions

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): LTA-001-FD-S012-01152025 (320-118378-7). Sample 7, container ID ends in -011525. Sample logged in and labeled according to COC.

LCMS
Method 1633: The continuing calibration verification (CCV) associated with batch 320-829312 recovered above the upper control limit for isotope dilution analyte (IDA) 13C2 6:2 FTS. The associated target analyte, 1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS), is within control limits. The samples associated with this CCV were non-detects for the affected target analyte; therefore, the data have been reported. The associated samples are impacted: JTA-001-N-S003-01152025 (320-118378-23), JTA-002-N-S001-01152025 (320-118378-31), JTA-002-N-S003-01152025 (320-118378-32), JTA-002-FD-S003-01152025 (320-118378-33), (CCV 320-829312/33) and (CCV 320-829312/8)

Method 1633: The low level continuing calibration verification (CCVL) associated with batch 320-829312 recovered above the upper control limit for 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS). The samples associated with this CCV were non-detects for the affected analyte; therefore, the data have been reported. LTA-001-N-S001-01152025 (320-118378-2), LTA-001-N-S003-01152025 (320-118378-3), LTA-002-N-S001-01152025 (320-118378-9), LTA-002-N-S003-01152025 (320-118378-10), LTA-003-N-S001-01152025 (320-118378-14), LTA-003-N-S003-01152025 (320-118378-15), LTA-003-FD-S001-01152025 (320-118378-20), JTA-001-N-S001-01152025 (320-118378-22), JTA-001-N-S003-01152025 (320-118378-23), JTA-002-N-S001-01152025 (320-118378-31), JTA-002-N-S003-01152025 (320-118378-32), JTA-002-FD-S003-01152025 (320-118378-33) and (CCVL 320-829312/4)

Method 1633: Results for samples JTA-002-N-S003-01152025 (320-118378-32) and JTA-002-FD-S003-01152025 (320-118378-33) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 1633: The following samples in preparation batch 320-828744 were observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction: EB-01152025 (320-118378-40) and HDW01152025 (320-118378-41).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-1

Client Sample ID: LTA-001-N-S001-01152025 — Lab Sample ID: 320-118378-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.17	J	0.38	0.095	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.066	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.069	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: LTA-001-N-S003-01152025 — Lab Sample ID: 320-118378-3

No Detections.

Client Sample ID: LTA-002-N-S001-01152025 — Lab Sample ID: 320-118378-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.087	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.059	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.049	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	2.5		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	1.2		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.52		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.16	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: LTA-002-N-S003-01152025 — Lab Sample ID: 320-118378-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.091	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	2.8		0.19	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.051	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: LTA-003-N-S001-01152025 — Lab Sample ID: 320-118378-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.41		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	1.1		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	1.9		0.20	0.050	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: LTA-003-N-S003-01152025 — Lab Sample ID: 320-118378-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonamide (PFOSA)	0.093	J	0.20	0.063	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: LTA-003-FD-S001-01152025 — Lab Sample ID: 320-118378-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.37	J	0.39	0.099	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.73		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	1.4		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.24		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.12	J	0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.056	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-001-N-S001-01152025 — Lab Sample ID: 320-118378-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.058	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-1

Client Sample ID: JTA-001-N-S003-01152025 — Lab Sample ID: 320-118378-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	0.11	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-002-N-S001-01152025 — Lab Sample ID: 320-118378-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	1.8		0.20	0.051	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-002-N-S003-01152025 — Lab Sample ID: 320-118378-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.063	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	38		2.0	0.50	ug/Kg	10	☼	1633	Total/NA

Client Sample ID: JTA-002-FD-S003-01152025 — Lab Sample ID: 320-118378-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.063	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	34		2.1	0.52	ug/Kg	10	☼	1633	Total/NA

Client Sample ID: EB-01152025 — Lab Sample ID: 320-118378-40

No Detections.

Client Sample ID: HDW01152025 — Lab Sample ID: 320-118378-41

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	1.2	J	1.5	0.38	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.85	J	1.5	0.38	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.45	J	1.5	0.38	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.82	J	1.5	0.38	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.61	J	1.5	0.38	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.46	J	1.5	0.38	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.3		1.5	0.38	ng/L	1		1633	Total/NA

Client Sample ID: FB-01152025 — Lab Sample ID: 320-118378-42

No Detections.

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-1

Client Sample ID: LTA-001-N-S001-01152025
Date Collected: 01/15/25 08:10
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-2
Matrix: Solid
Percent Solids: 84.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.17**	**J**	0.38	0.095	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
Perfluorohexanoic acid (PFHxA)	**0.066**	**J**	0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.059	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.055	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
Perfluorooctanesulfonic acid (PFOS)	**0.069**	**J**	0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.38	0.095	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.38	0.095	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.38	0.095	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.060	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.95	0.24	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.95	0.24	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.059	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1

Client Sample ID: LTA-001-N-S001-01152025

Lab Sample ID: 320-118378-2

Date Collected: 01/15/25 08:10
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 84.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	0.19	0.072	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.38	0.095	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.95	0.24	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.95	0.24	ug/Kg	☼	01/22/25 11:53	01/24/25 13:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*74.6*		*8 - 130*	*01/22/25 11:53*	*01/24/25 13:50*	*1*
13C5 PFPeA	*75.8*		*35 - 130*	*01/22/25 11:53*	*01/24/25 13:50*	*1*
13C5 PFHxA	*84.0*		*40 - 130*	*01/22/25 11:53*	*01/24/25 13:50*	*1*
13C4 PFHpA	*77.9*		*40 - 130*	*01/22/25 11:53*	*01/24/25 13:50*	*1*
13C8 PFOA	*77.5*		*40 - 130*	*01/22/25 11:53*	*01/24/25 13:50*	*1*
13C9 PFNA	*79.2*		*40 - 130*	*01/22/25 11:53*	*01/24/25 13:50*	*1*
13C6 PFDA	*74.7*		*40 - 130*	*01/22/25 11:53*	*01/24/25 13:50*	*1*
13C7 PFUnA	*59.0*		*40 - 130*	*01/22/25 11:53*	*01/24/25 13:50*	*1*
13C2 PFDoA	*65.6*		*40 - 130*	*01/22/25 11:53*	*01/24/25 13:50*	*1*
13C2 PFTeDA	*66.2*		*20 - 130*	*01/22/25 11:53*	*01/24/25 13:50*	*1*
13C3 PFBS	*80.1*		*40 - 135*	*01/22/25 11:53*	*01/24/25 13:50*	*1*
13C3 PFHxS	*84.8*		*40 - 130*	*01/22/25 11:53*	*01/24/25 13:50*	*1*
13C8 PFOS	*72.4*		*40 - 130*	*01/22/25 11:53*	*01/24/25 13:50*	*1*
13C8 FOSA	*63.3*		*40 - 130*	*01/22/25 11:53*	*01/24/25 13:50*	*1*
d3-NMeFOSAA	*61.7*		*40 - 135*	*01/22/25 11:53*	*01/24/25 13:50*	*1*
d5-NEtFOSAA	*59.3*		*40 - 150*	*01/22/25 11:53*	*01/24/25 13:50*	*1*
13C2 4:2 FTS	*95.4*		*40 - 165*	*01/22/25 11:53*	*01/24/25 13:50*	*1*
13C2 6:2 FTS	*107*		*40 - 215*	*01/22/25 11:53*	*01/24/25 13:50*	*1*
13C2 8:2 FTS	*68.1*		*40 - 275*	*01/22/25 11:53*	*01/24/25 13:50*	*1*
13C3 HFPO-DA	*73.2*		*40 - 130*	*01/22/25 11:53*	*01/24/25 13:50*	*1*
d7-N-MeFOSE-M	*63.3*		*20 - 130*	*01/22/25 11:53*	*01/24/25 13:50*	*1*
d9-N-EtFOSE-M	*62.8*		*15 - 130*	*01/22/25 11:53*	*01/24/25 13:50*	*1*
d5-NEtPFOSA	*62.2*		*10 - 130*	*01/22/25 11:53*	*01/24/25 13:50*	*1*
d3-NMePFOSA	*56.4*		*10 - 130*	*01/22/25 11:53*	*01/24/25 13:50*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	15		0.10	0.10	%			01/21/25 12:29	1

Client Sample ID: LTA-001-N-S003-01152025

Lab Sample ID: 320-118378-3

Date Collected: 01/15/25 08:15
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 79.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-1

Client Sample ID: LTA-001-N-S003-01152025
Date Collected: 01/15/25 08:15
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-3
Matrix: Solid
Percent Solids: 79.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	0.20	0.075	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1

Client Sample ID: LTA-001-N-S003-01152025

Lab Sample ID: 320-118378-3

Date Collected: 01/15/25 08:15
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 79.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 14:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*82.1*		*8 - 130*	*01/22/25 11:53*	*01/24/25 14:06*	*1*
13C5 PFPeA	*92.0*		*35 - 130*	*01/22/25 11:53*	*01/24/25 14:06*	*1*
13C5 PFHxA	*99.4*		*40 - 130*	*01/22/25 11:53*	*01/24/25 14:06*	*1*
13C4 PFHpA	*96.6*		*40 - 130*	*01/22/25 11:53*	*01/24/25 14:06*	*1*
13C8 PFOA	*94.1*		*40 - 130*	*01/22/25 11:53*	*01/24/25 14:06*	*1*
13C9 PFNA	*89.4*		*40 - 130*	*01/22/25 11:53*	*01/24/25 14:06*	*1*
13C6 PFDA	*74.4*		*40 - 130*	*01/22/25 11:53*	*01/24/25 14:06*	*1*
13C7 PFUnA	*66.9*		*40 - 130*	*01/22/25 11:53*	*01/24/25 14:06*	*1*
13C2 PFDoA	*67.0*		*40 - 130*	*01/22/25 11:53*	*01/24/25 14:06*	*1*
13C2 PFTeDA	*96.1*		*20 - 130*	*01/22/25 11:53*	*01/24/25 14:06*	*1*
13C3 PFBS	*83.2*		*40 - 135*	*01/22/25 11:53*	*01/24/25 14:06*	*1*
13C3 PFHxS	*87.3*		*40 - 130*	*01/22/25 11:53*	*01/24/25 14:06*	*1*
13C8 PFOS	*73.4*		*40 - 130*	*01/22/25 11:53*	*01/24/25 14:06*	*1*
13C8 FOSA	*60.0*		*40 - 130*	*01/22/25 11:53*	*01/24/25 14:06*	*1*
d3-NMeFOSAA	*61.6*		*40 - 135*	*01/22/25 11:53*	*01/24/25 14:06*	*1*
d5-NEtFOSAA	*51.5*		*40 - 150*	*01/22/25 11:53*	*01/24/25 14:06*	*1*
13C2 4:2 FTS	*109*		*40 - 165*	*01/22/25 11:53*	*01/24/25 14:06*	*1*
13C2 6:2 FTS	*105*		*40 - 215*	*01/22/25 11:53*	*01/24/25 14:06*	*1*
13C2 8:2 FTS	*79.0*		*40 - 275*	*01/22/25 11:53*	*01/24/25 14:06*	*1*
13C3 HFPO-DA	*97.1*		*40 - 130*	*01/22/25 11:53*	*01/24/25 14:06*	*1*
d7-N-MeFOSE-M	*55.5*		*20 - 130*	*01/22/25 11:53*	*01/24/25 14:06*	*1*
d9-N-EtFOSE-M	*55.5*		*15 - 130*	*01/22/25 11:53*	*01/24/25 14:06*	*1*
d5-NEtPFOSA	*56.6*		*10 - 130*	*01/22/25 11:53*	*01/24/25 14:06*	*1*
d3-NMePFOSA	*54.5*		*10 - 130*	*01/22/25 11:53*	*01/24/25 14:06*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**20**		0.10	0.10	%			01/21/25 12:29	1

Client Sample ID: LTA-002-N-S001-01152025

Lab Sample ID: 320-118378-9

Date Collected: 01/15/25 09:25
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 84.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
Perfluoropentanoic acid (PFPeA)	**0.087**	**J**	0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
Perfluorohexanoic acid (PFHxA)	**0.059**	**J**	0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
Perfluoroheptanoic acid (PFHpA)	**0.049**	**J**	0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
Perfluorooctanoic acid (PFOA)	**2.5**		0.20	0.061	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
Perfluorononanoic acid (PFNA)	**1.2**		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
Perfluorodecanoic acid (PFDA)	**0.52**		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-1

Client Sample ID: LTA-002-N-S001-01152025
Date Collected: 01/15/25 09:25
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-9
Matrix: Solid
Percent Solids: 84.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
Perfluorooctanesulfonic acid (PFOS)	**0.16**	**J**	0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	0.20	0.074	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 14:23	1

Client Sample ID: LTA-002-N-S001-01152025

Lab Sample ID: 320-118378-9

Date Collected: 01/15/25 09:25
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 84.4

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	77.7		8 - 130	01/22/25 11:53	01/24/25 14:23	1
13C5 PFPeA	92.5		35 - 130	01/22/25 11:53	01/24/25 14:23	1
13C5 PFHxA	107		40 - 130	01/22/25 11:53	01/24/25 14:23	1
13C4 PFHpA	99.7		40 - 130	01/22/25 11:53	01/24/25 14:23	1
13C8 PFOA	96.7		40 - 130	01/22/25 11:53	01/24/25 14:23	1
13C9 PFNA	97.9		40 - 130	01/22/25 11:53	01/24/25 14:23	1
13C6 PFDA	72.5		40 - 130	01/22/25 11:53	01/24/25 14:23	1
13C7 PFUnA	67.2		40 - 130	01/22/25 11:53	01/24/25 14:23	1
13C2 PFDoA	65.8		40 - 130	01/22/25 11:53	01/24/25 14:23	1
13C2 PFTeDA	77.9		20 - 130	01/22/25 11:53	01/24/25 14:23	1
13C3 PFBS	85.4		40 - 135	01/22/25 11:53	01/24/25 14:23	1
13C3 PFHxS	88.3		40 - 130	01/22/25 11:53	01/24/25 14:23	1
13C8 PFOS	74.7		40 - 130	01/22/25 11:53	01/24/25 14:23	1
13C8 FOSA	72.0		40 - 130	01/22/25 11:53	01/24/25 14:23	1
d3-NMeFOSAA	69.4		40 - 135	01/22/25 11:53	01/24/25 14:23	1
d5-NEtFOSAA	61.3		40 - 150	01/22/25 11:53	01/24/25 14:23	1
13C2 4:2 FTS	104		40 - 165	01/22/25 11:53	01/24/25 14:23	1
13C2 6:2 FTS	121		40 - 215	01/22/25 11:53	01/24/25 14:23	1
13C2 8:2 FTS	67.4		40 - 275	01/22/25 11:53	01/24/25 14:23	1
13C3 HFPO-DA	93.2		40 - 130	01/22/25 11:53	01/24/25 14:23	1
d7-N-MeFOSE-M	64.8		20 - 130	01/22/25 11:53	01/24/25 14:23	1
d9-N-EtFOSE-M	64.8		15 - 130	01/22/25 11:53	01/24/25 14:23	1
d5-NEtPFOSA	68.3		10 - 130	01/22/25 11:53	01/24/25 14:23	1
d3-NMePFOSA	64.0		10 - 130	01/22/25 11:53	01/24/25 14:23	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**16**		0.10	0.10	%			01/21/25 12:29	1

Client Sample ID: LTA-002-N-S003-01152025

Lab Sample ID: 320-118378-10

Date Collected: 01/15/25 09:30
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 93.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.097	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
Perfluoroheptanoic acid (PFHpA)	**0.091**	**J**	0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
Perfluorooctanoic acid (PFOA)	**2.8**		0.19	0.060	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
Perfluorobutanesulfonic acid (PFBS)	**0.051**	**J**	0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-1

Client Sample ID: LTA-002-N-S003-01152025
Date Collected: 01/15/25 09:30
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-10
Matrix: Solid
Percent Solids: 93.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	0.19	0.073	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	01/22/25 11:53	01/24/25 14:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*77.9*		*8 - 130*	*01/22/25 11:53*	*01/24/25 14:39*	*1*
13C5 PFPeA	*85.3*		*35 - 130*	*01/22/25 11:53*	*01/24/25 14:39*	*1*
13C5 PFHxA	*91.2*		*40 - 130*	*01/22/25 11:53*	*01/24/25 14:39*	*1*
13C4 PFHpA	*102*		*40 - 130*	*01/22/25 11:53*	*01/24/25 14:39*	*1*
13C8 PFOA	*76.4*		*40 - 130*	*01/22/25 11:53*	*01/24/25 14:39*	*1*
13C9 PFNA	*88.3*		*40 - 130*	*01/22/25 11:53*	*01/24/25 14:39*	*1*

Client Sample ID: LTA-002-N-S003-01152025

Lab Sample ID: 320-118378-10

Date Collected: 01/15/25 09:30
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 93.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C6 PFDA	80.6		40 - 130	01/22/25 11:53	01/24/25 14:39	1
13C7 PFUnA	67.4		40 - 130	01/22/25 11:53	01/24/25 14:39	1
13C2 PFDoA	69.1		40 - 130	01/22/25 11:53	01/24/25 14:39	1
13C2 PFTeDA	68.2		20 - 130	01/22/25 11:53	01/24/25 14:39	1
13C3 PFBS	71.2		40 - 135	01/22/25 11:53	01/24/25 14:39	1
13C3 PFHxS	86.1		40 - 130	01/22/25 11:53	01/24/25 14:39	1
13C8 PFOS	72.6		40 - 130	01/22/25 11:53	01/24/25 14:39	1
13C8 FOSA	63.7		40 - 130	01/22/25 11:53	01/24/25 14:39	1
d3-NMeFOSAA	64.5		40 - 135	01/22/25 11:53	01/24/25 14:39	1
d5-NEtFOSAA	52.4		40 - 150	01/22/25 11:53	01/24/25 14:39	1
13C2 4:2 FTS	89.6		40 - 165	01/22/25 11:53	01/24/25 14:39	1
13C2 6:2 FTS	99.1		40 - 215	01/22/25 11:53	01/24/25 14:39	1
13C2 8:2 FTS	75.9		40 - 275	01/22/25 11:53	01/24/25 14:39	1
13C3 HFPO-DA	91.4		40 - 130	01/22/25 11:53	01/24/25 14:39	1
d7-N-MeFOSE-M	56.1		20 - 130	01/22/25 11:53	01/24/25 14:39	1
d9-N-EtFOSE-M	56.5		15 - 130	01/22/25 11:53	01/24/25 14:39	1
d5-NEtPFOSA	55.3		10 - 130	01/22/25 11:53	01/24/25 14:39	1
d3-NMePFOSA	52.1		10 - 130	01/22/25 11:53	01/24/25 14:39	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	7.0		0.10	0.10	%			01/21/25 12:29	1

Client Sample ID: LTA-003-N-S001-01152025

Lab Sample ID: 320-118378-14

Date Collected: 01/15/25 10:05
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 68.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.41		0.40	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
Perfluoropentanoic acid (PFPeA)	1.1		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
Perfluorohexanoic acid (PFHxA)	1.9		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.063	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-1

Client Sample ID: LTA-003-N-S001-01152025
Date Collected: 01/15/25 10:05
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-14
Matrix: Solid
Percent Solids: 68.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.064	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	0.20	0.076	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 14:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*80.3*		*8 - 130*	*01/22/25 11:53*	*01/24/25 14:56*	*1*
13C5 PFPeA	*79.9*		*35 - 130*	*01/22/25 11:53*	*01/24/25 14:56*	*1*
13C5 PFHxA	*90.6*		*40 - 130*	*01/22/25 11:53*	*01/24/25 14:56*	*1*
13C4 PFHpA	*80.4*		*40 - 130*	*01/22/25 11:53*	*01/24/25 14:56*	*1*
13C8 PFOA	*91.8*		*40 - 130*	*01/22/25 11:53*	*01/24/25 14:56*	*1*
13C9 PFNA	*89.5*		*40 - 130*	*01/22/25 11:53*	*01/24/25 14:56*	*1*
13C6 PFDA	*70.1*		*40 - 130*	*01/22/25 11:53*	*01/24/25 14:56*	*1*
13C7 PFUnA	*69.7*		*40 - 130*	*01/22/25 11:53*	*01/24/25 14:56*	*1*
13C2 PFDoA	*73.8*		*40 - 130*	*01/22/25 11:53*	*01/24/25 14:56*	*1*
13C2 PFTeDA	*82.7*		*20 - 130*	*01/22/25 11:53*	*01/24/25 14:56*	*1*
13C3 PFBS	*82.0*		*40 - 135*	*01/22/25 11:53*	*01/24/25 14:56*	*1*
13C3 PFHxS	*91.2*		*40 - 130*	*01/22/25 11:53*	*01/24/25 14:56*	*1*

Client Sample ID: LTA-003-N-S001-01152025

Lab Sample ID: 320-118378-14
Date Collected: 01/15/25 10:05
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 68.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	76.3		40 - 130	01/22/25 11:53	01/24/25 14:56	1
13C8 FOSA	66.5		40 - 130	01/22/25 11:53	01/24/25 14:56	1
d3-NMeFOSAA	57.5		40 - 135	01/22/25 11:53	01/24/25 14:56	1
d5-NEtFOSAA	54.0		40 - 150	01/22/25 11:53	01/24/25 14:56	1
13C2 4:2 FTS	99.5		40 - 165	01/22/25 11:53	01/24/25 14:56	1
13C2 6:2 FTS	107		40 - 215	01/22/25 11:53	01/24/25 14:56	1
13C2 8:2 FTS	79.8		40 - 275	01/22/25 11:53	01/24/25 14:56	1
13C3 HFPO-DA	76.7		40 - 130	01/22/25 11:53	01/24/25 14:56	1
d7-N-MeFOSE-M	64.1		20 - 130	01/22/25 11:53	01/24/25 14:56	1
d9-N-EtFOSE-M	60.8		15 - 130	01/22/25 11:53	01/24/25 14:56	1
d5-NEtPFOSA	60.0		10 - 130	01/22/25 11:53	01/24/25 14:56	1
d3-NMePFOSA	54.3		10 - 130	01/22/25 11:53	01/24/25 14:56	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	31		0.10	0.10	%			01/21/25 12:29	1

Client Sample ID: LTA-003-N-S003-01152025

Lab Sample ID: 320-118378-15
Date Collected: 01/15/25 10:10
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 86.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.099	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.099	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.099	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1

Client Sample ID: LTA-003-N-S003-01152025
Date Collected: 01/15/25 10:10
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-15
Matrix: Solid
Percent Solids: 86.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (PFOSA)	**0.093**	**J**	0.20	0.063	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	0.20	0.074	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.099	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 15:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*75.1*		*8 - 130*	*01/22/25 11:53*	*01/24/25 15:12*	*1*
13C5 PFPeA	*85.9*		*35 - 130*	*01/22/25 11:53*	*01/24/25 15:12*	*1*
13C5 PFHxA	*94.1*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:12*	*1*
13C4 PFHpA	*93.4*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:12*	*1*
13C8 PFOA	*80.6*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:12*	*1*
13C9 PFNA	*88.3*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:12*	*1*
13C6 PFDA	*72.0*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:12*	*1*
13C7 PFUnA	*63.1*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:12*	*1*
13C2 PFDoA	*69.3*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:12*	*1*
13C2 PFTeDA	*64.5*		*20 - 130*	*01/22/25 11:53*	*01/24/25 15:12*	*1*
13C3 PFBS	*77.3*		*40 - 135*	*01/22/25 11:53*	*01/24/25 15:12*	*1*
13C3 PFHxS	*81.2*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:12*	*1*
13C8 PFOS	*77.2*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:12*	*1*
13C8 FOSA	*67.1*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:12*	*1*
d3-NMeFOSAA	*67.1*		*40 - 135*	*01/22/25 11:53*	*01/24/25 15:12*	*1*
d5-NEtFOSAA	*73.0*		*40 - 150*	*01/22/25 11:53*	*01/24/25 15:12*	*1*
13C2 4:2 FTS	*75.7*		*40 - 165*	*01/22/25 11:53*	*01/24/25 15:12*	*1*

Client Sample ID: LTA-003-N-S003-01152025

Lab Sample ID: 320-118378-15
Date Collected: 01/15/25 10:10
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 86.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 6:2 FTS	*99.4*		*40 - 215*	*01/22/25 11:53*	*01/24/25 15:12*	*1*
13C2 8:2 FTS	*81.2*		*40 - 275*	*01/22/25 11:53*	*01/24/25 15:12*	*1*
13C3 HFPO-DA	*79.3*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:12*	*1*
d7-N-MeFOSE-M	*69.0*		*20 - 130*	*01/22/25 11:53*	*01/24/25 15:12*	*1*
d9-N-EtFOSE-M	*61.3*		*15 - 130*	*01/22/25 11:53*	*01/24/25 15:12*	*1*
d5-NEtPFOSA	*56.6*		*10 - 130*	*01/22/25 11:53*	*01/24/25 15:12*	*1*
d3-NMePFOSA	*55.4*		*10 - 130*	*01/22/25 11:53*	*01/24/25 15:12*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**14**		0.10	0.10	%			01/21/25 12:29	1

Client Sample ID: LTA-003-FD-S001-01152025

Lab Sample ID: 320-118378-20
Date Collected: 01/15/25 10:30
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 72.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.37**	**J**	0.39	0.099	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
Perfluoropentanoic acid (PFPeA)	**0.73**		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
Perfluorohexanoic acid (PFHxA)	**1.4**		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
Perfluoroheptanoic acid (PFHpA)	**0.24**		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
Perfluorooctanoic acid (PFOA)	**0.12**	**J**	0.20	0.061	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
Perfluorooctanesulfonic acid (PFOS)	**0.056**	**J**	0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.099	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.099	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.099	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-1

Client Sample ID: LTA-003-FD-S001-01152025
Date Collected: 01/15/25 10:30
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-20
Matrix: Solid
Percent Solids: 72.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	0.20	0.074	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.099	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 15:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*78.7*		*8 - 130*	*01/22/25 11:53*	*01/24/25 15:28*	*1*
13C5 PFPeA	*78.6*		*35 - 130*	*01/22/25 11:53*	*01/24/25 15:28*	*1*
13C5 PFHxA	*86.0*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:28*	*1*
13C4 PFHpA	*85.2*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:28*	*1*
13C8 PFOA	*90.2*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:28*	*1*
13C9 PFNA	*79.2*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:28*	*1*
13C6 PFDA	*77.9*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:28*	*1*
13C7 PFUnA	*77.0*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:28*	*1*
13C2 PFDoA	*87.5*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:28*	*1*
13C2 PFTeDA	*84.0*		*20 - 130*	*01/22/25 11:53*	*01/24/25 15:28*	*1*
13C3 PFBS	*75.2*		*40 - 135*	*01/22/25 11:53*	*01/24/25 15:28*	*1*
13C3 PFHxS	*83.1*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:28*	*1*
13C8 PFOS	*75.2*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:28*	*1*
13C8 FOSA	*67.5*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:28*	*1*
d3-NMeFOSAA	*69.6*		*40 - 135*	*01/22/25 11:53*	*01/24/25 15:28*	*1*
d5-NEtFOSAA	*64.0*		*40 - 150*	*01/22/25 11:53*	*01/24/25 15:28*	*1*
13C2 4:2 FTS	*103*		*40 - 165*	*01/22/25 11:53*	*01/24/25 15:28*	*1*
13C2 6:2 FTS	*107*		*40 - 215*	*01/22/25 11:53*	*01/24/25 15:28*	*1*
13C2 8:2 FTS	*83.7*		*40 - 275*	*01/22/25 11:53*	*01/24/25 15:28*	*1*
13C3 HFPO-DA	*91.7*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:28*	*1*
d7-N-MeFOSE-M	*71.4*		*20 - 130*	*01/22/25 11:53*	*01/24/25 15:28*	*1*
d9-N-EtFOSE-M	*69.0*		*15 - 130*	*01/22/25 11:53*	*01/24/25 15:28*	*1*

Client Sample ID: LTA-003-FD-S001-01152025

Lab Sample ID: 320-118378-20

Date Collected: 01/15/25 10:30
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 72.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtPFOSA	72.9		10 - 130	01/22/25 11:53	01/24/25 15:28	1
d3-NMePFOSA	61.3		10 - 130	01/22/25 11:53	01/24/25 15:28	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	27		0.10	0.10	%			01/21/25 12:29	1

Client Sample ID: JTA-001-N-S001-01152025

Lab Sample ID: 320-118378-22

Date Collected: 01/15/25 15:05
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 94.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.42	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.065	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.21	0.061	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
Perfluorooctanesulfonic acid (PFOS)	**0.058**	**J**	0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.42	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.42	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.42	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.21	0.066	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.26	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-1

Client Sample ID: JTA-001-N-S001-01152025
Date Collected: 01/15/25 15:05
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-22
Matrix: Solid
Percent Solids: 94.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.26	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.21	0.065	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	0.21	0.078	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.42	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	01/22/25 11:53	01/24/25 15:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*80.5*		*8 - 130*	*01/22/25 11:53*	*01/24/25 15:45*	*1*
13C5 PFPeA	*91.9*		*35 - 130*	*01/22/25 11:53*	*01/24/25 15:45*	*1*
13C5 PFHxA	*87.7*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:45*	*1*
13C4 PFHpA	*100*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:45*	*1*
13C8 PFOA	*89.0*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:45*	*1*
13C9 PFNA	*107*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:45*	*1*
13C6 PFDA	*88.2*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:45*	*1*
13C7 PFUnA	*93.4*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:45*	*1*
13C2 PFDoA	*126*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:45*	*1*
13C2 PFTeDA	*93.9*		*20 - 130*	*01/22/25 11:53*	*01/24/25 15:45*	*1*
13C3 PFBS	*81.3*		*40 - 135*	*01/22/25 11:53*	*01/24/25 15:45*	*1*
13C3 PFHxS	*88.3*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:45*	*1*
13C8 PFOS	*79.7*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:45*	*1*
13C8 FOSA	*79.1*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:45*	*1*
d3-NMeFOSAA	*78.9*		*40 - 135*	*01/22/25 11:53*	*01/24/25 15:45*	*1*
d5-NEtFOSAA	*87.4*		*40 - 150*	*01/22/25 11:53*	*01/24/25 15:45*	*1*
13C2 4:2 FTS	*95.7*		*40 - 165*	*01/22/25 11:53*	*01/24/25 15:45*	*1*
13C2 6:2 FTS	*101*		*40 - 215*	*01/22/25 11:53*	*01/24/25 15:45*	*1*
13C2 8:2 FTS	*93.4*		*40 - 275*	*01/22/25 11:53*	*01/24/25 15:45*	*1*
13C3 HFPO-DA	*86.2*		*40 - 130*	*01/22/25 11:53*	*01/24/25 15:45*	*1*
d7-N-MeFOSE-M	*72.6*		*20 - 130*	*01/22/25 11:53*	*01/24/25 15:45*	*1*
d9-N-EtFOSE-M	*75.5*		*15 - 130*	*01/22/25 11:53*	*01/24/25 15:45*	*1*
d5-NEtPFOSA	*66.2*		*10 - 130*	*01/22/25 11:53*	*01/24/25 15:45*	*1*
d3-NMePFOSA	*63.8*		*10 - 130*	*01/22/25 11:53*	*01/24/25 15:45*	*1*

Client Sample ID: JTA-001-N-S001-01152025

Lab Sample ID: 320-118378-22
Date Collected: 01/15/25 15:05
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 94.4

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	5.6		0.10	0.10	%			01/21/25 12:29	1

Client Sample ID: JTA-001-N-S003-01152025

Lab Sample ID: 320-118378-23
Date Collected: 01/15/25 15:10
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 91.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
Perfluorobutanesulfonic acid (PFBS)	0.11	J	0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1

Client Sample ID: JTA-001-N-S003-01152025
Date Collected: 01/15/25 15:10
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-23
Matrix: Solid
Percent Solids: 91.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	0.20	0.074	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 16:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*75.0*		*8 - 130*	*01/22/25 11:53*	*01/24/25 16:34*	*1*
13C5 PFPeA	*93.4*		*35 - 130*	*01/22/25 11:53*	*01/24/25 16:34*	*1*
13C5 PFHxA	*104*		*40 - 130*	*01/22/25 11:53*	*01/24/25 16:34*	*1*
13C4 PFHpA	*103*		*40 - 130*	*01/22/25 11:53*	*01/24/25 16:34*	*1*
13C8 PFOA	*91.3*		*40 - 130*	*01/22/25 11:53*	*01/24/25 16:34*	*1*
13C9 PFNA	*84.2*		*40 - 130*	*01/22/25 11:53*	*01/24/25 16:34*	*1*
13C6 PFDA	*80.2*		*40 - 130*	*01/22/25 11:53*	*01/24/25 16:34*	*1*
13C7 PFUnA	*81.3*		*40 - 130*	*01/22/25 11:53*	*01/24/25 16:34*	*1*
13C2 PFDoA	*94.4*		*40 - 130*	*01/22/25 11:53*	*01/24/25 16:34*	*1*
13C2 PFTeDA	*78.6*		*20 - 130*	*01/22/25 11:53*	*01/24/25 16:34*	*1*
13C3 PFBS	*79.3*		*40 - 135*	*01/22/25 11:53*	*01/24/25 16:34*	*1*
13C3 PFHxS	*79.6*		*40 - 130*	*01/22/25 11:53*	*01/24/25 16:34*	*1*
13C8 PFOS	*74.1*		*40 - 130*	*01/22/25 11:53*	*01/24/25 16:34*	*1*
13C8 FOSA	*74.8*		*40 - 130*	*01/22/25 11:53*	*01/24/25 16:34*	*1*
d3-NMeFOSAA	*81.1*		*40 - 135*	*01/22/25 11:53*	*01/24/25 16:34*	*1*
d5-NEtFOSAA	*77.1*		*40 - 150*	*01/22/25 11:53*	*01/24/25 16:34*	*1*
13C2 4:2 FTS	*113*		*40 - 165*	*01/22/25 11:53*	*01/24/25 16:34*	*1*
13C2 6:2 FTS	*120*		*40 - 215*	*01/22/25 11:53*	*01/24/25 16:34*	*1*
13C2 8:2 FTS	*88.0*		*40 - 275*	*01/22/25 11:53*	*01/24/25 16:34*	*1*
13C3 HFPO-DA	*91.6*		*40 - 130*	*01/22/25 11:53*	*01/24/25 16:34*	*1*
d7-N-MeFOSE-M	*74.4*		*20 - 130*	*01/22/25 11:53*	*01/24/25 16:34*	*1*
d9-N-EtFOSE-M	*72.8*		*15 - 130*	*01/22/25 11:53*	*01/24/25 16:34*	*1*
d5-NEtPFOSA	*71.0*		*10 - 130*	*01/22/25 11:53*	*01/24/25 16:34*	*1*
d3-NMePFOSA	*59.4*		*10 - 130*	*01/22/25 11:53*	*01/24/25 16:34*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**8.1**		0.10	0.10	%			01/21/25 12:29	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-1

Client Sample ID: JTA-002-N-S001-01152025
Date Collected: 01/15/25 16:00
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-31
Matrix: Solid
Percent Solids: 91.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.41	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.063	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
Perfluorooctanesulfonic acid (PFOS)	**1.8**		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.41	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.41	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.41	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.064	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1

Client Sample ID: JTA-002-N-S001-01152025

Lab Sample ID: 320-118378-31

Date Collected: 01/15/25 16:00
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 91.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	0.20	0.076	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.41	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 16:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*69.8*		*8 - 130*	*01/22/25 11:53*	*01/24/25 16:50*	*1*
13C5 PFPeA	*70.8*		*35 - 130*	*01/22/25 11:53*	*01/24/25 16:50*	*1*
13C5 PFHxA	*87.0*		*40 - 130*	*01/22/25 11:53*	*01/24/25 16:50*	*1*
13C4 PFHpA	*72.2*		*40 - 130*	*01/22/25 11:53*	*01/24/25 16:50*	*1*
13C8 PFOA	*79.6*		*40 - 130*	*01/22/25 11:53*	*01/24/25 16:50*	*1*
13C9 PFNA	*87.8*		*40 - 130*	*01/22/25 11:53*	*01/24/25 16:50*	*1*
13C6 PFDA	*80.7*		*40 - 130*	*01/22/25 11:53*	*01/24/25 16:50*	*1*
13C7 PFUnA	*74.0*		*40 - 130*	*01/22/25 11:53*	*01/24/25 16:50*	*1*
13C2 PFDoA	*78.8*		*40 - 130*	*01/22/25 11:53*	*01/24/25 16:50*	*1*
13C2 PFTeDA	*83.7*		*20 - 130*	*01/22/25 11:53*	*01/24/25 16:50*	*1*
13C3 PFBS	*72.6*		*40 - 135*	*01/22/25 11:53*	*01/24/25 16:50*	*1*
13C3 PFHxS	*79.5*		*40 - 130*	*01/22/25 11:53*	*01/24/25 16:50*	*1*
13C8 PFOS	*84.0*		*40 - 130*	*01/22/25 11:53*	*01/24/25 16:50*	*1*
13C8 FOSA	*72.2*		*40 - 130*	*01/22/25 11:53*	*01/24/25 16:50*	*1*
d3-NMeFOSAA	*74.6*		*40 - 135*	*01/22/25 11:53*	*01/24/25 16:50*	*1*
d5-NEtFOSAA	*69.6*		*40 - 150*	*01/22/25 11:53*	*01/24/25 16:50*	*1*
13C2 4:2 FTS	*68.3*		*40 - 165*	*01/22/25 11:53*	*01/24/25 16:50*	*1*
13C2 6:2 FTS	*95.4*		*40 - 215*	*01/22/25 11:53*	*01/24/25 16:50*	*1*
13C2 8:2 FTS	*74.3*		*40 - 275*	*01/22/25 11:53*	*01/24/25 16:50*	*1*
13C3 HFPO-DA	*77.2*		*40 - 130*	*01/22/25 11:53*	*01/24/25 16:50*	*1*
d7-N-MeFOSE-M	*70.2*		*20 - 130*	*01/22/25 11:53*	*01/24/25 16:50*	*1*
d9-N-EtFOSE-M	*68.2*		*15 - 130*	*01/22/25 11:53*	*01/24/25 16:50*	*1*
d5-NEtPFOSA	*74.4*		*10 - 130*	*01/22/25 11:53*	*01/24/25 16:50*	*1*
d3-NMePFOSA	*63.8*		*10 - 130*	*01/22/25 11:53*	*01/24/25 16:50*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**8.2**		0.10	0.10	%			01/21/25 12:29	1

Client Sample ID: JTA-002-N-S003-01152025

Lab Sample ID: 320-118378-32

Date Collected: 01/15/25 16:05
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 90.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-1

Client Sample ID: JTA-002-N-S003-01152025
Date Collected: 01/15/25 16:05
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-32
Matrix: Solid
Percent Solids: 90.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
Perfluorohexanesulfonic acid (PFHxS)	**0.063**	**J**	0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	0.20	0.075	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1

Client Sample ID: JTA-002-N-S003-01152025

Lab Sample ID: 320-118378-32
Date Collected: 01/15/25 16:05
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 90.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/22/25 11:53	01/24/25 17:07	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*70.6*		*8 - 130*	*01/22/25 11:53*	*01/24/25 17:07*	*1*
13C5 PFPeA	*106*		*35 - 130*	*01/22/25 11:53*	*01/24/25 17:07*	*1*
13C5 PFHxA	*95.8*		*40 - 130*	*01/22/25 11:53*	*01/24/25 17:07*	*1*
13C4 PFHpA	*103*		*40 - 130*	*01/22/25 11:53*	*01/24/25 17:07*	*1*
13C8 PFOA	*70.2*		*40 - 130*	*01/22/25 11:53*	*01/24/25 17:07*	*1*
13C9 PFNA	*82.4*		*40 - 130*	*01/22/25 11:53*	*01/24/25 17:07*	*1*
13C6 PFDA	*61.4*		*40 - 130*	*01/22/25 11:53*	*01/24/25 17:07*	*1*
13C7 PFUnA	*62.1*		*40 - 130*	*01/22/25 11:53*	*01/24/25 17:07*	*1*
13C2 PFDoA	*63.7*		*40 - 130*	*01/22/25 11:53*	*01/24/25 17:07*	*1*
13C2 PFTeDA	*58.3*		*20 - 130*	*01/22/25 11:53*	*01/24/25 17:07*	*1*
13C3 PFBS	*68.5*		*40 - 135*	*01/22/25 11:53*	*01/24/25 17:07*	*1*
13C3 PFHxS	*84.4*		*40 - 130*	*01/22/25 11:53*	*01/24/25 17:07*	*1*
13C8 PFOS	*79.8*		*40 - 130*	*01/22/25 11:53*	*01/24/25 17:07*	*1*
13C8 FOSA	*68.8*		*40 - 130*	*01/22/25 11:53*	*01/24/25 17:07*	*1*
d3-NMeFOSAA	*70.2*		*40 - 135*	*01/22/25 11:53*	*01/24/25 17:07*	*1*
d5-NEtFOSAA	*69.1*		*40 - 150*	*01/22/25 11:53*	*01/24/25 17:07*	*1*
13C2 4:2 FTS	*90.5*		*40 - 165*	*01/22/25 11:53*	*01/24/25 17:07*	*1*
13C2 6:2 FTS	*77.1*		*40 - 215*	*01/22/25 11:53*	*01/24/25 17:07*	*1*
13C2 8:2 FTS	*78.2*		*40 - 275*	*01/22/25 11:53*	*01/24/25 17:07*	*1*
13C3 HFPO-DA	*105*		*40 - 130*	*01/22/25 11:53*	*01/24/25 17:07*	*1*
d7-N-MeFOSE-M	*66.6*		*20 - 130*	*01/22/25 11:53*	*01/24/25 17:07*	*1*
d9-N-EtFOSE-M	*67.6*		*15 - 130*	*01/22/25 11:53*	*01/24/25 17:07*	*1*
d5-NEtPFOSA	*68.0*		*10 - 130*	*01/22/25 11:53*	*01/24/25 17:07*	*1*
d3-NMePFOSA	*62.0*		*10 - 130*	*01/22/25 11:53*	*01/24/25 17:07*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**38**		2.0	0.50	ug/Kg	☼	01/22/25 11:53	01/28/25 08:51	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*67.0*	*3*	*40 - 130*	*01/22/25 11:53*	*01/28/25 08:51*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**10**		0.10	0.10	%			01/21/25 12:29	1

Client Sample ID: JTA-002-FD-S003-01152025

Lab Sample ID: 320-118378-33
Date Collected: 01/15/25 16:35
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 89.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.42	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-1

Client Sample ID: JTA-002-FD-S003-01152025
Date Collected: 01/15/25 16:35
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-33
Matrix: Solid
Percent Solids: 89.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	ND		0.21	0.065	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.21	0.061	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
Perfluorohexanesulfonic acid (PFHxS)	**0.063**	**J**	0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.42	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.42	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.42	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.21	0.066	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.26	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.26	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.21	0.065	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	0.21	0.079	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.21	0.052	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.42	0.10	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1

Client Sample ID: JTA-002-FD-S003-01152025

Lab Sample ID: 320-118378-33
Date Collected: 01/15/25 16:35
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 89.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	01/22/25 11:53	01/24/25 17:23	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*78.3*		*8 - 130*	*01/22/25 11:53*	*01/24/25 17:23*	*1*
13C5 PFPeA	*98.2*		*35 - 130*	*01/22/25 11:53*	*01/24/25 17:23*	*1*
13C5 PFHxA	*111*		*40 - 130*	*01/22/25 11:53*	*01/24/25 17:23*	*1*
13C4 PFHpA	*100*		*40 - 130*	*01/22/25 11:53*	*01/24/25 17:23*	*1*
13C8 PFOA	*79.0*		*40 - 130*	*01/22/25 11:53*	*01/24/25 17:23*	*1*
13C9 PFNA	*98.1*		*40 - 130*	*01/22/25 11:53*	*01/24/25 17:23*	*1*
13C6 PFDA	*79.3*		*40 - 130*	*01/22/25 11:53*	*01/24/25 17:23*	*1*
13C7 PFUnA	*84.6*		*40 - 130*	*01/22/25 11:53*	*01/24/25 17:23*	*1*
13C2 PFDoA	*102*		*40 - 130*	*01/22/25 11:53*	*01/24/25 17:23*	*1*
13C2 PFTeDA	*92.2*		*20 - 130*	*01/22/25 11:53*	*01/24/25 17:23*	*1*
13C3 PFBS	*72.7*		*40 - 135*	*01/22/25 11:53*	*01/24/25 17:23*	*1*
13C3 PFHxS	*80.7*		*40 - 130*	*01/22/25 11:53*	*01/24/25 17:23*	*1*
13C8 PFOS	*84.3*		*40 - 130*	*01/22/25 11:53*	*01/24/25 17:23*	*1*
13C8 FOSA	*86.9*		*40 - 130*	*01/22/25 11:53*	*01/24/25 17:23*	*1*
d3-NMeFOSAA	*83.5*		*40 - 135*	*01/22/25 11:53*	*01/24/25 17:23*	*1*
d5-NEtFOSAA	*83.9*		*40 - 150*	*01/22/25 11:53*	*01/24/25 17:23*	*1*
13C2 4:2 FTS	*78.6*		*40 - 165*	*01/22/25 11:53*	*01/24/25 17:23*	*1*
13C2 6:2 FTS	*94.3*		*40 - 215*	*01/22/25 11:53*	*01/24/25 17:23*	*1*
13C2 8:2 FTS	*84.2*		*40 - 275*	*01/22/25 11:53*	*01/24/25 17:23*	*1*
13C3 HFPO-DA	*98.1*		*40 - 130*	*01/22/25 11:53*	*01/24/25 17:23*	*1*
d7-N-MeFOSE-M	*85.4*		*20 - 130*	*01/22/25 11:53*	*01/24/25 17:23*	*1*
d9-N-EtFOSE-M	*83.8*		*15 - 130*	*01/22/25 11:53*	*01/24/25 17:23*	*1*
d5-NEtPFOSA	*77.7*		*10 - 130*	*01/22/25 11:53*	*01/24/25 17:23*	*1*
d3-NMePFOSA	*72.1*		*10 - 130*	*01/22/25 11:53*	*01/24/25 17:23*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**34**		2.1	0.52	ug/Kg	☼	01/22/25 11:53	01/28/25 09:07	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*77.8*	*3	*40 - 130*	*01/22/25 11:53*	*01/28/25 09:07*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**10**		0.10	0.10	%			01/21/25 12:29	1

Client Sample ID: EB-01152025

Lab Sample ID: 320-118378-40
Date Collected: 01/15/25 10:00
Matrix: Water
Date Received: 01/18/25 09:00

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.1	0.79	ng/L		01/22/25 04:00	01/23/25 17:04	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.39	ng/L		01/22/25 04:00	01/23/25 17:04	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.39	ng/L		01/22/25 04:00	01/23/25 17:04	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.39	ng/L		01/22/25 04:00	01/23/25 17:04	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-1

Client Sample ID: EB-01152025
Date Collected: 01/15/25 10:00
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-40
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	ND		1.6	0.39	ng/L		01/22/25 04:00	01/23/25 17:04	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.39	ng/L		01/22/25 04:00	01/23/25 17:04	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.39	ng/L		01/22/25 04:00	01/23/25 17:04	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.39	ng/L		01/22/25 04:00	01/23/25 17:04	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.43	ng/L		01/22/25 04:00	01/23/25 17:04	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.6	0.46	ng/L		01/22/25 04:00	01/23/25 17:04	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.6	0.64	ng/L		01/22/25 04:00	01/23/25 17:04	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.39	ng/L		01/22/25 04:00	01/23/25 17:04	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.6	0.39	ng/L		01/22/25 04:00	01/23/25 17:04	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.39	ng/L		01/22/25 04:00	01/23/25 17:04	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.39	ng/L		01/22/25 04:00	01/23/25 17:04	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.39	ng/L		01/22/25 04:00	01/23/25 17:04	1
Perfluorononanesulfonic acid (PFNS)	ND		1.6	0.39	ng/L		01/22/25 04:00	01/23/25 17:04	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.39	ng/L		01/22/25 04:00	01/23/25 17:04	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.6	0.42	ng/L		01/22/25 04:00	01/23/25 17:04	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.1	0.79	ng/L		01/22/25 04:00	01/23/25 17:04	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.1	0.79	ng/L		01/22/25 04:00	01/23/25 17:04	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.1	0.79	ng/L		01/22/25 04:00	01/23/25 17:04	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.39	ng/L		01/22/25 04:00	01/23/25 17:04	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.6	0.39	ng/L		01/22/25 04:00	01/23/25 17:04	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.6	0.39	ng/L		01/22/25 04:00	01/23/25 17:04	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.6	0.39	ng/L		01/22/25 04:00	01/23/25 17:04	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.6	0.39	ng/L		01/22/25 04:00	01/23/25 17:04	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		7.9	2.0	ng/L		01/22/25 04:00	01/23/25 17:04	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		7.9	2.0	ng/L		01/22/25 04:00	01/23/25 17:04	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.2	0.31	ng/L		01/22/25 04:00	01/23/25 17:04	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.6	0.39	ng/L		01/22/25 04:00	01/23/25 17:04	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.6	0.39	ng/L		01/22/25 04:00	01/23/25 17:04	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.6	0.39	ng/L		01/22/25 04:00	01/23/25 17:04	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.6	0.57	ng/L		01/22/25 04:00	01/23/25 17:04	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.6	0.46	ng/L		01/22/25 04:00	01/23/25 17:04	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.6	0.39	ng/L		01/22/25 04:00	01/23/25 17:04	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.6	0.39	ng/L		01/22/25 04:00	01/23/25 17:04	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.1	0.79	ng/L		01/22/25 04:00	01/23/25 17:04	1

Client Sample ID: EB-01152025

Date Collected: 01/15/25 10:00
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-40
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		7.9	2.0	ng/L		01/22/25 04:00	01/23/25 17:04	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		7.9	2.0	ng/L		01/22/25 04:00	01/23/25 17:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*92.0*		*5 - 130*	*01/22/25 04:00*	*01/23/25 17:04*	*1*
13C5 PFPeA	*101*		*40 - 130*	*01/22/25 04:00*	*01/23/25 17:04*	*1*
13C5 PFHxA	*103*		*40 - 130*	*01/22/25 04:00*	*01/23/25 17:04*	*1*
13C4 PFHpA	*103*		*40 - 130*	*01/22/25 04:00*	*01/23/25 17:04*	*1*
13C8 PFOA	*93.0*		*40 - 130*	*01/22/25 04:00*	*01/23/25 17:04*	*1*
13C9 PFNA	*88.1*		*40 - 130*	*01/22/25 04:00*	*01/23/25 17:04*	*1*
13C6 PFDA	*81.3*		*40 - 130*	*01/22/25 04:00*	*01/23/25 17:04*	*1*
13C7 PFUnA	*75.2*		*30 - 130*	*01/22/25 04:00*	*01/23/25 17:04*	*1*
13C2 PFDoA	*84.9*		*10 - 130*	*01/22/25 04:00*	*01/23/25 17:04*	*1*
13C2 PFTeDA	*74.5*		*10 - 130*	*01/22/25 04:00*	*01/23/25 17:04*	*1*
13C3 PFBS	*100*		*40 - 135*	*01/22/25 04:00*	*01/23/25 17:04*	*1*
13C3 PFHxS	*99.8*		*40 - 130*	*01/22/25 04:00*	*01/23/25 17:04*	*1*
13C8 PFOS	*100*		*40 - 130*	*01/22/25 04:00*	*01/23/25 17:04*	*1*
13C8 FOSA	*90.2*		*40 - 130*	*01/22/25 04:00*	*01/23/25 17:04*	*1*
d3-NMeFOSAA	*91.0*		*40 - 170*	*01/22/25 04:00*	*01/23/25 17:04*	*1*
d5-NEtFOSAA	*89.8*		*25 - 135*	*01/22/25 04:00*	*01/23/25 17:04*	*1*
13C2 4:2 FTS	*113*		*40 - 200*	*01/22/25 04:00*	*01/23/25 17:04*	*1*
13C2 6:2 FTS	*119*		*40 - 200*	*01/22/25 04:00*	*01/23/25 17:04*	*1*
13C2 8:2 FTS	*94.9*		*40 - 300*	*01/22/25 04:00*	*01/23/25 17:04*	*1*
13C3 HFPO-DA	*93.5*		*40 - 130*	*01/22/25 04:00*	*01/23/25 17:04*	*1*
d7-N-MeFOSE-M	*80.9*		*10 - 130*	*01/22/25 04:00*	*01/23/25 17:04*	*1*
d9-N-EtFOSE-M	*79.4*		*10 - 130*	*01/22/25 04:00*	*01/23/25 17:04*	*1*
d5-NEtPFOSA	*77.2*		*10 - 130*	*01/22/25 04:00*	*01/23/25 17:04*	*1*
d3-NMePFOSA	*77.3*		*10 - 130*	*01/22/25 04:00*	*01/23/25 17:04*	*1*

Client Sample ID: HDW01152025

Date Collected: 01/15/25 15:20
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-41
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.0	0.76	ng/L		01/22/25 04:00	01/23/25 17:21	1
Perfluoropentanoic acid (PFPeA)	**1.2**	**J**	1.5	0.38	ng/L		01/22/25 04:00	01/23/25 17:21	1
Perfluorohexanoic acid (PFHxA)	**0.85**	**J**	1.5	0.38	ng/L		01/22/25 04:00	01/23/25 17:21	1
Perfluoroheptanoic acid (PFHpA)	**0.45**	**J**	1.5	0.38	ng/L		01/22/25 04:00	01/23/25 17:21	1
Perfluorooctanoic acid (PFOA)	**0.82**	**J**	1.5	0.38	ng/L		01/22/25 04:00	01/23/25 17:21	1
Perfluorononanoic acid (PFNA)	ND		1.5	0.38	ng/L		01/22/25 04:00	01/23/25 17:21	1
Perfluorodecanoic acid (PFDA)	ND		1.5	0.38	ng/L		01/22/25 04:00	01/23/25 17:21	1
Perfluoroundecanoic acid (PFUnA)	ND		1.5	0.38	ng/L		01/22/25 04:00	01/23/25 17:21	1
Perfluorododecanoic acid (PFDoA)	ND		1.5	0.42	ng/L		01/22/25 04:00	01/23/25 17:21	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.5	0.44	ng/L		01/22/25 04:00	01/23/25 17:21	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.5	0.61	ng/L		01/22/25 04:00	01/23/25 17:21	1
Perfluorobutanesulfonic acid (PFBS)	**0.61**	**J**	1.5	0.38	ng/L		01/22/25 04:00	01/23/25 17:21	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.5	0.38	ng/L		01/22/25 04:00	01/23/25 17:21	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-1

Client Sample ID: HDW01152025
Date Collected: 01/15/25 15:20
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-41
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**0.46**	**J**	1.5	0.38	ng/L		01/22/25 04:00	01/23/25 17:21	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.5	0.38	ng/L		01/22/25 04:00	01/23/25 17:21	1
Perfluorooctanesulfonic acid (PFOS)	**2.3**		1.5	0.38	ng/L		01/22/25 04:00	01/23/25 17:21	1
Perfluorononanesulfonic acid (PFNS)	ND		1.5	0.38	ng/L		01/22/25 04:00	01/23/25 17:21	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.5	0.38	ng/L		01/22/25 04:00	01/23/25 17:21	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.5	0.40	ng/L		01/22/25 04:00	01/23/25 17:21	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.0	0.76	ng/L		01/22/25 04:00	01/23/25 17:21	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.0	0.76	ng/L		01/22/25 04:00	01/23/25 17:21	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.0	0.76	ng/L		01/22/25 04:00	01/23/25 17:21	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.5	0.38	ng/L		01/22/25 04:00	01/23/25 17:21	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.5	0.38	ng/L		01/22/25 04:00	01/23/25 17:21	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.5	0.38	ng/L		01/22/25 04:00	01/23/25 17:21	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.5	0.38	ng/L		01/22/25 04:00	01/23/25 17:21	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.5	0.38	ng/L		01/22/25 04:00	01/23/25 17:21	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		7.6	1.9	ng/L		01/22/25 04:00	01/23/25 17:21	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		7.6	1.9	ng/L		01/22/25 04:00	01/23/25 17:21	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.1	0.30	ng/L		01/22/25 04:00	01/23/25 17:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.5	0.38	ng/L		01/22/25 04:00	01/23/25 17:21	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.5	0.38	ng/L		01/22/25 04:00	01/23/25 17:21	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.5	0.38	ng/L		01/22/25 04:00	01/23/25 17:21	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.5	0.54	ng/L		01/22/25 04:00	01/23/25 17:21	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.5	0.44	ng/L		01/22/25 04:00	01/23/25 17:21	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.5	0.38	ng/L		01/22/25 04:00	01/23/25 17:21	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.5	0.38	ng/L		01/22/25 04:00	01/23/25 17:21	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.0	0.76	ng/L		01/22/25 04:00	01/23/25 17:21	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		7.6	1.9	ng/L		01/22/25 04:00	01/23/25 17:21	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		7.6	1.9	ng/L		01/22/25 04:00	01/23/25 17:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*96.6*		*5 - 130*	*01/22/25 04:00*	*01/23/25 17:21*	*1*
13C5 PFPeA	*97.0*		*40 - 130*	*01/22/25 04:00*	*01/23/25 17:21*	*1*
13C5 PFHxA	*105*		*40 - 130*	*01/22/25 04:00*	*01/23/25 17:21*	*1*

Client Sample ID: HDW01152025

Lab Sample ID: 320-118378-41

Date Collected: 01/15/25 15:20
Matrix: Water
Date Received: 01/18/25 09:00

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFHpA	95.9		40 - 130	01/22/25 04:00	01/23/25 17:21	1
13C8 PFOA	97.6		40 - 130	01/22/25 04:00	01/23/25 17:21	1
13C9 PFNA	87.7		40 - 130	01/22/25 04:00	01/23/25 17:21	1
13C6 PFDA	84.7		40 - 130	01/22/25 04:00	01/23/25 17:21	1
13C7 PFUnA	79.6		30 - 130	01/22/25 04:00	01/23/25 17:21	1
13C2 PFDoA	80.7		10 - 130	01/22/25 04:00	01/23/25 17:21	1
13C2 PFTeDA	72.1		10 - 130	01/22/25 04:00	01/23/25 17:21	1
13C3 PFBS	89.9		40 - 135	01/22/25 04:00	01/23/25 17:21	1
13C3 PFHxS	86.2		40 - 130	01/22/25 04:00	01/23/25 17:21	1
13C8 PFOS	88.9		40 - 130	01/22/25 04:00	01/23/25 17:21	1
13C8 FOSA	81.0		40 - 130	01/22/25 04:00	01/23/25 17:21	1
d3-NMeFOSAA	82.4		40 - 170	01/22/25 04:00	01/23/25 17:21	1
d5-NEtFOSAA	78.4		25 - 135	01/22/25 04:00	01/23/25 17:21	1
13C2 4:2 FTS	85.8		40 - 200	01/22/25 04:00	01/23/25 17:21	1
13C2 6:2 FTS	97.8		40 - 200	01/22/25 04:00	01/23/25 17:21	1
13C2 8:2 FTS	90.8		40 - 300	01/22/25 04:00	01/23/25 17:21	1
13C3 HFPO-DA	89.2		40 - 130	01/22/25 04:00	01/23/25 17:21	1
d7-N-MeFOSE-M	76.2		10 - 130	01/22/25 04:00	01/23/25 17:21	1
d9-N-EtFOSE-M	74.0		10 - 130	01/22/25 04:00	01/23/25 17:21	1
d5-NEtPFOSA	65.6		10 - 130	01/22/25 04:00	01/23/25 17:21	1
d3-NMePFOSA	69.2		10 - 130	01/22/25 04:00	01/23/25 17:21	1

Client Sample ID: FB-01152025

Lab Sample ID: 320-118378-42

Date Collected: 01/15/25 00:00
Matrix: Water
Date Received: 01/18/25 09:00

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.0	0.74	ng/L		01/22/25 04:00	01/23/25 17:37	1
Perfluoropentanoic acid (PFPeA)	ND		1.5	0.37	ng/L		01/22/25 04:00	01/23/25 17:37	1
Perfluorohexanoic acid (PFHxA)	ND		1.5	0.37	ng/L		01/22/25 04:00	01/23/25 17:37	1
Perfluoroheptanoic acid (PFHpA)	ND		1.5	0.37	ng/L		01/22/25 04:00	01/23/25 17:37	1
Perfluorooctanoic acid (PFOA)	ND		1.5	0.37	ng/L		01/22/25 04:00	01/23/25 17:37	1
Perfluorononanoic acid (PFNA)	ND		1.5	0.37	ng/L		01/22/25 04:00	01/23/25 17:37	1
Perfluorodecanoic acid (PFDA)	ND		1.5	0.37	ng/L		01/22/25 04:00	01/23/25 17:37	1
Perfluoroundecanoic acid (PFUnA)	ND		1.5	0.37	ng/L		01/22/25 04:00	01/23/25 17:37	1
Perfluorododecanoic acid (PFDoA)	ND		1.5	0.41	ng/L		01/22/25 04:00	01/23/25 17:37	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.5	0.43	ng/L		01/22/25 04:00	01/23/25 17:37	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.5	0.60	ng/L		01/22/25 04:00	01/23/25 17:37	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.5	0.37	ng/L		01/22/25 04:00	01/23/25 17:37	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.5	0.37	ng/L		01/22/25 04:00	01/23/25 17:37	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.5	0.37	ng/L		01/22/25 04:00	01/23/25 17:37	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.5	0.37	ng/L		01/22/25 04:00	01/23/25 17:37	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.5	0.37	ng/L		01/22/25 04:00	01/23/25 17:37	1
Perfluorononanesulfonic acid (PFNS)	ND		1.5	0.37	ng/L		01/22/25 04:00	01/23/25 17:37	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.5	0.37	ng/L		01/22/25 04:00	01/23/25 17:37	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.5	0.39	ng/L		01/22/25 04:00	01/23/25 17:37	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-1

Client Sample ID: FB-01152025
Date Collected: 01/15/25 00:00
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-42
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.0	0.74	ng/L		01/22/25 04:00	01/23/25 17:37	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.0	0.74	ng/L		01/22/25 04:00	01/23/25 17:37	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.0	0.74	ng/L		01/22/25 04:00	01/23/25 17:37	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.5	0.37	ng/L		01/22/25 04:00	01/23/25 17:37	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.5	0.37	ng/L		01/22/25 04:00	01/23/25 17:37	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.5	0.37	ng/L		01/22/25 04:00	01/23/25 17:37	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.5	0.37	ng/L		01/22/25 04:00	01/23/25 17:37	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.5	0.37	ng/L		01/22/25 04:00	01/23/25 17:37	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		7.4	1.9	ng/L		01/22/25 04:00	01/23/25 17:37	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		7.4	1.9	ng/L		01/22/25 04:00	01/23/25 17:37	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.1	0.29	ng/L		01/22/25 04:00	01/23/25 17:37	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.5	0.37	ng/L		01/22/25 04:00	01/23/25 17:37	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.5	0.37	ng/L		01/22/25 04:00	01/23/25 17:37	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.5	0.37	ng/L		01/22/25 04:00	01/23/25 17:37	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.5	0.54	ng/L		01/22/25 04:00	01/23/25 17:37	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.5	0.43	ng/L		01/22/25 04:00	01/23/25 17:37	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.5	0.37	ng/L		01/22/25 04:00	01/23/25 17:37	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.5	0.37	ng/L		01/22/25 04:00	01/23/25 17:37	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.0	0.74	ng/L		01/22/25 04:00	01/23/25 17:37	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		7.4	1.9	ng/L		01/22/25 04:00	01/23/25 17:37	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		7.4	1.9	ng/L		01/22/25 04:00	01/23/25 17:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*94.9*		*5 - 130*	*01/22/25 04:00*	*01/23/25 17:37*	*1*
13C5 PFPeA	*113*		*40 - 130*	*01/22/25 04:00*	*01/23/25 17:37*	*1*
13C5 PFHxA	*113*		*40 - 130*	*01/22/25 04:00*	*01/23/25 17:37*	*1*
13C4 PFHpA	*103*		*40 - 130*	*01/22/25 04:00*	*01/23/25 17:37*	*1*
13C8 PFOA	*101*		*40 - 130*	*01/22/25 04:00*	*01/23/25 17:37*	*1*
13C9 PFNA	*87.2*		*40 - 130*	*01/22/25 04:00*	*01/23/25 17:37*	*1*
13C6 PFDA	*88.8*		*40 - 130*	*01/22/25 04:00*	*01/23/25 17:37*	*1*
13C7 PFUnA	*80.0*		*30 - 130*	*01/22/25 04:00*	*01/23/25 17:37*	*1*
13C2 PFDoA	*82.8*		*10 - 130*	*01/22/25 04:00*	*01/23/25 17:37*	*1*
13C2 PFTeDA	*75.4*		*10 - 130*	*01/22/25 04:00*	*01/23/25 17:37*	*1*
13C3 PFBS	*101*		*40 - 135*	*01/22/25 04:00*	*01/23/25 17:37*	*1*
13C3 PFHxS	*94.0*		*40 - 130*	*01/22/25 04:00*	*01/23/25 17:37*	*1*

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-1

Client Sample ID: FB-01152025
Date Collected: 01/15/25 00:00
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118378-42
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	93.5		40 - 130	01/22/25 04:00	01/23/25 17:37	1
13C8 FOSA	85.6		40 - 130	01/22/25 04:00	01/23/25 17:37	1
d3-NMeFOSAA	86.3		40 - 170	01/22/25 04:00	01/23/25 17:37	1
d5-NEtFOSAA	85.4		25 - 135	01/22/25 04:00	01/23/25 17:37	1
13C2 4:2 FTS	104		40 - 200	01/22/25 04:00	01/23/25 17:37	1
13C2 6:2 FTS	98.8		40 - 200	01/22/25 04:00	01/23/25 17:37	1
13C2 8:2 FTS	96.1		40 - 300	01/22/25 04:00	01/23/25 17:37	1
13C3 HFPO-DA	102		40 - 130	01/22/25 04:00	01/23/25 17:37	1
d7-N-MeFOSE-M	82.0		10 - 130	01/22/25 04:00	01/23/25 17:37	1
d9-N-EtFOSE-M	79.2		10 - 130	01/22/25 04:00	01/23/25 17:37	1
d5-NEtPFOSA	77.4		10 - 130	01/22/25 04:00	01/23/25 17:37	1
d3-NMePFOSA	77.2		10 - 130	01/22/25 04:00	01/23/25 17:37	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(8-130)	(35-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)
320-118378-2	LTA-001-N-S001-01152025	74.6	75.8	84.0	77.9	77.5	79.2	74.7	59.0
320-118378-3	LTA-001-N-S003-01152025	82.1	92.0	99.4	96.6	94.1	89.4	74.4	66.9
320-118378-9	LTA-002-N-S001-01152025	77.7	92.5	107	99.7	96.7	97.9	72.5	67.2
320-118378-10	LTA-002-N-S003-01152025	77.9	85.3	91.2	102	76.4	88.3	80.6	67.4
320-118378-14	LTA-003-N-S001-01152025	80.3	79.9	90.6	80.4	91.8	89.5	70.1	69.7
320-118378-15	LTA-003-N-S003-01152025	75.1	85.9	94.1	93.4	80.6	88.3	72.0	63.1
320-118378-20	LTA-003-FD-S001-01152025	78.7	78.6	86.0	85.2	90.2	79.2	77.9	77.0
320-118378-22	JTA-001-N-S001-01152025	80.5	91.9	87.7	100	89.0	107	88.2	93.4
320-118378-23	JTA-001-N-S003-01152025	75.0	93.4	104	103	91.3	84.2	80.2	81.3
320-118378-31	JTA-002-N-S001-01152025	69.8	70.8	87.0	72.2	79.6	87.8	80.7	74.0
320-118378-32	JTA-002-N-S003-01152025	70.6	106	95.8	103	70.2	82.4	61.4	62.1
320-118378-32 - DL	JTA-002-N-S003-01152025								
320-118378-33	JTA-002-FD-S003-01152025	78.3	98.2	111	100	79.0	98.1	79.3	84.6
320-118378-33 - DL	JTA-002-FD-S003-01152025								
LCS 320-828864/3-A	Lab Control Sample	82.6	84.8	88.1	82.6	98.8	90.6	88.4	106
LCSD 320-828864/4-A	Lab Control Sample Dup	93.0	80.4	88.0	76.2	90.7	102	89.1	89.3
LLCS 320-828864/2-A	Lab Control Sample	83.9	71.4	87.3	83.1	81.9	74.3	79.5	77.0
MB 320-828864/1-A	Method Blank	86.3	75.5	82.4	94.2	84.1	79.1	76.8	80.0

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(40-130)	(20-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-135)	(40-150)
320-118378-2	LTA-001-N-S001-01152025	65.6	66.2	80.1	84.8	72.4	63.3	61.7	59.3
320-118378-3	LTA-001-N-S003-01152025	67.0	96.1	83.2	87.3	73.4	60.0	61.6	51.5
320-118378-9	LTA-002-N-S001-01152025	65.8	77.9	85.4	88.3	74.7	72.0	69.4	61.3
320-118378-10	LTA-002-N-S003-01152025	69.1	68.2	71.2	86.1	72.6	63.7	64.5	52.4
320-118378-14	LTA-003-N-S001-01152025	73.8	82.7	82.0	91.2	76.3	66.5	57.5	54.0
320-118378-15	LTA-003-N-S003-01152025	69.3	64.5	77.3	81.2	77.2	67.1	67.1	73.0
320-118378-20	LTA-003-FD-S001-01152025	87.5	84.0	75.2	83.1	75.2	67.5	69.6	64.0
320-118378-22	JTA-001-N-S001-01152025	126	93.9	81.3	88.3	79.7	79.1	78.9	87.4
320-118378-23	JTA-001-N-S003-01152025	94.4	78.6	79.3	79.6	74.1	74.8	81.1	77.1
320-118378-31	JTA-002-N-S001-01152025	78.8	83.7	72.6	79.5	84.0	72.2	74.6	69.6
320-118378-32	JTA-002-N-S003-01152025	63.7	58.3	68.5	84.4	79.8	68.8	70.2	69.1
320-118378-32 - DL	JTA-002-N-S003-01152025					67.0 *3			
320-118378-33	JTA-002-FD-S003-01152025	102	92.2	72.7	80.7	84.3	86.9	83.5	83.9
320-118378-33 - DL	JTA-002-FD-S003-01152025					77.8 *3			
LCS 320-828864/3-A	Lab Control Sample	119	95.5	92.7	89.5	80.6	73.2	85.8	93.0
LCSD 320-828864/4-A	Lab Control Sample Dup	107	95.0	106	92.8	90.4	79.0	95.8	90.5
LLCS 320-828864/2-A	Lab Control Sample	89.1	68.5	76.9	84.4	77.7	72.9	91.2	84.2
MB 320-828864/1-A	Method Blank	88.5	74.9	82.1	82.2	86.5	69.5	87.0	81.0

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-165)	(40-215)	(40-275)	(40-130)	(20-130)	(15-130)	(10-130)	(10-130)
320-118378-2	LTA-001-N-S001-01152025	95.4	107	68.1	73.2	63.3	62.8	62.2	56.4
320-118378-3	LTA-001-N-S003-01152025	109	105	79.0	97.1	55.5	55.5	56.6	54.5
320-118378-9	LTA-002-N-S001-01152025	104	121	67.4	93.2	64.8	64.8	68.3	64.0
320-118378-10	LTA-002-N-S003-01152025	89.6	99.1	75.9	91.4	56.1	56.5	55.3	52.1
320-118378-14	LTA-003-N-S001-01152025	99.5	107	79.8	76.7	64.1	60.8	60.0	54.3
320-118378-15	LTA-003-N-S003-01152025	75.7	99.4	81.2	79.3	69.0	61.3	56.6	55.4
320-118378-20	LTA-003-FD-S001-01152025	103	107	83.7	91.7	71.4	69.0	72.9	61.3

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118378-22	JTA-001-N-S001-01152025	95.7	101	93.4	86.2	72.6	75.5	66.2	63.8
320-118378-23	JTA-001-N-S003-01152025	113	120	88.0	91.6	74.4	72.8	71.0	59.4
320-118378-31	JTA-002-N-S001-01152025	68.3	95.4	74.3	77.2	70.2	68.2	74.4	63.8
320-118378-32	JTA-002-N-S003-01152025	90.5	77.1	78.2	105	66.6	67.6	68.0	62.0
320-118378-32 - DL	JTA-002-N-S003-01152025								
320-118378-33	JTA-002-FD-S003-01152025	78.6	94.3	84.2	98.1	85.4	83.8	77.7	72.1
320-118378-33 - DL	JTA-002-FD-S003-01152025								
LCS 320-828864/3-A	Lab Control Sample	91.9	109	94.6	69.6	61.8	59.3	50.7	53.4
LCSD 320-828864/4-A	Lab Control Sample Dup	113	102	112	74.3	79.4	77.3	60.5	62.8
LLCS 320-828864/2-A	Lab Control Sample	66.4	75.7	68.7	63.8	70.3	71.7	56.1	54.3
MB 320-828864/1-A	Method Blank	80.1	84.8	83.6	73.8	63.2	67.8	45.5	46.3

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (5-130)	PFPeA (40-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (30-130)
320-118378-40	EB-01152025	92.0	101	103	103	93.0	88.1	81.3	75.2
320-118378-41	HDW01152025	96.6	97.0	105	95.9	97.6	87.7	84.7	79.6
320-118378-42	FB-01152025	94.9	113	113	103	101	87.2	88.8	80.0
LCS 320-828744/3-A	Lab Control Sample	101	106	102	112	96.4	92.2	86.8	81.0
LCSD 320-828744/4-A	Lab Control Sample Dup	93.4	102	114	111	96.8	88.0	86.6	88.6
LLCS 320-828744/2-A	Lab Control Sample	95.8	88.4	98.4	98.5	101	88.6	83.8	82.0
MB 320-828744/1-A	Method Blank	93.0	83.3	91.6	92.4	89.4	84.7	84.6	72.7

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118378-1
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (10-130)	PFTDA (10-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-170)	d5NEFOS (25-135)
320-118378-40	EB-01152025	84.9	74.5	100	99.8	100	90.2	91.0	89.8
320-118378-41	HDW01152025	80.7	72.1	89.9	86.2	88.9	81.0	82.4	78.4
320-118378-42	FB-01152025	82.8	75.4	101	94.0	93.5	85.6	86.3	85.4
LCS 320-828744/3-A	Lab Control Sample	82.7	79.7	111	105	96.4	87.0	84.0	82.4
LCSD 320-828744/4-A	Lab Control Sample Dup	94.7	79.9	108	102	97.0	81.1	87.7	80.9
LLCS 320-828744/2-A	Lab Control Sample	76.8	75.4	91.2	97.7	88.7	78.0	78.3	77.9
MB 320-828744/1-A	Method Blank	82.1	72.2	92.7	91.5	89.4	80.3	80.3	76.1

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-200)	M262FTS (40-200)	M282FTS (40-300)	HFPODA (40-130)	NMFM (10-130)	NEFM (10-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118378-40	EB-01152025	113	119	94.9	93.5	80.9	79.4	77.2	77.3
320-118378-41	HDW01152025	85.8	97.8	90.8	89.2	76.2	74.0	65.6	69.2
320-118378-42	FB-01152025	104	98.8	96.1	102	82.0	79.2	77.4	77.2
LCS 320-828744/3-A	Lab Control Sample	92.4	101	97.8	99.3	88.8	87.5	85.9	83.7
LCSD 320-828744/4-A	Lab Control Sample Dup	100	112	99.7	102	76.2	79.8	81.5	78.1
LLCS 320-828744/2-A	Lab Control Sample	74.2	94.3	82.1	88.0	77.6	73.4	75.2	73.9
MB 320-828744/1-A	Method Blank	77.3	95.2	78.7	82.1	77.6	76.9	72.6	72.0

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-828744/1-A
Matrix: Water
Analysis Batch: 829242

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 828744

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.0	1.0	ng/L		01/22/25 04:00	01/23/25 12:58	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.50	ng/L		01/22/25 04:00	01/23/25 12:58	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		01/22/25 04:00	01/23/25 12:58	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		01/22/25 04:00	01/23/25 12:58	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		01/22/25 04:00	01/23/25 12:58	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		01/22/25 04:00	01/23/25 12:58	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		01/22/25 04:00	01/23/25 12:58	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		01/22/25 04:00	01/23/25 12:58	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		01/22/25 04:00	01/23/25 12:58	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.58	ng/L		01/22/25 04:00	01/23/25 12:58	1
Perfluorotetradecanoic acid (PFTeDA)	ND		2.0	0.81	ng/L		01/22/25 04:00	01/23/25 12:58	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		01/22/25 04:00	01/23/25 12:58	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		01/22/25 04:00	01/23/25 12:58	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		01/22/25 04:00	01/23/25 12:58	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.50	ng/L		01/22/25 04:00	01/23/25 12:58	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		01/22/25 04:00	01/23/25 12:58	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		01/22/25 04:00	01/23/25 12:58	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		01/22/25 04:00	01/23/25 12:58	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.53	ng/L		01/22/25 04:00	01/23/25 12:58	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		4.0	1.0	ng/L		01/22/25 04:00	01/23/25 12:58	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		4.0	1.0	ng/L		01/22/25 04:00	01/23/25 12:58	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		4.0	1.0	ng/L		01/22/25 04:00	01/23/25 12:58	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		01/22/25 04:00	01/23/25 12:58	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		2.0	0.50	ng/L		01/22/25 04:00	01/23/25 12:58	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		2.0	0.50	ng/L		01/22/25 04:00	01/23/25 12:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ng/L		01/22/25 04:00	01/23/25 12:58	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.50	ng/L		01/22/25 04:00	01/23/25 12:58	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		10	2.5	ng/L		01/22/25 04:00	01/23/25 12:58	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		10	2.5	ng/L		01/22/25 04:00	01/23/25 12:58	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.5	0.39	ng/L		01/22/25 04:00	01/23/25 12:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.50	ng/L		01/22/25 04:00	01/23/25 12:58	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	0.50	ng/L		01/22/25 04:00	01/23/25 12:58	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	0.50	ng/L		01/22/25 04:00	01/23/25 12:58	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	0.72	ng/L		01/22/25 04:00	01/23/25 12:58	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		2.0	0.58	ng/L		01/22/25 04:00	01/23/25 12:58	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-828744/1-A
Matrix: Water
Analysis Batch: 829242

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 828744

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	0.50	ng/L		01/22/25 04:00	01/23/25 12:58	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	0.50	ng/L		01/22/25 04:00	01/23/25 12:58	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		4.0	1.0	ng/L		01/22/25 04:00	01/23/25 12:58	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		10	2.5	ng/L		01/22/25 04:00	01/23/25 12:58	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		10	2.5	ng/L		01/22/25 04:00	01/23/25 12:58	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*93.0*		*5 - 130*	*01/22/25 04:00*	*01/23/25 12:58*	*1*
13C5 PFPeA	*83.3*		*40 - 130*	*01/22/25 04:00*	*01/23/25 12:58*	*1*
13C5 PFHxA	*91.6*		*40 - 130*	*01/22/25 04:00*	*01/23/25 12:58*	*1*
13C4 PFHpA	*92.4*		*40 - 130*	*01/22/25 04:00*	*01/23/25 12:58*	*1*
13C8 PFOA	*89.4*		*40 - 130*	*01/22/25 04:00*	*01/23/25 12:58*	*1*
13C9 PFNA	*84.7*		*40 - 130*	*01/22/25 04:00*	*01/23/25 12:58*	*1*
13C6 PFDA	*84.6*		*40 - 130*	*01/22/25 04:00*	*01/23/25 12:58*	*1*
13C7 PFUnA	*72.7*		*30 - 130*	*01/22/25 04:00*	*01/23/25 12:58*	*1*
13C2 PFDoA	*82.1*		*10 - 130*	*01/22/25 04:00*	*01/23/25 12:58*	*1*
13C2 PFTeDA	*72.2*		*10 - 130*	*01/22/25 04:00*	*01/23/25 12:58*	*1*
13C3 PFBS	*92.7*		*40 - 135*	*01/22/25 04:00*	*01/23/25 12:58*	*1*
13C3 PFHxS	*91.5*		*40 - 130*	*01/22/25 04:00*	*01/23/25 12:58*	*1*
13C8 PFOS	*89.4*		*40 - 130*	*01/22/25 04:00*	*01/23/25 12:58*	*1*
13C8 FOSA	*80.3*		*40 - 130*	*01/22/25 04:00*	*01/23/25 12:58*	*1*
d3-NMeFOSAA	*80.3*		*40 - 170*	*01/22/25 04:00*	*01/23/25 12:58*	*1*
d5-NEtFOSAA	*76.1*		*25 - 135*	*01/22/25 04:00*	*01/23/25 12:58*	*1*
13C2 4:2 FTS	*77.3*		*40 - 200*	*01/22/25 04:00*	*01/23/25 12:58*	*1*
13C2 6:2 FTS	*95.2*		*40 - 200*	*01/22/25 04:00*	*01/23/25 12:58*	*1*
13C2 8:2 FTS	*78.7*		*40 - 300*	*01/22/25 04:00*	*01/23/25 12:58*	*1*
13C3 HFPO-DA	*82.1*		*40 - 130*	*01/22/25 04:00*	*01/23/25 12:58*	*1*
d7-N-MeFOSE-M	*77.6*		*10 - 130*	*01/22/25 04:00*	*01/23/25 12:58*	*1*
d9-N-EtFOSE-M	*76.9*		*10 - 130*	*01/22/25 04:00*	*01/23/25 12:58*	*1*
d5-NEtPFOSA	*72.6*		*10 - 130*	*01/22/25 04:00*	*01/23/25 12:58*	*1*
d3-NMePFOSA	*72.0*		*10 - 130*	*01/22/25 04:00*	*01/23/25 12:58*	*1*

Lab Sample ID: LCS 320-828744/3-A
Matrix: Water
Analysis Batch: 829242

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828744

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	78.6		ng/L		98	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	37.9		ng/L		95	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	39.3		ng/L		98	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	38.6		ng/L		97	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	41.4		ng/L		104	70 - 150
Perfluorononanoic acid (PFNA)	40.0	41.2		ng/L		103	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	39.5		ng/L		99	70 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-828744/3-A
Matrix: Water
Analysis Batch: 829242

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828744

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	40.0	43.7		ng/L		109	70 - 145
Perfluorododecanoic acid (PFDoA)	40.0	40.2		ng/L		100	70 - 140
Perfluorotridecanoic acid (PFTrDA)	40.0	40.5		ng/L		101	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	40.0	36.9		ng/L		92	60 - 140
Perfluorobutanesulfonic acid (PFBS)	35.5	36.1		ng/L		102	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	37.9		ng/L		101	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	35.3		ng/L		97	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	38.2		ng/L		100	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	37.4		ng/L		100	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	38.1		ng/L		99	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	37.6		ng/L		98	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	34.1		ng/L		88	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	80.5		ng/L		107	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	72.4		ng/L		95	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	71.6		ng/L		93	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	39.9		ng/L		100	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	42.5		ng/L		106	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	39.1		ng/L		98	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	44.0		ng/L		110	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	39.9		ng/L		100	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	189		ng/L		95	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	189		ng/L		94	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	30.6		ng/L		102	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	43.3		ng/L		114	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	39.9		ng/L		100	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	39.9		ng/L		100	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	32.9		ng/L		82	50 - 150

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-828744/3-A
Matrix: Water
Analysis Batch: 829242

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828744

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	38.4		ng/L		103	70 - 155		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	37.0		ng/L		98	55 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	38.9		ng/L		109	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	71.2		ng/L		89	65 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	176		ng/L		88	70 - 135		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	182		ng/L		91	50 - 145		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*101*		*5 - 130*
13C5 PFPeA	*106*		*40 - 130*
13C5 PFHxA	*102*		*40 - 130*
13C4 PFHpA	*112*		*40 - 130*
13C8 PFOA	*96.4*		*40 - 130*
13C9 PFNA	*92.2*		*40 - 130*
13C6 PFDA	*86.8*		*40 - 130*
13C7 PFUnA	*81.0*		*30 - 130*
13C2 PFDoA	*82.7*		*10 - 130*
13C2 PFTeDA	*79.7*		*10 - 130*
13C3 PFBS	*111*		*40 - 135*
13C3 PFHxS	*105*		*40 - 130*
13C8 PFOS	*96.4*		*40 - 130*
13C8 FOSA	*87.0*		*40 - 130*
d3-NMeFOSAA	*84.0*		*40 - 170*
d5-NEtFOSAA	*82.4*		*25 - 135*
13C2 4:2 FTS	*92.4*		*40 - 200*
13C2 6:2 FTS	*101*		*40 - 200*
13C2 8:2 FTS	*97.8*		*40 - 300*
13C3 HFPO-DA	*99.3*		*40 - 130*
d7-N-MeFOSE-M	*88.8*		*10 - 130*
d9-N-EtFOSE-M	*87.5*		*10 - 130*
d5-NEtPFOSA	*85.9*		*10 - 130*
d3-NMePFOSA	*83.7*		*10 - 130*

Lab Sample ID: LCSD 320-828744/4-A
Matrix: Water
Analysis Batch: 829242

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 828744

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			80.0	81.2		ng/L		102	70 - 140	3	30
Perfluoropentanoic acid (PFPeA)			40.0	44.5		ng/L		111	65 - 135	16	30
Perfluorohexanoic acid (PFHxA)			40.0	34.6		ng/L		87	70 - 145	13	30
Perfluoroheptanoic acid (PFHpA)			40.0	43.3		ng/L		108	70 - 150	11	30
Perfluorooctanoic acid (PFOA)			40.0	39.8		ng/L		99	70 - 150	4	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-828744/4-A
Matrix: Water
Analysis Batch: 829242

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 828744

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	40.0	39.6		ng/L		99	70 - 150	4	30
Perfluorodecanoic acid (PFDA)	40.0	45.3		ng/L		113	70 - 140	14	30
Perfluoroundecanoic acid (PFUnA)	40.0	41.8		ng/L		105	70 - 145	4	30
Perfluorododecanoic acid (PFDoA)	40.0	40.0		ng/L		100	70 - 140	0	30
Perfluorotridecanoic acid (PFTrDA)	40.0	36.5		ng/L		91	65 - 140	10	30
Perfluorotetradecanoic acid (PFTeDA)	40.0	40.3		ng/L		101	60 - 140	9	30
Perfluorobutanesulfonic acid (PFBS)	35.5	36.9		ng/L		104	60 - 145	2	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	43.4		ng/L		115	65 - 140	13	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	38.8		ng/L		106	65 - 145	9	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	36.9		ng/L		97	70 - 150	3	30
Perfluorooctanesulfonic acid (PFOS)	37.2	35.9		ng/L		96	55 - 150	4	30
Perfluorononanesulfonic acid (PFNS)	38.5	38.1		ng/L		99	65 - 145	0	30
Perfluorodecanesulfonic acid (PFDS)	38.6	37.2		ng/L		96	60 - 145	1	30
Perfluorododecanesulfonic acid (PFDoS)	38.8	35.4		ng/L		91	50 - 145	4	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	82.1		ng/L		109	70 - 145	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	68.2		ng/L		90	65 - 155	6	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	77.9		ng/L		101	60 - 150	8	30
Perfluorooctanesulfonamide (PFOSA)	40.0	40.6		ng/L		101	70 - 145	2	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	44.0		ng/L		110	60 - 150	4	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	39.5		ng/L		99	65 - 145	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	42.6		ng/L		107	50 - 140	3	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	44.7		ng/L		112	70 - 145	11	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	203		ng/L		101	70 - 145	7	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	192		ng/L		96	70 - 135	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	32.8		ng/L		109	70 - 140	7	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	45.5		ng/L		120	65 - 145	5	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	44.6		ng/L		112	55 - 140	11	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	40.6		ng/L		102	60 - 150	2	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-828744/4-A
Matrix: Water
Analysis Batch: 829242

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 828744

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			40.0	40.9		ng/L		102	50 - 150	22	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	42.0		ng/L		112	70 - 155	9	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	38.9		ng/L		103	55 - 160	5	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	36.8		ng/L		103	70 - 140	6	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	80.8		ng/L		101	65 - 130	13	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	179		ng/L		89	70 - 135	1	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	171		ng/L		86	50 - 145	6	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*93.4*		*5 - 130*
13C5 PFPeA	*102*		*40 - 130*
13C5 PFHxA	*114*		*40 - 130*
13C4 PFHpA	*111*		*40 - 130*
13C8 PFOA	*96.8*		*40 - 130*
13C9 PFNA	*88.0*		*40 - 130*
13C6 PFDA	*86.6*		*40 - 130*
13C7 PFUnA	*88.6*		*30 - 130*
13C2 PFDoA	*94.7*		*10 - 130*
13C2 PFTeDA	*79.9*		*10 - 130*
13C3 PFBS	*108*		*40 - 135*
13C3 PFHxS	*102*		*40 - 130*
13C8 PFOS	*97.0*		*40 - 130*
13C8 FOSA	*81.1*		*40 - 130*
d3-NMeFOSAA	*87.7*		*40 - 170*
d5-NEtFOSAA	*80.9*		*25 - 135*
13C2 4:2 FTS	*100*		*40 - 200*
13C2 6:2 FTS	*112*		*40 - 200*
13C2 8:2 FTS	*99.7*		*40 - 300*
13C3 HFPO-DA	*102*		*40 - 130*
d7-N-MeFOSE-M	*76.2*		*10 - 130*
d9-N-EtFOSE-M	*79.8*		*10 - 130*
d5-NEtPFOSA	*81.5*		*10 - 130*
d3-NMePFOSA	*78.1*		*10 - 130*

Lab Sample ID: LLCS 320-828744/2-A
Matrix: Water
Analysis Batch: 829242

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828744

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			8.00	8.54		ng/L		107	70 - 140
Perfluoropentanoic acid (PFPeA)			4.00	4.13		ng/L		103	65 - 135
Perfluorohexanoic acid (PFHxA)			4.00	3.80		ng/L		95	70 - 145

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-828744/2-A
Matrix: Water
Analysis Batch: 829242

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828744

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	4.00	4.09		ng/L		102	70 - 150
Perfluorooctanoic acid (PFOA)	4.00	4.01		ng/L		100	70 - 150
Perfluorononanoic acid (PFNA)	4.00	4.15		ng/L		104	70 - 150
Perfluorodecanoic acid (PFDA)	4.00	4.09		ng/L		102	70 - 140
Perfluoroundecanoic acid (PFUnA)	4.00	4.43		ng/L		111	70 - 145
Perfluorododecanoic acid (PFDoA)	4.00	4.39		ng/L		110	70 - 140
Perfluorotridecanoic acid (PFTrDA)	4.00	4.04		ng/L		101	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	4.00	3.73		ng/L		93	60 - 140
Perfluorobutanesulfonic acid (PFBS)	3.55	4.10		ng/L		115	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.76	4.14		ng/L		110	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	3.65	3.85		ng/L		105	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.82	4.02		ng/L		105	70 - 150
Perfluorooctanesulfonic acid (PFOS)	3.72	4.04		ng/L		109	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.85	4.21		ng/L		109	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.86	3.98		ng/L		103	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.88	3.79		ng/L		98	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	7.50	8.28		ng/L		110	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.62	8.13		ng/L		107	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.68	7.69		ng/L		100	60 - 150
Perfluorooctanesulfonamide (PFOSA)	4.00	4.00		ng/L		100	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	4.00	4.04		ng/L		101	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	4.00	3.94		ng/L		98	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.00	4.31		ng/L		108	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.00	4.35		ng/L		109	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	20.0	19.7		ng/L		98	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	20.0	19.2		ng/L		96	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.00	3.48		ng/L		116	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	4.26		ng/L		113	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.00	4.61		ng/L		115	55 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-828744/2-A
Matrix: Water
Analysis Batch: 829242

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828744

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.00	4.26		ng/L		107	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.00	3.86		ng/L		96	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	3.74	4.11		ng/L		110	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	3.78	3.99		ng/L		106	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	3.57	3.68		ng/L		103	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	8.00	8.07		ng/L		101	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	20.0	17.4		ng/L		87	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	20.0	16.9		ng/L		85	50 - 145

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*95.8*		*5 - 130*
13C5 PFPeA	*88.4*		*40 - 130*
13C5 PFHxA	*98.4*		*40 - 130*
13C4 PFHpA	*98.5*		*40 - 130*
13C8 PFOA	*101*		*40 - 130*
13C9 PFNA	*88.6*		*40 - 130*
13C6 PFDA	*83.8*		*40 - 130*
13C7 PFUnA	*82.0*		*30 - 130*
13C2 PFDoA	*76.8*		*10 - 130*
13C2 PFTeDA	*75.4*		*10 - 130*
13C3 PFBS	*91.2*		*40 - 135*
13C3 PFHxS	*97.7*		*40 - 130*
13C8 PFOS	*88.7*		*40 - 130*
13C8 FOSA	*78.0*		*40 - 130*
d3-NMeFOSAA	*78.3*		*40 - 170*
d5-NEtFOSAA	*77.9*		*25 - 135*
13C2 4:2 FTS	*74.2*		*40 - 200*
13C2 6:2 FTS	*94.3*		*40 - 200*
13C2 8:2 FTS	*82.1*		*40 - 300*
13C3 HFPO-DA	*88.0*		*40 - 130*
d7-N-MeFOSE-M	*77.6*		*10 - 130*
d9-N-EtFOSE-M	*73.4*		*10 - 130*
d5-NEtPFOSA	*75.2*		*10 - 130*
d3-NMePFOSA	*73.9*		*10 - 130*

Lab Sample ID: MB 320-828864/1-A
Matrix: Solid
Analysis Batch: 829312

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 828864

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		01/22/25 11:53	01/24/25 09:11	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-828864/1-A
Matrix: Solid
Analysis Batch: 829312

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 828864

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-828864/1-A
Matrix: Solid
Analysis Batch: 829312

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 828864

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		01/22/25 11:53	01/24/25 09:11	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		01/22/25 11:53	01/24/25 09:11	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*86.3*		*8 - 130*	*01/22/25 11:53*	*01/24/25 09:11*	*1*
13C5 PFPeA	*75.5*		*35 - 130*	*01/22/25 11:53*	*01/24/25 09:11*	*1*
13C5 PFHxA	*82.4*		*40 - 130*	*01/22/25 11:53*	*01/24/25 09:11*	*1*
13C4 PFHpA	*94.2*		*40 - 130*	*01/22/25 11:53*	*01/24/25 09:11*	*1*
13C8 PFOA	*84.1*		*40 - 130*	*01/22/25 11:53*	*01/24/25 09:11*	*1*
13C9 PFNA	*79.1*		*40 - 130*	*01/22/25 11:53*	*01/24/25 09:11*	*1*
13C6 PFDA	*76.8*		*40 - 130*	*01/22/25 11:53*	*01/24/25 09:11*	*1*
13C7 PFUnA	*80.0*		*40 - 130*	*01/22/25 11:53*	*01/24/25 09:11*	*1*
13C2 PFDoA	*88.5*		*40 - 130*	*01/22/25 11:53*	*01/24/25 09:11*	*1*
13C2 PFTeDA	*74.9*		*20 - 130*	*01/22/25 11:53*	*01/24/25 09:11*	*1*
13C3 PFBS	*82.1*		*40 - 135*	*01/22/25 11:53*	*01/24/25 09:11*	*1*
13C3 PFHxS	*82.2*		*40 - 130*	*01/22/25 11:53*	*01/24/25 09:11*	*1*
13C8 PFOS	*86.5*		*40 - 130*	*01/22/25 11:53*	*01/24/25 09:11*	*1*
13C8 FOSA	*69.5*		*40 - 130*	*01/22/25 11:53*	*01/24/25 09:11*	*1*
d3-NMeFOSAA	*87.0*		*40 - 135*	*01/22/25 11:53*	*01/24/25 09:11*	*1*
d5-NEtFOSAA	*81.0*		*40 - 150*	*01/22/25 11:53*	*01/24/25 09:11*	*1*
13C2 4:2 FTS	*80.1*		*40 - 165*	*01/22/25 11:53*	*01/24/25 09:11*	*1*
13C2 6:2 FTS	*84.8*		*40 - 215*	*01/22/25 11:53*	*01/24/25 09:11*	*1*
13C2 8:2 FTS	*83.6*		*40 - 275*	*01/22/25 11:53*	*01/24/25 09:11*	*1*
13C3 HFPO-DA	*73.8*		*40 - 130*	*01/22/25 11:53*	*01/24/25 09:11*	*1*
d7-N-MeFOSE-M	*63.2*		*20 - 130*	*01/22/25 11:53*	*01/24/25 09:11*	*1*
d9-N-EtFOSE-M	*67.8*		*15 - 130*	*01/22/25 11:53*	*01/24/25 09:11*	*1*
d5-NEtPFOSA	*45.5*		*10 - 130*	*01/22/25 11:53*	*01/24/25 09:11*	*1*
d3-NMePFOSA	*46.3*		*10 - 130*	*01/22/25 11:53*	*01/24/25 09:11*	*1*

Lab Sample ID: LCS 320-828864/3-A
Matrix: Solid
Analysis Batch: 829312

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828864

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	5.10		ug/Kg		102	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.35		ug/Kg		94	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.43		ug/Kg		97	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.18		ug/Kg		87	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.56		ug/Kg		102	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.85		ug/Kg		114	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.63		ug/Kg		105	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-828864/3-A
Matrix: Solid
Analysis Batch: 829312

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828864

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.19		ug/Kg		88	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.17		ug/Kg		87	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	1.99		ug/Kg		79	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.36		ug/Kg		94	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.39		ug/Kg		108	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.38		ug/Kg		101	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.30		ug/Kg		101	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.27		ug/Kg		95	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.36		ug/Kg		101	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.45		ug/Kg		102	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.27		ug/Kg		94	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.18		ug/Kg		90	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.30		ug/Kg		92	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.33		ug/Kg		91	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.34		ug/Kg		90	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.51		ug/Kg		101	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.57		ug/Kg		103	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.49		ug/Kg		99	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.81		ug/Kg		112	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.45		ug/Kg		98	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.1		ug/Kg		96	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.7		ug/Kg		102	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	2.12		ug/Kg		113	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.93		ug/Kg		124	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.40		ug/Kg		96	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.56		ug/Kg		103	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.19		ug/Kg		88	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-828864/3-A
Matrix: Solid
Analysis Batch: 829312

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828864

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.52		ug/Kg		108	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.50		ug/Kg		106	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.02		ug/Kg		90	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.52		ug/Kg		90	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.2		ug/Kg		89	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	9.18		ug/Kg		73	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*82.6*		*8 - 130*
13C5 PFPeA	*84.8*		*35 - 130*
13C5 PFHxA	*88.1*		*40 - 130*
13C4 PFHpA	*82.6*		*40 - 130*
13C8 PFOA	*98.8*		*40 - 130*
13C9 PFNA	*90.6*		*40 - 130*
13C6 PFDA	*88.4*		*40 - 130*
13C7 PFUnA	*106*		*40 - 130*
13C2 PFDoA	*119*		*40 - 130*
13C2 PFTeDA	*95.5*		*20 - 130*
13C3 PFBS	*92.7*		*40 - 135*
13C3 PFHxS	*89.5*		*40 - 130*
13C8 PFOS	*80.6*		*40 - 130*
13C8 FOSA	*73.2*		*40 - 130*
d3-NMeFOSAA	*85.8*		*40 - 135*
d5-NEtFOSAA	*93.0*		*40 - 150*
13C2 4:2 FTS	*91.9*		*40 - 165*
13C2 6:2 FTS	*109*		*40 - 215*
13C2 8:2 FTS	*94.6*		*40 - 275*
13C3 HFPO-DA	*69.6*		*40 - 130*
d7-N-MeFOSE-M	*61.8*		*20 - 130*
d9-N-EtFOSE-M	*59.3*		*15 - 130*
d5-NEtPFOSA	*50.7*		*10 - 130*
d3-NMePFOSA	*53.4*		*10 - 130*

Lab Sample ID: LCSD 320-828864/4-A
Matrix: Solid
Analysis Batch: 829312

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 828864

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.41		ug/Kg		88	70 - 140	15	30
Perfluoropentanoic acid (PFPeA)			2.50	2.66		ug/Kg		106	60 - 150	12	30
Perfluorohexanoic acid (PFHxA)			2.50	2.53		ug/Kg		101	65 - 140	4	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.48		ug/Kg		99	65 - 145	13	30
Perfluorooctanoic acid (PFOA)			2.50	2.87		ug/Kg		115	70 - 150	11	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-828864/4-A
Matrix: Solid
Analysis Batch: 829312

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 828864

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.50		ug/Kg		100	70 - 155	13	30
Perfluorodecanoic acid (PFDA)	2.50	2.41		ug/Kg		96	70 - 155	9	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.34		ug/Kg		93	70 - 155	6	30
Perfluorododecanoic acid (PFDoA)	2.50	2.35		ug/Kg		94	70 - 150	8	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.23		ug/Kg		89	65 - 150	11	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.03		ug/Kg		81	65 - 150	15	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.11		ug/Kg		95	65 - 145	13	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.47		ug/Kg		105	55 - 160	4	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.39		ug/Kg		105	60 - 150	4	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.28		ug/Kg		96	65 - 155	0	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.35		ug/Kg		101	65 - 160	0	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.20		ug/Kg		92	55 - 140	10	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.17		ug/Kg		90	40 - 155	5	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.05		ug/Kg		85	25 - 160	6	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.09		ug/Kg		87	60 - 150	5	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.38		ug/Kg		92	55 - 200	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	3.96		ug/Kg		83	70 - 150	9	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.48		ug/Kg		99	70 - 140	2	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.29		ug/Kg		92	70 - 155	11	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.29		ug/Kg		91	70 - 140	8	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.55		ug/Kg		102	65 - 155	10	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.52		ug/Kg		101	65 - 165	3	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.1		ug/Kg		89	70 - 140	8	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	11.7		ug/Kg		93	70 - 135	9	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.76		ug/Kg		94	70 - 145	19	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.36		ug/Kg		100	70 - 160	22	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.58		ug/Kg		103	30 - 140	7	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.58		ug/Kg		103	60 - 150	1	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-828864/4-A
Matrix: Solid
Analysis Batch: 829312

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 828864

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.07		ug/Kg		83	60 - 155	6	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.22		ug/Kg		95	70 - 150	13	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.35		ug/Kg		99	45 - 160	6	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.14		ug/Kg		96	70 - 140	6	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.17		ug/Kg		83	45 - 130	8	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.5		ug/Kg		84	60 - 130	6	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	9.51		ug/Kg		76	60 - 150	4	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*93.0*		*8 - 130*
13C5 PFPeA	*80.4*		*35 - 130*
13C5 PFHxA	*88.0*		*40 - 130*
13C4 PFHpA	*76.2*		*40 - 130*
13C8 PFOA	*90.7*		*40 - 130*
13C9 PFNA	*102*		*40 - 130*
13C6 PFDA	*89.1*		*40 - 130*
13C7 PFUnA	*89.3*		*40 - 130*
13C2 PFDoA	*107*		*40 - 130*
13C2 PFTeDA	*95.0*		*20 - 130*
13C3 PFBS	*106*		*40 - 135*
13C3 PFHxS	*92.8*		*40 - 130*
13C8 PFOS	*90.4*		*40 - 130*
13C8 FOSA	*79.0*		*40 - 130*
d3-NMeFOSAA	*95.8*		*40 - 135*
d5-NEtFOSAA	*90.5*		*40 - 150*
13C2 4:2 FTS	*113*		*40 - 165*
13C2 6:2 FTS	*102*		*40 - 215*
13C2 8:2 FTS	*112*		*40 - 275*
13C3 HFPO-DA	*74.3*		*40 - 130*
d7-N-MeFOSE-M	*79.4*		*20 - 130*
d9-N-EtFOSE-M	*77.3*		*15 - 130*
d5-NEtPFOSA	*60.5*		*10 - 130*
d3-NMePFOSA	*62.8*		*10 - 130*

Lab Sample ID: LLCS 320-828864/2-A
Matrix: Solid
Analysis Batch: 829312

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828864

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.738		ug/Kg		92	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.425		ug/Kg		106	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.350		ug/Kg		88	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-828864/2-A
Matrix: Solid
Analysis Batch: 829312

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828864

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.383		ug/Kg		96	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.443		ug/Kg		111	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.516		ug/Kg		129	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.453		ug/Kg		113	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.447		ug/Kg		112	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.436		ug/Kg		109	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.429		ug/Kg		107	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.433		ug/Kg		108	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.468		ug/Kg		132	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.355		ug/Kg		94	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.397		ug/Kg		109	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.462		ug/Kg		121	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.415		ug/Kg		112	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.380		ug/Kg		99	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.359		ug/Kg		93	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.343		ug/Kg		88	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.715		ug/Kg		95	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.633		ug/Kg		83	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.703		ug/Kg		92	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.385		ug/Kg		96	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.411		ug/Kg		103	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.407		ug/Kg		102	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.445		ug/Kg		111	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.419		ug/Kg		105	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.95		ug/Kg		98	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	1.93		ug/Kg		96	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.334		ug/Kg		111	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.550		ug/Kg		145	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.467		ug/Kg		117	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-828864/2-A
Matrix: Solid
Analysis Batch: 829312

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828864

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.422		ug/Kg		106	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.354		ug/Kg		88	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.410		ug/Kg		110	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.423		ug/Kg		112	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.359		ug/Kg		100	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.858		ug/Kg		107	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	1.70		ug/Kg		85	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	1.51		ug/Kg		76	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*83.9*		*8 - 130*
13C5 PFPeA	*71.4*		*35 - 130*
13C5 PFHxA	*87.3*		*40 - 130*
13C4 PFHpA	*83.1*		*40 - 130*
13C8 PFOA	*81.9*		*40 - 130*
13C9 PFNA	*74.3*		*40 - 130*
13C6 PFDA	*79.5*		*40 - 130*
13C7 PFUnA	*77.0*		*40 - 130*
13C2 PFDoA	*89.1*		*40 - 130*
13C2 PFTeDA	*68.5*		*20 - 130*
13C3 PFBS	*76.9*		*40 - 135*
13C3 PFHxS	*84.4*		*40 - 130*
13C8 PFOS	*77.7*		*40 - 130*
13C8 FOSA	*72.9*		*40 - 130*
d3-NMeFOSAA	*91.2*		*40 - 135*
d5-NEtFOSAA	*84.2*		*40 - 150*
13C2 4:2 FTS	*66.4*		*40 - 165*
13C2 6:2 FTS	*75.7*		*40 - 215*
13C2 8:2 FTS	*68.7*		*40 - 275*
13C3 HFPO-DA	*63.8*		*40 - 130*
d7-N-MeFOSE-M	*70.3*		*20 - 130*
d9-N-EtFOSE-M	*71.7*		*15 - 130*
d5-NEtPFOSA	*56.1*		*10 - 130*
d3-NMePFOSA	*54.3*		*10 - 130*

LCMS

Prep Batch: 828744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-40	EB-01152025	Total/NA	Water	1633	
320-118378-41	HDW01152025	Total/NA	Water	1633	
320-118378-42	FB-01152025	Total/NA	Water	1633	
MB 320-828744/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-828744/3-A	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-828744/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-828744/2-A	Lab Control Sample	Total/NA	Water	1633	

Prep Batch: 828864

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-2	LTA-001-N-S001-01152025	Total/NA	Solid	1633 Shake	
320-118378-3	LTA-001-N-S003-01152025	Total/NA	Solid	1633 Shake	
320-118378-9	LTA-002-N-S001-01152025	Total/NA	Solid	1633 Shake	
320-118378-10	LTA-002-N-S003-01152025	Total/NA	Solid	1633 Shake	
320-118378-14	LTA-003-N-S001-01152025	Total/NA	Solid	1633 Shake	
320-118378-15	LTA-003-N-S003-01152025	Total/NA	Solid	1633 Shake	
320-118378-20	LTA-003-FD-S001-01152025	Total/NA	Solid	1633 Shake	
320-118378-22	JTA-001-N-S001-01152025	Total/NA	Solid	1633 Shake	
320-118378-23	JTA-001-N-S003-01152025	Total/NA	Solid	1633 Shake	
320-118378-31	JTA-002-N-S001-01152025	Total/NA	Solid	1633 Shake	
320-118378-32	JTA-002-N-S003-01152025	Total/NA	Solid	1633 Shake	
320-118378-32 - DL	JTA-002-N-S003-01152025	Total/NA	Solid	1633 Shake	
320-118378-33	JTA-002-FD-S003-01152025	Total/NA	Solid	1633 Shake	
320-118378-33 - DL	JTA-002-FD-S003-01152025	Total/NA	Solid	1633 Shake	
MB 320-828864/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-828864/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-828864/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-828864/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 829242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-40	EB-01152025	Total/NA	Water	1633	828744
320-118378-41	HDW01152025	Total/NA	Water	1633	828744
320-118378-42	FB-01152025	Total/NA	Water	1633	828744
MB 320-828744/1-A	Method Blank	Total/NA	Water	1633	828744
LCS 320-828744/3-A	Lab Control Sample	Total/NA	Water	1633	828744
LCSD 320-828744/4-A	Lab Control Sample Dup	Total/NA	Water	1633	828744
LLCS 320-828744/2-A	Lab Control Sample	Total/NA	Water	1633	828744

Analysis Batch: 829312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-2	LTA-001-N-S001-01152025	Total/NA	Solid	1633	828864
320-118378-3	LTA-001-N-S003-01152025	Total/NA	Solid	1633	828864
320-118378-9	LTA-002-N-S001-01152025	Total/NA	Solid	1633	828864
320-118378-10	LTA-002-N-S003-01152025	Total/NA	Solid	1633	828864
320-118378-14	LTA-003-N-S001-01152025	Total/NA	Solid	1633	828864
320-118378-15	LTA-003-N-S003-01152025	Total/NA	Solid	1633	828864
320-118378-20	LTA-003-FD-S001-01152025	Total/NA	Solid	1633	828864
320-118378-22	JTA-001-N-S001-01152025	Total/NA	Solid	1633	828864
320-118378-23	JTA-001-N-S003-01152025	Total/NA	Solid	1633	828864
320-118378-31	JTA-002-N-S001-01152025	Total/NA	Solid	1633	828864

LCMS (Continued)

Analysis Batch: 829312 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-32	JTA-002-N-S003-01152025	Total/NA	Solid	1633	828864
320-118378-33	JTA-002-FD-S003-01152025	Total/NA	Solid	1633	828864
MB 320-828864/1-A	Method Blank	Total/NA	Solid	1633	828864
LCS 320-828864/3-A	Lab Control Sample	Total/NA	Solid	1633	828864
LCSD 320-828864/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	828864
LLCS 320-828864/2-A	Lab Control Sample	Total/NA	Solid	1633	828864

Analysis Batch: 829846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-32 - DL	JTA-002-N-S003-01152025	Total/NA	Solid	1633	828864
320-118378-33 - DL	JTA-002-FD-S003-01152025	Total/NA	Solid	1633	828864

General Chemistry

Analysis Batch: 828652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118378-2	LTA-001-N-S001-01152025	Total/NA	Solid	1633	
320-118378-3	LTA-001-N-S003-01152025	Total/NA	Solid	1633	
320-118378-9	LTA-002-N-S001-01152025	Total/NA	Solid	1633	
320-118378-10	LTA-002-N-S003-01152025	Total/NA	Solid	1633	
320-118378-14	LTA-003-N-S001-01152025	Total/NA	Solid	1633	
320-118378-15	LTA-003-N-S003-01152025	Total/NA	Solid	1633	
320-118378-20	LTA-003-FD-S001-01152025	Total/NA	Solid	1633	
320-118378-22	JTA-001-N-S001-01152025	Total/NA	Solid	1633	
320-118378-23	JTA-001-N-S003-01152025	Total/NA	Solid	1633	
320-118378-31	JTA-002-N-S001-01152025	Total/NA	Solid	1633	
320-118378-32	JTA-002-N-S003-01152025	Total/NA	Solid	1633	
320-118378-33	JTA-002-FD-S003-01152025	Total/NA	Solid	1633	

Client Sample ID: LTA-001-N-S001-01152025
Lab Sample ID: 320-118378-2
Date Collected: 01/15/25 08:10
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828652	01/21/25 12:29	CFR	EET SAC

Client Sample ID: LTA-001-N-S001-01152025
Lab Sample ID: 320-118378-2
Date Collected: 01/15/25 08:10
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 84.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.47 g	5.0 mL	828864	01/22/25 11:53	ATB	EET SAC
Total/NA	Analysis	1633		1			829312	01/24/25 13:50	VPM	EET SAC

Client Sample ID: LTA-001-N-S003-01152025
Lab Sample ID: 320-118378-3
Date Collected: 01/15/25 08:15
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828652	01/21/25 12:29	CFR	EET SAC

Client Sample ID: LTA-001-N-S003-01152025
Lab Sample ID: 320-118378-3
Date Collected: 01/15/25 08:15
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 79.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.515 g	5.0 mL	828864	01/22/25 11:53	ATB	EET SAC
Total/NA	Analysis	1633		1			829312	01/24/25 14:06	VPM	EET SAC

Client Sample ID: LTA-002-N-S001-01152025
Lab Sample ID: 320-118378-9
Date Collected: 01/15/25 09:25
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828652	01/21/25 12:29	CFR	EET SAC

Client Sample ID: LTA-002-N-S001-01152025
Lab Sample ID: 320-118378-9
Date Collected: 01/15/25 09:25
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 84.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.41 g	5.0 mL	828864	01/22/25 11:53	ATB	EET SAC
Total/NA	Analysis	1633		1			829312	01/24/25 14:23	VPM	EET SAC

Client Sample ID: LTA-002-N-S003-01152025
Lab Sample ID: 320-118378-10
Date Collected: 01/15/25 09:30
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828652	01/21/25 12:29	CFR	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-1

Client Sample ID: LTA-002-N-S003-01152025
Lab Sample ID: 320-118378-10
Date Collected: 01/15/25 09:30
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 93.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.22 g	5.0 mL	828864	01/22/25 11:53	ATB	EET SAC
Total/NA	Analysis	1633		1			829312	01/24/25 14:39	VPM	EET SAC

Client Sample ID: LTA-003-N-S001-01152025
Lab Sample ID: 320-118378-14
Date Collected: 01/15/25 10:05
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828652	01/21/25 12:29	CFR	EET SAC

Client Sample ID: LTA-003-N-S001-01152025
Lab Sample ID: 320-118378-14
Date Collected: 01/15/25 10:05
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 68.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.89 g	5.0 mL	828864	01/22/25 11:53	ATB	EET SAC
Total/NA	Analysis	1633		1			829312	01/24/25 14:56	VPM	EET SAC

Client Sample ID: LTA-003-N-S003-01152025
Lab Sample ID: 320-118378-15
Date Collected: 01/15/25 10:10
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828652	01/21/25 12:29	CFR	EET SAC

Client Sample ID: LTA-003-N-S003-01152025
Lab Sample ID: 320-118378-15
Date Collected: 01/15/25 10:10
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 86.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.34 g	5.0 mL	828864	01/22/25 11:53	ATB	EET SAC
Total/NA	Analysis	1633		1			829312	01/24/25 15:12	VPM	EET SAC

Client Sample ID: LTA-003-FD-S001-01152025
Lab Sample ID: 320-118378-20
Date Collected: 01/15/25 10:30
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828652	01/21/25 12:29	CFR	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-1

Client Sample ID: LTA-003-FD-S001-01152025
Lab Sample ID: 320-118378-20
Date Collected: 01/15/25 10:30
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 72.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.79 g	5.0 mL	828864	01/22/25 11:53	ATB	EET SAC
Total/NA	Analysis	1633		1			829312	01/24/25 15:28	VPM	EET SAC

Client Sample ID: JTA-001-N-S001-01152025
Lab Sample ID: 320-118378-22
Date Collected: 01/15/25 15:05
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828652	01/21/25 12:29	CFR	EET SAC

Client Sample ID: JTA-001-N-S001-01152025
Lab Sample ID: 320-118378-22
Date Collected: 01/15/25 15:05
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 94.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.03 g	5.0 mL	828864	01/22/25 11:53	ATB	EET SAC
Total/NA	Analysis	1633		1			829312	01/24/25 15:45	VPM	EET SAC

Client Sample ID: JTA-001-N-S003-01152025
Lab Sample ID: 320-118378-23
Date Collected: 01/15/25 15:10
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828652	01/21/25 12:29	CFR	EET SAC

Client Sample ID: JTA-001-N-S003-01152025
Lab Sample ID: 320-118378-23
Date Collected: 01/15/25 15:10
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 91.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.21 g	5.0 mL	828864	01/22/25 11:53	ATB	EET SAC
Total/NA	Analysis	1633		1			829312	01/24/25 16:34	VPM	EET SAC

Client Sample ID: JTA-002-N-S001-01152025
Lab Sample ID: 320-118378-31
Date Collected: 01/15/25 16:00
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828652	01/21/25 12:29	CFR	EET SAC

Client Sample ID: JTA-002-N-S001-01152025
Lab Sample ID: 320-118378-31
Date Collected: 01/15/25 16:00
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 91.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.15 g	5.0 mL	828864	01/22/25 11:53	ATB	EET SAC
Total/NA	Analysis	1633		1			829312	01/24/25 16:50	VPM	EET SAC

Client Sample ID: JTA-002-N-S003-01152025
Lab Sample ID: 320-118378-32
Date Collected: 01/15/25 16:05
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828652	01/21/25 12:29	CFR	EET SAC

Client Sample ID: JTA-002-N-S003-01152025
Lab Sample ID: 320-118378-32
Date Collected: 01/15/25 16:05
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 90.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.22 g	5.0 mL	828864	01/22/25 11:53	ATB	EET SAC
Total/NA	Analysis	1633		1			829312	01/24/25 17:07	VPM	EET SAC
Total/NA	Prep	1633 Shake	DL		2.22 g	5.0 mL	828864	01/22/25 11:53	ATB	EET SAC
Total/NA	Analysis	1633	DL	10			829846	01/28/25 08:51	S1M	EET SAC

Client Sample ID: JTA-002-FD-S003-01152025
Lab Sample ID: 320-118378-33
Date Collected: 01/15/25 16:35
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828652	01/21/25 12:29	CFR	EET SAC

Client Sample ID: JTA-002-FD-S003-01152025
Lab Sample ID: 320-118378-33
Date Collected: 01/15/25 16:35
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 89.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.12 g	5.0 mL	828864	01/22/25 11:53	ATB	EET SAC
Total/NA	Analysis	1633		1			829312	01/24/25 17:23	VPM	EET SAC
Total/NA	Prep	1633 Shake	DL		2.12 g	5.0 mL	828864	01/22/25 11:53	ATB	EET SAC
Total/NA	Analysis	1633	DL	10			829846	01/28/25 09:07	S1M	EET SAC

Client Sample ID: EB-01152025
Lab Sample ID: 320-118378-40
Date Collected: 01/15/25 10:00
Matrix: Water
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			159.1 mL	5.0 mL	828744	01/22/25 04:00	RMF	EET SAC
Total/NA	Analysis	1633		1			829242	01/23/25 17:04	RS1	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118378-1
Project/Site: Spokane International Airport

Client Sample ID: HDW01152025
Lab Sample ID: 320-118378-41
Date Collected: 01/15/25 15:20
Matrix: Water
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			165.2 mL	5.0 mL	828744	01/22/25 04:00	RMF	EET SAC
Total/NA	Analysis	1633		1			829242	01/23/25 17:21	RS1	EET SAC

Client Sample ID: FB-01152025
Lab Sample ID: 320-118378-42
Date Collected: 01/15/25 00:00
Matrix: Water
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			167.9 mL	5.0 mL	828744	01/22/25 04:00	RMF	EET SAC
Total/NA	Analysis	1633		1			829242	01/23/25 17:37	RS1	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118378-1
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-1

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633	Solid-Phase Extraction (SPE)	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118378-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118378-2	LTA-001-N-S001-01152025	Solid	01/15/25 08:10	01/18/25 09:00
320-118378-3	LTA-001-N-S003-01152025	Solid	01/15/25 08:15	01/18/25 09:00
320-118378-9	LTA-002-N-S001-01152025	Solid	01/15/25 09:25	01/18/25 09:00
320-118378-10	LTA-002-N-S003-01152025	Solid	01/15/25 09:30	01/18/25 09:00
320-118378-14	LTA-003-N-S001-01152025	Solid	01/15/25 10:05	01/18/25 09:00
320-118378-15	LTA-003-N-S003-01152025	Solid	01/15/25 10:10	01/18/25 09:00
320-118378-20	LTA-003-FD-S001-01152025	Solid	01/15/25 10:30	01/18/25 09:00
320-118378-22	JTA-001-N-S001-01152025	Solid	01/15/25 15:05	01/18/25 09:00
320-118378-23	JTA-001-N-S003-01152025	Solid	01/15/25 15:10	01/18/25 09:00
320-118378-31	JTA-002-N-S001-01152025	Solid	01/15/25 16:00	01/18/25 09:00
320-118378-32	JTA-002-N-S003-01152025	Solid	01/15/25 16:05	01/18/25 09:00
320-118378-33	JTA-002-FD-S003-01152025	Solid	01/15/25 16:35	01/18/25 09:00
320-118378-40	EB-01152025	Water	01/15/25 10:00	01/18/25 09:00
320-118378-41	HDW01152025	Water	01/15/25 15:20	01/18/25 09:00
320-118378-42	FB-01152025	Water	01/15/25 00:00	01/18/25 09:00

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-002
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 880 Riverside Parkway W.Sac. CA 95605
CONTACT Afsaneh Salimpour

DELIVERY DATE 1/16/2025
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	HOLD	Number of Containers
LTA-001-N-S000-01152025	1/15/2025	8:05	Soil		X	3
LTA-001-N-S001-01152025	1/15/2025	8.10	Soil	X		3
LTA-001-N-S003-01152025	1/15/2025	8.15	Soil	X		3
LTA-001-N-S006-01152025	1/15/2025	8:20	Soil		X	3
LTA-001-N-S010-01152025	1/15/2025	8:25	Soil		X	3
LTA-001-N-S012-01152025	1/15/2025	8:30	Soil		X	3
LTA-001-FD-S012-01152025	1/15/2025	9:00	Soil		X	3
LTA-002-N-S000-01152025	1/15/2025	9:20	Soil		X	3
LTA-002-N-S001-01152025	1/15/2025	9:25	Soil	X	X	3
LTA-002-N-S003-01152025	1/15/2025	9:30	Soil	X		3

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118378 Chain of Custody

3.7, 5.8 ccw VPeck

Sampled and Relinquished by	Received by
Sign	Sign
Print Luke Peden	Print Macky Morris
Firm Haley & Aldrich	Firm EEC SPO
Date 1/16/25 Time 13 50	Date 1/16/25 1330
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Adam Medeiros
Firm EEC SPO	Firm Eurofins
Date 1/17/25 Time 1514	Date 1/18/25 0940
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.
_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
_____ This Chain of Custody Record (specify) _____includes _____does not include samples defined as Drinking Water Samples.
_____
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory

Form 3003

November 2024

2.4

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-002
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS
CONTACT

DELIVERY DATE 1/16/2025
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content								HOLD	Number of Containers
LTA-002-N-S006-01152025	1/15/2025	9:35	Soil												X	3
LTA-002-N-S010-01152025	1/15/2025	9:40	Soil												X	3
LTA-003-N-S000-01152025	1/15/2025	10:00	Soil												X	3
LTA-003-N-S001-01152025	1/15/2025	10:05	Soil	X												3
LTA-003-N-S003-01152025	1/15/2025	10:10	Soil	X												3
LTA-003-N-S006-01152025	1/15/2025	10:15	Soil												X	3
LTA-003-N-S010-01152025	1/15/2025	10:20	Soil												X	3
LTA-003-N-S015-01152025	1/15/2025	10:25	Soil												X	3
LTA-003-N-S017-01152025	1/15/2025	10:30	Soil												X	3
LTA-003-FD-S001-01152025	1/15/2025	10:30	Soil	X												3

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

3.7+5.8 con IR006

Sampled and Relinquished by	Received by
Sign	Sign
Print Luke Pilon	Print Macky Moore
Firm H&A	Firm EEESPO
Date 1/16/25 Time 13 37	Date 1/16/25 1330
Relinquished by	**Received by**
Sign	Sign
Print Macky Moore	Print Kevin Mickelson
Firm EEESPO	Firm Eurofins
Date 1/17/25 Time 1515	Date 1/18/25 0940
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

Form 3003 WHITE - Laboratory CANARY Project Manager PINK - Haley & Aldrich Laboratory November 2024

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-002
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS
CONTACT

DELIVERY DATE 1/16/2025
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
JTA-001-N-S000-01152025	1/15/2025	15:00	Soil					X	3
JTA-001-N-S001-01152025	1/15/2025	15:05	Soil	X					3
JTA-001-N-S003-01152025	1/15/2025	15 10	Soil	X					3
JTA-001-N-S006-01152025	1/15/2025	15 15	Soil					X	3
JTA-001-N-S010-01152025	1/15/2025	15:20	Soil					X	3
JTA-001-N-S015-01152025	1/15/2025	15:25	Soil					X	3
JTA-001-N-S020-01152025	1/15/2025	15.30	Soil					X	3
JTA-001-N-S023-01152025	1/15/2025	15.35	Soil					X	3
JTA-001-FD-S006-01152025	1/15/2025	15:45	Soil					X	3
JTA-002-N-S000-01152025	1/15/2025	15:55	Soil					X	3

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

3.7.5.8 COM 1P0004

Sampled and Relinquished by	Received by
Sign	Sign
Print Luke Tiden	Print Macky Morris
Firm H&A	Firm EEC&P
Date 1/16/25 Time 3:30	Date 1/16/25 1330
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Ryan Mahoney
Firm EEC&P	Firm EEC&P
Date 1/17/25 Time 1615	Date 1/18/25 0900
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.
_____
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

Form 3003

WHITE Laboratory CANARY - Project Manager PINK Haley & Aldrich Laboratory

November 2024

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-002
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 800 Riverside Parkway, West Sacramento CA. 95605
CONTACT

DELIVERY DATE 1/16/2025
TURNAROUND TIME 5 -day Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content							HOLD	Number of Containers
JTA-002-N-S001-01152025	1/15/2025	16:00	Soil	X											3
JTA-002-N-S003-01152025	1/15/2025	16:05	Soil	X											3
JTA-002-FD-S003-01152025	1/15/2025	16:35	Soil	X											3
JTA-002-N-S006-01152025	1/15/2025	16:10	Soil											X	3
JTA-002-N-S010-01152025	1/15/2025	16:15	Soil											X	3
JTA-002-N-S015-01152025	1/15/2025	16:20	Soil											X	3
JTA-002-N-S020-01152025	1/15/2025	16:25	Soil											X	3
JTA-002-N-S025-01152025	1/15/2025	16:28	Soil											X	3
JTA-002-N-S030-01152025	1/15/2025	16:30	Soil											X	3

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

3.7 & 5.8 con IR006

Sampled and Relinquished by	Received by
Sign	Sign
Print Luke Pisan	Print Macky Morris
Firm HJA	Firm ERS GSO
Date 1/16/25 Time 13	Date 1/16/25 1330
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print
Firm ERS GSO	Firm
Date 1/17/25 Time 1515	Date
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
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_____
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

Form 3003 WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory November 2024

24

1/29/2025

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-002
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS
CONTACT

DELIVERY DATE 1/16/2025
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
EB-01152025	1/15/2025	10 00	Water	X					3
HDW01152025	1/15/2025	15:20	Water	X					3
FB-01152025	1/15/2025	0·00	Water	X					1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

3.7, 5.8 ice Received

Sampled and Relinquished by	Received by
Sign	Sign
Print Luke Tiden	Print Macky Morris
Firm HgA	Firm EE 8820
Date 1/16/25 Time 3 3c	Date 1/16/25 1330
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Kevin Richardson
Firm EE 8820	Firm EE 8820
Date 1/17/25 Time 1515	Date 1/18/25 0900
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID		SOLID	
	VOA Vial		VOA Vial
	Amber Glass		Amber Glass
	Plastic Bottle		Clear Glass
	Preservative		Preservative
	Volume		Volume

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

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_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

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Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118378

Tracking # 4242 5693 0007

Job _____

SO / PO / FO / (SAT) / 2-Day / Ground / UPS / CDO / Courier

GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm. ID: 412 Corr Factor (+/-) _____ °C

Ice ✓ Wet _____ Gel _____ Other _____

Cooler Custody Seal: 2287490

Cooler ID 1 of 2

Temp Observed 2.4 °C Corrected: 2.4 °C

From: Temp Blank ☐ Sandwich ☒ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☒	☐
Cooler Temperature is acceptable?	☒	☐	☐
Frozen samples show signs of thaw?	☐	☐	☒

Initials JM Date 1/18/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☒	☐	☐
Samples compromised/tampered with?	☐	☒	☐
COC is complete w/o discrepancies	☒	☐	☐
Sample custody seal?	☐	☐	☒
Sample containers have legible labels?	☒	☐	☐
Sample date/times are provided?	☒	☐	☐
Appropriate containers are used?	☒	☐	☐
Sample bottles are completely filled?	☒	☐	☐
Sample preservatives verified?	☐	☐	☒
Is the Field Sampler's name on COC?	☒	☐	☐
Samples w/o discrepancies?	☒	☐	☐
Zero headspace?* SD 1/20/25	☐	☐	☒
Alkalinity has no headspace?	☐	☐	☒
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☒
Multiphasic samples are not present?	☒	☐	☐

Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials SD Date 1/20/25

Notes: 10
(7) ends - 011525

Trizma Lot #(s) _____

Ammonium
Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☒	☐	☐
NCM Filed?	☒	☐	☐
Samples received within hold time?	☒	☐	☐
Log Release checked in TALS?	☒	☐	☐

Initials SD Date 1/20/25

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 1/29/2025 3:30:26 PM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118376-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

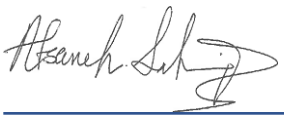
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118376-1
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
*3	ISTD response or retention time outside acceptable limits.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-118376-1

Receipt
The samples were received on 1/18/2025 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.3º C.

LCMS
Method 1633: Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: EA-MW-7B-N-01172025 (320-118376-5) and (CCB 320-829454/31). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 1633: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-828462 and analytical batch 320-829454 recovered outside control limits for the following analytes: 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) and 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS).

Method 1633: The continuing calibration verification (CCV) associated with batch 320-829454 recovered above the upper control limit for isotope dilution analyte (IDA) 13C2 6:2 FTS. The associated target analytes, 1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS), were within control limits in the CCV; therefore, the data is reported: FB-01172025 (320-118376-1), GCF-MW-8-N-01172025 (320-118376-2), GCF-MW-8-FD-01172025 (320-118376-3), EB-01172025 (320-118376-4), EA-MW-7B-N-01172025 (320-118376-5), EA-MW-7A-N-01172025 (320-118376-6), GCF-MW-10-N-01172025 (320-118376-7) and (CCV 320-829454/18).

Method 1633: The low level continuing calibration verification (CCVL) associated with batch 320-829454 recovered above the upper control limit for isotope dilution analyte (IDA) 13C2 PFDoA. The associated target analytes, Perfluorododecanoic acid (PFDoA) and Perfluorotridecanoic acid (PFTrDA), were within control limits in the CCV; therefore, the data is reported: FB-01172025 (320-118376-1), GCF-MW-8-N-01172025 (320-118376-2), GCF-MW-8-FD-01172025 (320-118376-3), EB-01172025 (320-118376-4), EA-MW-7B-N-01172025 (320-118376-5), EA-MW-7A-N-01172025 (320-118376-6), GCF-MW-10-N-01172025 (320-118376-7) and (CCVL 320-829454/4).

Method 1633: The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. The associated analytes have been flagged: GCF-MW-8-N-01172025 (320-118376-2) and GCF-MW-8-FD-01172025 (320-118376-3).

Method 1633: Results for sample EA-MW-7B-N-01172025 (320-118376-5) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 1633: The following samples in preparation batch 320-828462 were observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction: GCF-MW-8-N-01172025 (320-118376-2) and GCF-MW-8-FD-01172025 (320-118376-3).

Method 1633: The following sample in preparation batch 320-828462 was light yellow in color following extraction: GCF-MW-10-N-01172025 (320-118376-7).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118376-1

Client Sample ID: FB-01172025 — Lab Sample ID: 320-118376-1

No Detections.

Client Sample ID: GCF-MW-8-N-01172025 — Lab Sample ID: 320-118376-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.96	J	3.4	0.86	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.78	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.63	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	1.8		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.3	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.5		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.5	I	1.7	0.43	ng/L	1		1633	Total/NA

Client Sample ID: GCF-MW-8-FD-01172025 — Lab Sample ID: 320-118376-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.98	J	3.4	0.86	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.98	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.69	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	1.5	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.5	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.5		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.6	I	1.7	0.43	ng/L	1		1633	Total/NA

Client Sample ID: EB-01172025 — Lab Sample ID: 320-118376-4

No Detections.

Client Sample ID: EA-MW-7B-N-01172025 — Lab Sample ID: 320-118376-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	23		3.7	0.93	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	40		1.9	0.47	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	160		1.9	0.47	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	14		1.9	0.47	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	200		1.9	0.47	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	3.9		1.9	0.47	ng/L	1		1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.78	J	1.9	0.47	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	60		1.9	0.47	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	52		1.9	0.47	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	830		37	9.3	ng/L	20		1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	32		1.9	0.47	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5300		37	9.3	ng/L	20		1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	2.0		1.9	0.47	ng/L	1		1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	12		1.9	0.47	ng/L	1		1633	Total/NA

Client Sample ID: EA-MW-7A-N-01172025 — Lab Sample ID: 320-118376-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	1.1	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.7		1.7	0.42	ng/L	1		1633	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118376-1

Client Sample ID: GCF-MW-10-N-01172025

Lab Sample ID: 320-118376-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	5.9		3.4	0.84	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	2.7		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	2.9		1.7	0.42	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.2	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	3.0		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	7.9		1.7	0.42	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.91	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.8		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.71	J	1.7	0.42	ng/L	1		1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118376-1

Client Sample ID: FB-01172025
Date Collected: 01/17/25 00:00
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118376-1
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.0	0.76	ng/L		01/21/25 04:13	01/25/25 06:48	1
Perfluoropentanoic acid (PFPeA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:48	1
Perfluorohexanoic acid (PFHxA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:48	1
Perfluoroheptanoic acid (PFHpA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:48	1
Perfluorooctanoic acid (PFOA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:48	1
Perfluorononanoic acid (PFNA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:48	1
Perfluorodecanoic acid (PFDA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:48	1
Perfluoroundecanoic acid (PFUnA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:48	1
Perfluorododecanoic acid (PFDoA)	ND		1.5	0.42	ng/L		01/21/25 04:13	01/25/25 06:48	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.5	0.44	ng/L		01/21/25 04:13	01/25/25 06:48	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:48	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:48	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:48	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:48	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:48	1
Perfluorononanesulfonic acid (PFNS)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:48	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:48	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.5	0.40	ng/L		01/21/25 04:13	01/25/25 06:48	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.0	0.76	ng/L		01/21/25 04:13	01/25/25 06:48	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.0	0.76	ng/L		01/21/25 04:13	01/25/25 06:48	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.0	0.76	ng/L		01/21/25 04:13	01/25/25 06:48	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:48	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:48	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:48	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:48	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:48	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		7.6	1.9	ng/L		01/21/25 04:13	01/25/25 06:48	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		7.6	1.9	ng/L		01/21/25 04:13	01/25/25 06:48	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.1	0.30	ng/L		01/21/25 04:13	01/25/25 06:48	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:48	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:48	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:48	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.5	0.55	ng/L		01/21/25 04:13	01/25/25 06:48	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	*1	1.5	0.44	ng/L		01/21/25 04:13	01/25/25 06:48	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	*1	1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:48	1

Client Sample ID: FB-01172025

Lab Sample ID: 320-118376-1

Date Collected: 01/17/25 00:00

Matrix: Water

Date Received: 01/18/25 09:00

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:48	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.0	0.76	ng/L		01/21/25 04:13	01/25/25 06:48	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		7.6	1.9	ng/L		01/21/25 04:13	01/25/25 06:48	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		7.6	1.9	ng/L		01/21/25 04:13	01/25/25 06:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*109*		*5 - 130*	*01/21/25 04:13*	*01/25/25 06:48*	*1*
13C5 PFPeA	*94.9*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:48*	*1*
13C5 PFHxA	*101*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:48*	*1*
13C4 PFHpA	*107*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:48*	*1*
13C8 PFOA	*89.8*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:48*	*1*
13C9 PFNA	*83.4*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:48*	*1*
13C6 PFDA	*88.3*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:48*	*1*
13C7 PFUnA	*70.1*		*30 - 130*	*01/21/25 04:13*	*01/25/25 06:48*	*1*
13C2 PFDoA	*88.3*		*10 - 130*	*01/21/25 04:13*	*01/25/25 06:48*	*1*
13C2 PFTeDA	*63.9*		*10 - 130*	*01/21/25 04:13*	*01/25/25 06:48*	*1*
13C3 PFBS	*89.5*		*40 - 135*	*01/21/25 04:13*	*01/25/25 06:48*	*1*
13C3 PFHxS	*105*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:48*	*1*
13C8 PFOS	*103*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:48*	*1*
13C8 FOSA	*92.7*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:48*	*1*
d3-NMeFOSAA	*114*		*40 - 170*	*01/21/25 04:13*	*01/25/25 06:48*	*1*
d5-NEtFOSAA	*105*		*25 - 135*	*01/21/25 04:13*	*01/25/25 06:48*	*1*
13C2 4:2 FTS	*110*		*40 - 200*	*01/21/25 04:13*	*01/25/25 06:48*	*1*
13C2 6:2 FTS	*119*		*40 - 200*	*01/21/25 04:13*	*01/25/25 06:48*	*1*
13C2 8:2 FTS	*92.7*		*40 - 300*	*01/21/25 04:13*	*01/25/25 06:48*	*1*
13C3 HFPO-DA	*89.7*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:48*	*1*
d7-N-MeFOSE-M	*97.5*		*10 - 130*	*01/21/25 04:13*	*01/25/25 06:48*	*1*
d9-N-EtFOSE-M	*101*		*10 - 130*	*01/21/25 04:13*	*01/25/25 06:48*	*1*
d5-NEtPFOSA	*89.2*		*10 - 130*	*01/21/25 04:13*	*01/25/25 06:48*	*1*
d3-NMePFOSA	*91.3*		*10 - 130*	*01/21/25 04:13*	*01/25/25 06:48*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA)	ND		1.5	0.62	ng/L		01/21/25 04:13	01/27/25 16:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFTeDA	*72.1*		*10 - 130*	*01/21/25 04:13*	*01/27/25 16:35*	*1*

Client Sample ID: GCF-MW-8-N-01172025

Lab Sample ID: 320-118376-2

Date Collected: 01/17/25 08:55

Matrix: Water

Date Received: 01/18/25 09:00

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.96**	**J**	3.4	0.86	ng/L		01/21/25 04:13	01/25/25 07:04	1
Perfluoropentanoic acid (PFPeA)	**0.78**	**J**	1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:04	1
Perfluorohexanoic acid (PFHxA)	**0.63**	**J**	1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:04	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:04	1
Perfluorooctanoic acid (PFOA)	**1.8**		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:04	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118376-1

Client Sample ID: GCF-MW-8-N-01172025
Date Collected: 01/17/25 08:55
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118376-2
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:04	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:04	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:04	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		01/21/25 04:13	01/25/25 07:04	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.50	ng/L		01/21/25 04:13	01/25/25 07:04	1
Perfluorobutanesulfonic acid (PFBS)	**1.3**	**J**	1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:04	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:04	1
Perfluorohexanesulfonic acid (PFHxS)	**2.5**		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:04	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:04	1
Perfluorooctanesulfonic acid (PFOS)	**2.5**	**I**	1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:04	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:04	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:04	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.46	ng/L		01/21/25 04:13	01/25/25 07:04	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.4	0.86	ng/L		01/21/25 04:13	01/25/25 07:04	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.4	0.86	ng/L		01/21/25 04:13	01/25/25 07:04	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.4	0.86	ng/L		01/21/25 04:13	01/25/25 07:04	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:04	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:04	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:04	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:04	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:04	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.6	2.1	ng/L		01/21/25 04:13	01/25/25 07:04	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.6	2.1	ng/L		01/21/25 04:13	01/25/25 07:04	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/21/25 04:13	01/25/25 07:04	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:04	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:04	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:04	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.62	ng/L		01/21/25 04:13	01/25/25 07:04	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	*1	1.7	0.50	ng/L		01/21/25 04:13	01/25/25 07:04	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	*1	1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:04	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:04	1

Client Sample ID: GCF-MW-8-N-01172025

Lab Sample ID: 320-118376-2

Date Collected: 01/17/25 08:55
Matrix: Water
Date Received: 01/18/25 09:00

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.4	0.86	ng/L		01/21/25 04:13	01/25/25 07:04	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.6	2.1	ng/L		01/21/25 04:13	01/25/25 07:04	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.6	2.1	ng/L		01/21/25 04:13	01/25/25 07:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*115*		*5 - 130*	*01/21/25 04:13*	*01/25/25 07:04*	*1*
13C5 PFPeA	*90.6*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:04*	*1*
13C5 PFHxA	*103*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:04*	*1*
13C4 PFHpA	*84.9*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:04*	*1*
13C8 PFOA	*110*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:04*	*1*
13C9 PFNA	*90.8*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:04*	*1*
13C6 PFDA	*87.5*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:04*	*1*
13C7 PFUnA	*92.9*		*30 - 130*	*01/21/25 04:13*	*01/25/25 07:04*	*1*
13C2 PFDoA	*101*		*10 - 130*	*01/21/25 04:13*	*01/25/25 07:04*	*1*
13C2 PFTeDA	*86.5*		*10 - 130*	*01/21/25 04:13*	*01/25/25 07:04*	*1*
13C3 PFBS	*111*		*40 - 135*	*01/21/25 04:13*	*01/25/25 07:04*	*1*
13C3 PFHxS	*106*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:04*	*1*
13C8 PFOS	*92.3*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:04*	*1*
13C8 FOSA	*85.5*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:04*	*1*
d3-NMeFOSAA	*106*		*40 - 170*	*01/21/25 04:13*	*01/25/25 07:04*	*1*
d5-NEtFOSAA	*96.6*		*25 - 135*	*01/21/25 04:13*	*01/25/25 07:04*	*1*
13C2 4:2 FTS	*106*		*40 - 200*	*01/21/25 04:13*	*01/25/25 07:04*	*1*
13C2 6:2 FTS	*147*		*40 - 200*	*01/21/25 04:13*	*01/25/25 07:04*	*1*
13C2 8:2 FTS	*105*		*40 - 300*	*01/21/25 04:13*	*01/25/25 07:04*	*1*
13C3 HFPO-DA	*83.4*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:04*	*1*
d7-N-MeFOSE-M	*85.5*		*10 - 130*	*01/21/25 04:13*	*01/25/25 07:04*	*1*
d9-N-EtFOSE-M	*85.2*		*10 - 130*	*01/21/25 04:13*	*01/25/25 07:04*	*1*
d5-NEtPFOSA	*80.9*		*10 - 130*	*01/21/25 04:13*	*01/25/25 07:04*	*1*
d3-NMePFOSA	*82.8*		*10 - 130*	*01/21/25 04:13*	*01/25/25 07:04*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.70	ng/L		01/21/25 04:13	01/27/25 16:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFTeDA	*73.2*		*10 - 130*	*01/21/25 04:13*	*01/27/25 16:52*	*1*

Client Sample ID: GCF-MW-8-FD-01172025

Lab Sample ID: 320-118376-3

Date Collected: 01/17/25 09:25
Matrix: Water
Date Received: 01/18/25 09:00

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.98**	**J**	3.4	0.86	ng/L		01/21/25 04:13	01/25/25 07:21	1
Perfluoropentanoic acid (PFPeA)	**0.98**	**J**	1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:21	1
Perfluorohexanoic acid (PFHxA)	**0.69**	**J**	1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:21	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:21	1
Perfluorooctanoic acid (PFOA)	**1.5**	**J**	1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:21	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:21	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118376-1

Client Sample ID: GCF-MW-8-FD-01172025
Date Collected: 01/17/25 09:25
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118376-3
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanoic acid (PFDA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:21	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:21	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		01/21/25 04:13	01/25/25 07:21	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.50	ng/L		01/21/25 04:13	01/25/25 07:21	1
Perfluorobutanesulfonic acid (PFBS)	**1.5**	**J**	1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:21	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:21	1
Perfluorohexanesulfonic acid (PFHxS)	**2.5**		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:21	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:21	1
Perfluorooctanesulfonic acid (PFOS)	**2.6**	**I**	1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:21	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:21	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:21	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.45	ng/L		01/21/25 04:13	01/25/25 07:21	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.4	0.86	ng/L		01/21/25 04:13	01/25/25 07:21	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.4	0.86	ng/L		01/21/25 04:13	01/25/25 07:21	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.4	0.86	ng/L		01/21/25 04:13	01/25/25 07:21	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:21	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:21	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:21	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:21	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:21	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.6	2.1	ng/L		01/21/25 04:13	01/25/25 07:21	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.6	2.1	ng/L		01/21/25 04:13	01/25/25 07:21	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/21/25 04:13	01/25/25 07:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:21	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:21	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:21	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.62	ng/L		01/21/25 04:13	01/25/25 07:21	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	*1	1.7	0.50	ng/L		01/21/25 04:13	01/25/25 07:21	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	*1	1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:21	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.43	ng/L		01/21/25 04:13	01/25/25 07:21	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.4	0.86	ng/L		01/21/25 04:13	01/25/25 07:21	1

Client Sample ID: GCF-MW-8-FD-01172025

Lab Sample ID: 320-118376-3

Date Collected: 01/17/25 09:25
Matrix: Water
Date Received: 01/18/25 09:00

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.6	2.1	ng/L		01/21/25 04:13	01/25/25 07:21	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.6	2.1	ng/L		01/21/25 04:13	01/25/25 07:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*110*		*5 - 130*	*01/21/25 04:13*	*01/25/25 07:21*	*1*
13C5 PFPeA	*91.6*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:21*	*1*
13C5 PFHxA	*91.7*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:21*	*1*
13C4 PFHpA	*90.3*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:21*	*1*
13C8 PFOA	*109*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:21*	*1*
13C9 PFNA	*82.5*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:21*	*1*
13C6 PFDA	*83.8*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:21*	*1*
13C7 PFUnA	*84.5*		*30 - 130*	*01/21/25 04:13*	*01/25/25 07:21*	*1*
13C2 PFDoA	*104*		*10 - 130*	*01/21/25 04:13*	*01/25/25 07:21*	*1*
13C2 PFTeDA	*92.6*		*10 - 130*	*01/21/25 04:13*	*01/25/25 07:21*	*1*
13C3 PFBS	*107*		*40 - 135*	*01/21/25 04:13*	*01/25/25 07:21*	*1*
13C3 PFHxS	*106*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:21*	*1*
13C8 PFOS	*93.5*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:21*	*1*
13C8 FOSA	*81.5*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:21*	*1*
d3-NMeFOSAA	*97.8*		*40 - 170*	*01/21/25 04:13*	*01/25/25 07:21*	*1*
d5-NEtFOSAA	*93.7*		*25 - 135*	*01/21/25 04:13*	*01/25/25 07:21*	*1*
13C2 4:2 FTS	*119*		*40 - 200*	*01/21/25 04:13*	*01/25/25 07:21*	*1*
13C2 6:2 FTS	*115*		*40 - 200*	*01/21/25 04:13*	*01/25/25 07:21*	*1*
13C2 8:2 FTS	*111*		*40 - 300*	*01/21/25 04:13*	*01/25/25 07:21*	*1*
13C3 HFPO-DA	*83.4*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:21*	*1*
d7-N-MeFOSE-M	*78.9*		*10 - 130*	*01/21/25 04:13*	*01/25/25 07:21*	*1*
d9-N-EtFOSE-M	*84.9*		*10 - 130*	*01/21/25 04:13*	*01/25/25 07:21*	*1*
d5-NEtPFOSA	*75.5*		*10 - 130*	*01/21/25 04:13*	*01/25/25 07:21*	*1*
d3-NMePFOSA	*82.5*		*10 - 130*	*01/21/25 04:13*	*01/25/25 07:21*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.69	ng/L		01/21/25 04:13	01/27/25 17:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFTeDA	*59.0*		*10 - 130*	*01/21/25 04:13*	*01/27/25 17:08*	*1*

Client Sample ID: EB-01172025

Lab Sample ID: 320-118376-4

Date Collected: 01/17/25 09:45
Matrix: Water
Date Received: 01/18/25 09:00

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.5	0.88	ng/L		01/21/25 04:13	01/25/25 07:37	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.44	ng/L		01/21/25 04:13	01/25/25 07:37	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.44	ng/L		01/21/25 04:13	01/25/25 07:37	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.44	ng/L		01/21/25 04:13	01/25/25 07:37	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.44	ng/L		01/21/25 04:13	01/25/25 07:37	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.44	ng/L		01/21/25 04:13	01/25/25 07:37	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.44	ng/L		01/21/25 04:13	01/25/25 07:37	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.44	ng/L		01/21/25 04:13	01/25/25 07:37	1

Client Sample ID: EB-01172025
Date Collected: 01/17/25 09:45
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118376-4
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.48	ng/L		01/21/25 04:13	01/25/25 07:37	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.51	ng/L		01/21/25 04:13	01/25/25 07:37	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.44	ng/L		01/21/25 04:13	01/25/25 07:37	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.44	ng/L		01/21/25 04:13	01/25/25 07:37	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.44	ng/L		01/21/25 04:13	01/25/25 07:37	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.44	ng/L		01/21/25 04:13	01/25/25 07:37	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.44	ng/L		01/21/25 04:13	01/25/25 07:37	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.44	ng/L		01/21/25 04:13	01/25/25 07:37	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.44	ng/L		01/21/25 04:13	01/25/25 07:37	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.47	ng/L		01/21/25 04:13	01/25/25 07:37	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.5	0.88	ng/L		01/21/25 04:13	01/25/25 07:37	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.5	0.88	ng/L		01/21/25 04:13	01/25/25 07:37	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.5	0.88	ng/L		01/21/25 04:13	01/25/25 07:37	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.44	ng/L		01/21/25 04:13	01/25/25 07:37	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.8	0.44	ng/L		01/21/25 04:13	01/25/25 07:37	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.8	0.44	ng/L		01/21/25 04:13	01/25/25 07:37	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.8	0.44	ng/L		01/21/25 04:13	01/25/25 07:37	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.8	0.44	ng/L		01/21/25 04:13	01/25/25 07:37	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.8	2.2	ng/L		01/21/25 04:13	01/25/25 07:37	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.8	2.2	ng/L		01/21/25 04:13	01/25/25 07:37	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.34	ng/L		01/21/25 04:13	01/25/25 07:37	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.44	ng/L		01/21/25 04:13	01/25/25 07:37	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.8	0.44	ng/L		01/21/25 04:13	01/25/25 07:37	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.8	0.44	ng/L		01/21/25 04:13	01/25/25 07:37	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.8	0.63	ng/L		01/21/25 04:13	01/25/25 07:37	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	*1	1.8	0.51	ng/L		01/21/25 04:13	01/25/25 07:37	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	*1	1.8	0.44	ng/L		01/21/25 04:13	01/25/25 07:37	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.8	0.44	ng/L		01/21/25 04:13	01/25/25 07:37	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.5	0.88	ng/L		01/21/25 04:13	01/25/25 07:37	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.8	2.2	ng/L		01/21/25 04:13	01/25/25 07:37	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.8	2.2	ng/L		01/21/25 04:13	01/25/25 07:37	1

Client Sample ID: EB-01172025

Lab Sample ID: 320-118376-4

Date Collected: 01/17/25 09:45
Matrix: Water
Date Received: 01/18/25 09:00

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*113*		*5 - 130*	*01/21/25 04:13*	*01/25/25 07:37*	*1*
13C5 PFPeA	*94.7*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:37*	*1*
13C5 PFHxA	*102*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:37*	*1*
13C4 PFHpA	*97.4*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:37*	*1*
13C8 PFOA	*96.6*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:37*	*1*
13C9 PFNA	*105*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:37*	*1*
13C6 PFDA	*103*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:37*	*1*
13C7 PFUnA	*100*		*30 - 130*	*01/21/25 04:13*	*01/25/25 07:37*	*1*
13C2 PFDoA	*126*		*10 - 130*	*01/21/25 04:13*	*01/25/25 07:37*	*1*
13C2 PFTeDA	*121*		*10 - 130*	*01/21/25 04:13*	*01/25/25 07:37*	*1*
13C3 PFBS	*91.6*		*40 - 135*	*01/21/25 04:13*	*01/25/25 07:37*	*1*
13C3 PFHxS	*96.6*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:37*	*1*
13C8 PFOS	*88.8*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:37*	*1*
13C8 FOSA	*79.5*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:37*	*1*
d3-NMeFOSAA	*98.4*		*40 - 170*	*01/21/25 04:13*	*01/25/25 07:37*	*1*
d5-NEtFOSAA	*91.4*		*25 - 135*	*01/21/25 04:13*	*01/25/25 07:37*	*1*
13C2 4:2 FTS	*100*		*40 - 200*	*01/21/25 04:13*	*01/25/25 07:37*	*1*
13C2 6:2 FTS	*120*		*40 - 200*	*01/21/25 04:13*	*01/25/25 07:37*	*1*
13C2 8:2 FTS	*101*		*40 - 300*	*01/21/25 04:13*	*01/25/25 07:37*	*1*
13C3 HFPO-DA	*92.0*		*40 - 130*	*01/21/25 04:13*	*01/25/25 07:37*	*1*
d7-N-MeFOSE-M	*81.3*		*10 - 130*	*01/21/25 04:13*	*01/25/25 07:37*	*1*
d9-N-EtFOSE-M	*85.7*		*10 - 130*	*01/21/25 04:13*	*01/25/25 07:37*	*1*
d5-NEtPFOSA	*81.3*		*10 - 130*	*01/21/25 04:13*	*01/25/25 07:37*	*1*
d3-NMePFOSA	*79.8*		*10 - 130*	*01/21/25 04:13*	*01/25/25 07:37*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA)	ND		1.8	0.71	ng/L		01/21/25 04:13	01/27/25 17:25	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFTeDA	*71.3*		*10 - 130*	*01/21/25 04:13*	*01/27/25 17:25*	*1*

Client Sample ID: EA-MW-7B-N-01172025

Lab Sample ID: 320-118376-5

Date Collected: 01/17/25 09:10
Matrix: Water
Date Received: 01/18/25 09:00

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**23**		3.7	0.93	ng/L		01/21/25 04:13	01/25/25 08:26	1
Perfluoropentanoic acid (PFPeA)	**40**		1.9	0.47	ng/L		01/21/25 04:13	01/25/25 08:26	1
Perfluorohexanoic acid (PFHxA)	**160**		1.9	0.47	ng/L		01/21/25 04:13	01/25/25 08:26	1
Perfluoroheptanoic acid (PFHpA)	**14**		1.9	0.47	ng/L		01/21/25 04:13	01/25/25 08:26	1
Perfluorooctanoic acid (PFOA)	**200**		1.9	0.47	ng/L		01/21/25 04:13	01/25/25 08:26	1
Perfluorononanoic acid (PFNA)	**3.9**		1.9	0.47	ng/L		01/21/25 04:13	01/25/25 08:26	1
Perfluorodecanoic acid (PFDA)	**0.78**	**J**	1.9	0.47	ng/L		01/21/25 04:13	01/25/25 08:26	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	0.47	ng/L		01/21/25 04:13	01/25/25 08:26	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.51	ng/L		01/21/25 04:13	01/25/25 08:26	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	0.54	ng/L		01/21/25 04:13	01/25/25 08:26	1
Perfluorobutanesulfonic acid (PFBS)	**60**		1.9	0.47	ng/L		01/21/25 04:13	01/25/25 08:26	1
Perfluoropentanesulfonic acid (PFPeS)	**52**		1.9	0.47	ng/L		01/21/25 04:13	01/25/25 08:26	1

Client Sample ID: EA-MW-7B-N-01172025

Date Collected: 01/17/25 09:10
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118376-5

Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**830**		37	9.3	ng/L		01/21/25 04:13	01/29/25 12:08	20
Perfluoroheptanesulfonic acid (PFHpS)	**32**		1.9	0.47	ng/L		01/21/25 04:13	01/25/25 08:26	1
Perfluorooctanesulfonic acid (PFOS)	**5300**		37	9.3	ng/L		01/21/25 04:13	01/29/25 12:08	20
Perfluorononanesulfonic acid (PFNS)	**2.0**		1.9	0.47	ng/L		01/21/25 04:13	01/25/25 08:26	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.47	ng/L		01/21/25 04:13	01/25/25 08:26	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.49	ng/L		01/21/25 04:13	01/25/25 08:26	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.7	0.93	ng/L		01/21/25 04:13	01/25/25 08:26	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.7	0.93	ng/L		01/21/25 04:13	01/25/25 08:26	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.7	0.93	ng/L		01/21/25 04:13	01/25/25 08:26	1
Perfluorooctanesulfonamide (PFOSA)	**12**		1.9	0.47	ng/L		01/21/25 04:13	01/25/25 08:26	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.9	0.47	ng/L		01/21/25 04:13	01/25/25 08:26	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.9	0.47	ng/L		01/21/25 04:13	01/25/25 08:26	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.9	0.47	ng/L		01/21/25 04:13	01/25/25 08:26	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.9	0.47	ng/L		01/21/25 04:13	01/25/25 08:26	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		9.3	2.3	ng/L		01/21/25 04:13	01/25/25 08:26	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		9.3	2.3	ng/L		01/21/25 04:13	01/25/25 08:26	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.4	0.36	ng/L		01/21/25 04:13	01/25/25 08:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.47	ng/L		01/21/25 04:13	01/25/25 08:26	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.9	0.47	ng/L		01/21/25 04:13	01/25/25 08:26	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.9	0.47	ng/L		01/21/25 04:13	01/25/25 08:26	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	*1	1.9	0.54	ng/L		01/21/25 04:13	01/25/25 08:26	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	*1	1.9	0.47	ng/L		01/21/25 04:13	01/25/25 08:26	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.9	0.47	ng/L		01/21/25 04:13	01/25/25 08:26	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.7	0.93	ng/L		01/21/25 04:13	01/25/25 08:26	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		9.3	2.3	ng/L		01/21/25 04:13	01/25/25 08:26	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		9.3	2.3	ng/L		01/21/25 04:13	01/25/25 08:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*111*		*5 - 130*	*01/21/25 04:13*	*01/25/25 08:26*	*1*
13C5 PFPeA	*111*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:26*	*1*
13C5 PFHxA	*108*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:26*	*1*

Client Sample ID: EA-MW-7B-N-01172025
Lab Sample ID: 320-118376-5
Date Collected: 01/17/25 09:10
Matrix: Water
Date Received: 01/18/25 09:00

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFHpA	*124*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:26*	*1*
13C8 PFOA	*91.5*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:26*	*1*
13C9 PFNA	*76.9*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:26*	*1*
13C6 PFDA	*85.7*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:26*	*1*
13C7 PFUnA	*95.1*		*30 - 130*	*01/21/25 04:13*	*01/25/25 08:26*	*1*
13C2 PFDoA	*109*		*10 - 130*	*01/21/25 04:13*	*01/25/25 08:26*	*1*
13C2 PFTeDA	*92.6*		*10 - 130*	*01/21/25 04:13*	*01/25/25 08:26*	*1*
13C3 PFBS	*108*		*40 - 135*	*01/21/25 04:13*	*01/25/25 08:26*	*1*
13C3 PFHxS	*99.9*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:26*	*1*
13C3 PFHxS	*101*	**3*	*40 - 130*	*01/21/25 04:13*	*01/29/25 12:08*	*20*
13C8 PFOS	*99.7*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:26*	*1*
13C8 PFOS	*106*	**3*	*40 - 130*	*01/21/25 04:13*	*01/29/25 12:08*	*20*
13C8 FOSA	*134*	**5+*	*40 - 130*	*01/21/25 04:13*	*01/25/25 08:26*	*1*
d3-NMeFOSAA	*167*		*40 - 170*	*01/21/25 04:13*	*01/25/25 08:26*	*1*
d5-NEtFOSAA	*167*	**5+*	*25 - 135*	*01/21/25 04:13*	*01/25/25 08:26*	*1*
13C2 4:2 FTS	*117*		*40 - 200*	*01/21/25 04:13*	*01/25/25 08:26*	*1*
13C2 6:2 FTS	*135*		*40 - 200*	*01/21/25 04:13*	*01/25/25 08:26*	*1*
13C2 8:2 FTS	*133*		*40 - 300*	*01/21/25 04:13*	*01/25/25 08:26*	*1*
13C3 HFPO-DA	*103*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:26*	*1*
d7-N-MeFOSE-M	*129*		*10 - 130*	*01/21/25 04:13*	*01/25/25 08:26*	*1*
d9-N-EtFOSE-M	*128*		*10 - 130*	*01/21/25 04:13*	*01/25/25 08:26*	*1*
d5-NEtPFOSA	*123*		*10 - 130*	*01/21/25 04:13*	*01/25/25 08:26*	*1*
d3-NMePFOSA	*132*	**5+*	*10 - 130*	*01/21/25 04:13*	*01/25/25 08:26*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA)	ND		1.9	0.75	ng/L		01/21/25 04:13	01/27/25 21:32	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.9	0.67	ng/L		01/21/25 04:13	01/27/25 21:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFHxA	*105*		*40 - 130*	*01/21/25 04:13*	*01/27/25 21:32*	*1*
13C2 PFTeDA	*60.5*		*10 - 130*	*01/21/25 04:13*	*01/27/25 21:32*	*1*

Client Sample ID: EA-MW-7A-N-01172025
Lab Sample ID: 320-118376-6
Date Collected: 01/17/25 10:40
Matrix: Water
Date Received: 01/18/25 09:00

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.4	0.85	ng/L		01/21/25 04:13	01/25/25 08:43	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:43	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:43	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:43	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:43	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:43	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:43	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:43	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		01/21/25 04:13	01/25/25 08:43	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.49	ng/L		01/21/25 04:13	01/25/25 08:43	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:43	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118376-1

Client Sample ID: EA-MW-7A-N-01172025
Date Collected: 01/17/25 10:40
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118376-6
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:43	1
Perfluorohexanesulfonic acid (PFHxS)	**1.1**	**J**	1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:43	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:43	1
Perfluorooctanesulfonic acid (PFOS)	**4.7**		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:43	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:43	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:43	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.45	ng/L		01/21/25 04:13	01/25/25 08:43	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.4	0.85	ng/L		01/21/25 04:13	01/25/25 08:43	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.4	0.85	ng/L		01/21/25 04:13	01/25/25 08:43	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.4	0.85	ng/L		01/21/25 04:13	01/25/25 08:43	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:43	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:43	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:43	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:43	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:43	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.5	2.1	ng/L		01/21/25 04:13	01/25/25 08:43	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.5	2.1	ng/L		01/21/25 04:13	01/25/25 08:43	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/21/25 04:13	01/25/25 08:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:43	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:43	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:43	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	*1	1.7	0.49	ng/L		01/21/25 04:13	01/25/25 08:43	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	*1	1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:43	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:43	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.4	0.85	ng/L		01/21/25 04:13	01/25/25 08:43	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.5	2.1	ng/L		01/21/25 04:13	01/25/25 08:43	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.5	2.1	ng/L		01/21/25 04:13	01/25/25 08:43	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*110*		*5 - 130*	*01/21/25 04:13*	*01/25/25 08:43*	*1*
13C5 PFPeA	*96.9*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:43*	*1*
13C5 PFHxA	*89.4*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:43*	*1*

Client Sample ID: EA-MW-7A-N-01172025

Lab Sample ID: 320-118376-6

Date Collected: 01/17/25 10:40
Matrix: Water
Date Received: 01/18/25 09:00

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFHpA	*98.8*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:43*	*1*
13C8 PFOA	*96.1*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:43*	*1*
13C9 PFNA	*80.9*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:43*	*1*
13C6 PFDA	*75.0*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:43*	*1*
13C7 PFUnA	*75.4*		*30 - 130*	*01/21/25 04:13*	*01/25/25 08:43*	*1*
13C2 PFDoA	*85.9*		*10 - 130*	*01/21/25 04:13*	*01/25/25 08:43*	*1*
13C2 PFTeDA	*64.0*		*10 - 130*	*01/21/25 04:13*	*01/25/25 08:43*	*1*
13C3 PFBS	*98.9*		*40 - 135*	*01/21/25 04:13*	*01/25/25 08:43*	*1*
13C3 PFHxS	*97.4*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:43*	*1*
13C8 PFOS	*91.7*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:43*	*1*
13C8 FOSA	*86.3*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:43*	*1*
d3-NMeFOSAA	*104*		*40 - 170*	*01/21/25 04:13*	*01/25/25 08:43*	*1*
d5-NEtFOSAA	*97.8*		*25 - 135*	*01/21/25 04:13*	*01/25/25 08:43*	*1*
13C2 4:2 FTS	*98.5*		*40 - 200*	*01/21/25 04:13*	*01/25/25 08:43*	*1*
13C2 6:2 FTS	*134*		*40 - 200*	*01/21/25 04:13*	*01/25/25 08:43*	*1*
13C2 8:2 FTS	*114*		*40 - 300*	*01/21/25 04:13*	*01/25/25 08:43*	*1*
13C3 HFPO-DA	*85.5*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:43*	*1*
d7-N-MeFOSE-M	*73.3*		*10 - 130*	*01/21/25 04:13*	*01/25/25 08:43*	*1*
d9-N-EtFOSE-M	*75.8*		*10 - 130*	*01/21/25 04:13*	*01/25/25 08:43*	*1*
d5-NEtPFOSA	*71.9*		*10 - 130*	*01/21/25 04:13*	*01/25/25 08:43*	*1*
d3-NMePFOSA	*76.5*		*10 - 130*	*01/21/25 04:13*	*01/25/25 08:43*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.69	ng/L		01/21/25 04:13	01/27/25 18:14	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.61	ng/L		01/21/25 04:13	01/27/25 18:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFHxA	*106*		*40 - 130*	*01/21/25 04:13*	*01/27/25 18:14*	*1*
13C2 PFTeDA	*58.8*		*10 - 130*	*01/21/25 04:13*	*01/27/25 18:14*	*1*

Client Sample ID: GCF-MW-10-N-01172025

Lab Sample ID: 320-118376-7

Date Collected: 01/17/25 10:45
Matrix: Water
Date Received: 01/18/25 09:00

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**5.9**		3.4	0.84	ng/L		01/21/25 04:13	01/25/25 08:59	1
Perfluoropentanoic acid (PFPeA)	**2.7**		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:59	1
Perfluorohexanoic acid (PFHxA)	**2.9**		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:59	1
Perfluoroheptanoic acid (PFHpA)	**1.2**	**J**	1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:59	1
Perfluorooctanoic acid (PFOA)	**3.0**		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:59	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:59	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:59	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:59	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		01/21/25 04:13	01/25/25 08:59	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.49	ng/L		01/21/25 04:13	01/25/25 08:59	1
Perfluorobutanesulfonic acid (PFBS)	**7.9**		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:59	1
Perfluoropentanesulfonic acid (PFPeS)	**0.91**	**J**	1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:59	1

Client Sample ID: GCF-MW-10-N-01172025

Date Collected: 01/17/25 10:45
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118376-7

Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**4.8**		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:59	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:59	1
Perfluorooctanesulfonic acid (PFOS)	**0.71**	**J**	1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:59	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:59	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:59	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.45	ng/L		01/21/25 04:13	01/25/25 08:59	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.4	0.84	ng/L		01/21/25 04:13	01/25/25 08:59	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.4	0.84	ng/L		01/21/25 04:13	01/25/25 08:59	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.4	0.84	ng/L		01/21/25 04:13	01/25/25 08:59	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:59	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:59	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:59	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:59	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:59	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.4	2.1	ng/L		01/21/25 04:13	01/25/25 08:59	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.4	2.1	ng/L		01/21/25 04:13	01/25/25 08:59	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/21/25 04:13	01/25/25 08:59	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:59	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:59	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:59	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	*1	1.7	0.49	ng/L		01/21/25 04:13	01/25/25 08:59	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	*1	1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:59	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 08:59	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.4	0.84	ng/L		01/21/25 04:13	01/25/25 08:59	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.4	2.1	ng/L		01/21/25 04:13	01/25/25 08:59	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.4	2.1	ng/L		01/21/25 04:13	01/25/25 08:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*110*		*5 - 130*	*01/21/25 04:13*	*01/25/25 08:59*	*1*
13C5 PFPeA	*91.5*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:59*	*1*
13C5 PFHxA	*86.4*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:59*	*1*
13C4 PFHpA	*84.0*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:59*	*1*
13C8 PFOA	*94.5*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:59*	*1*

Client Sample ID: GCF-MW-10-N-01172025

Lab Sample ID: 320-118376-7

Date Collected: 01/17/25 10:45

Matrix: Water

Date Received: 01/18/25 09:00

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C9 PFNA	*91.4*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:59*	*1*
13C6 PFDA	*77.8*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:59*	*1*
13C7 PFUnA	*90.4*		*30 - 130*	*01/21/25 04:13*	*01/25/25 08:59*	*1*
13C2 PFDoA	*87.6*		*10 - 130*	*01/21/25 04:13*	*01/25/25 08:59*	*1*
13C2 PFTeDA	*65.4*		*10 - 130*	*01/21/25 04:13*	*01/25/25 08:59*	*1*
13C3 PFBS	*100*		*40 - 135*	*01/21/25 04:13*	*01/25/25 08:59*	*1*
13C3 PFHxS	*102*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:59*	*1*
13C8 PFOS	*98.6*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:59*	*1*
13C8 FOSA	*88.3*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:59*	*1*
d3-NMeFOSAA	*109*		*40 - 170*	*01/21/25 04:13*	*01/25/25 08:59*	*1*
d5-NEtFOSAA	*101*		*25 - 135*	*01/21/25 04:13*	*01/25/25 08:59*	*1*
13C2 4:2 FTS	*115*		*40 - 200*	*01/21/25 04:13*	*01/25/25 08:59*	*1*
13C2 6:2 FTS	*111*		*40 - 200*	*01/21/25 04:13*	*01/25/25 08:59*	*1*
13C2 8:2 FTS	*109*		*40 - 300*	*01/21/25 04:13*	*01/25/25 08:59*	*1*
13C3 HFPO-DA	*81.4*		*40 - 130*	*01/21/25 04:13*	*01/25/25 08:59*	*1*
d7-N-MeFOSE-M	*77.6*		*10 - 130*	*01/21/25 04:13*	*01/25/25 08:59*	*1*
d9-N-EtFOSE-M	*73.8*		*10 - 130*	*01/21/25 04:13*	*01/25/25 08:59*	*1*
d5-NEtPFOSA	*73.8*		*10 - 130*	*01/21/25 04:13*	*01/25/25 08:59*	*1*
d3-NMePFOSA	*79.2*		*10 - 130*	*01/21/25 04:13*	*01/25/25 08:59*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	**Result**	**Qualifier**	**RL**	**MDL**	**Unit**	**D**	**Prepared**	**Analyzed**	**Dil Fac**
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.68	ng/L		01/21/25 04:13	01/27/25 18:31	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.61	ng/L		01/21/25 04:13	01/27/25 18:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFHxA	*96.0*		*40 - 130*	*01/21/25 04:13*	*01/27/25 18:31*	*1*
13C2 PFTeDA	*54.7*		*10 - 130*	*01/21/25 04:13*	*01/27/25 18:31*	*1*

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118376-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(5-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(30-130)
320-118376-1	FB-01172025	109	94.9	101	107	89.8	83.4	88.3	70.1
320-118376-1 - RA	FB-01172025								
320-118376-2	GCF-MW-8-N-01172025	115	90.6	103	84.9	110	90.8	87.5	92.9
320-118376-2 - RA	GCF-MW-8-N-01172025								
320-118376-3	GCF-MW-8-FD-01172025	110	91.6	91.7	90.3	109	82.5	83.8	84.5
320-118376-3 - RA	GCF-MW-8-FD-01172025								
320-118376-4	EB-01172025	113	94.7	102	97.4	96.6	105	103	100
320-118376-4 - RA	EB-01172025								
320-118376-5	EA-MW-7B-N-01172025	111	111	108	124	91.5	76.9	85.7	95.1
320-118376-5 - RA	EA-MW-7B-N-01172025			105					
320-118376-5	EA-MW-7B-N-01172025								
320-118376-6	EA-MW-7A-N-01172025	110	96.9	89.4	98.8	96.1	80.9	75.0	75.4
320-118376-6 - RA	EA-MW-7A-N-01172025			106					
320-118376-7	GCF-MW-10-N-01172025	110	91.5	86.4	84.0	94.5	91.4	77.8	90.4
320-118376-7 - RA	GCF-MW-10-N-01172025			96.0					
LCS 320-828462/3-A	Lab Control Sample	107	108	93.1	94.4	76.7	82.9	73.6	76.6
LCS 320-828462/3-A - RA	Lab Control Sample								
LCSD 320-828462/4-A	Lab Control Sample Dup	107	85.0	91.1	66.7	74.2	75.0	72.9	70.2
LCSD 320-828462/4-A - RA	Lab Control Sample Dup								
LLCS 320-828462/2-A	Lab Control Sample	103	109	93.6	85.6	88.2	83.3	75.6	87.3
LLCS 320-828462/2-A - RA	Lab Control Sample								
MB 320-828462/1-A	Method Blank	103	103	99.8	88.6	68.5	69.0	71.6	65.1
MB 320-828462/1-A - RA	Method Blank								

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(10-130)	(10-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-170)	(25-135)
320-118376-1	FB-01172025	88.3	63.9	89.5	105	103	92.7	114	105
320-118376-1 - RA	FB-01172025		72.1						
320-118376-2	GCF-MW-8-N-01172025	101	86.5	111	106	92.3	85.5	106	96.6
320-118376-2 - RA	GCF-MW-8-N-01172025		73.2						
320-118376-3	GCF-MW-8-FD-01172025	104	92.6	107	106	93.5	81.5	97.8	93.7
320-118376-3 - RA	GCF-MW-8-FD-01172025		59.0						
320-118376-4	EB-01172025	126	121	91.6	96.6	88.8	79.5	98.4	91.4
320-118376-4 - RA	EB-01172025		71.3						
320-118376-5	EA-MW-7B-N-01172025	109	92.6	108	99.9	99.7	134 *5+	167	167 *5+
320-118376-5 - RA	EA-MW-7B-N-01172025		60.5						
320-118376-5	EA-MW-7B-N-01172025				101 *3	106 *3			
320-118376-6	EA-MW-7A-N-01172025	85.9	64.0	98.9	97.4	91.7	86.3	104	97.8
320-118376-6 - RA	EA-MW-7A-N-01172025		58.8						
320-118376-7	GCF-MW-10-N-01172025	87.6	65.4	100	102	98.6	88.3	109	101
320-118376-7 - RA	GCF-MW-10-N-01172025		54.7						
LCS 320-828462/3-A	Lab Control Sample	86.1	80.9	85.8	95.9	77.1	77.1	79.5	76.7
LCS 320-828462/3-A - RA	Lab Control Sample		84.5						
LCSD 320-828462/4-A	Lab Control Sample Dup	84.9	75.3	83.7	85.6	77.5	71.4	71.1	80.2
LCSD 320-828462/4-A - RA	Lab Control Sample Dup		58.6						
LLCS 320-828462/2-A	Lab Control Sample	88.5	79.1	99.2	87.4	89.2	81.0	82.6	74.7
LLCS 320-828462/2-A - RA	Lab Control Sample		73.0						
MB 320-828462/1-A	Method Blank	78.4	59.3	92.1	86.6	75.3	74.6	78.4	73.0
MB 320-828462/1-A - RA	Method Blank		56.5						

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118376-1
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-200)	M262FTS (40-200)	M282FTS (40-300)	HFPODA (40-130)	NMFM (10-130)	NEFM (10-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118376-1	FB-01172025	110	119	92.7	89.7	97.5	101	89.2	91.3
320-118376-1 - RA	FB-01172025								
320-118376-2	GCF-MW-8-N-01172025	106	147	105	83.4	85.5	85.2	80.9	82.8
320-118376-2 - RA	GCF-MW-8-N-01172025								
320-118376-3	GCF-MW-8-FD-01172025	119	115	111	83.4	78.9	84.9	75.5	82.5
320-118376-3 - RA	GCF-MW-8-FD-01172025								
320-118376-4	EB-01172025	100	120	101	92.0	81.3	85.7	81.3	79.8
320-118376-4 - RA	EB-01172025								
320-118376-5	EA-MW-7B-N-01172025	117	135	133	103	129	128	123	132 *5+
320-118376-5 - RA	EA-MW-7B-N-01172025								
320-118376-5	EA-MW-7B-N-01172025								
320-118376-6	EA-MW-7A-N-01172025	98.5	134	114	85.5	73.3	75.8	71.9	76.5
320-118376-6 - RA	EA-MW-7A-N-01172025								
320-118376-7	GCF-MW-10-N-01172025	115	111	109	81.4	77.6	73.8	73.8	79.2
320-118376-7 - RA	GCF-MW-10-N-01172025								
LCS 320-828462/3-A	Lab Control Sample	71.1	76.2	71.5	74.9	82.4	79.8	73.2	77.4
LCS 320-828462/3-A - RA	Lab Control Sample								
LCSD 320-828462/4-A	Lab Control Sample Dup	102	101	66.5	78.7	72.6	71.8	66.5	66.7
LCSD 320-828462/4-A - RA	Lab Control Sample Dup								
LLCS 320-828462/2-A	Lab Control Sample	91.8	128	91.3	85.4	85.5	82.3	78.4	80.5
LLCS 320-828462/2-A - RA	Lab Control Sample								
MB 320-828462/1-A	Method Blank	95.9	85.3	86.5	95.8	77.0	77.7	67.8	65.4
MB 320-828462/1-A - RA	Method Blank								

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-828462/1-A
Matrix: Water
Analysis Batch: 829454

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 828462

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.0	1.0	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.58	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.53	ng/L		01/21/25 04:13	01/25/25 04:53	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		4.0	1.0	ng/L		01/21/25 04:13	01/25/25 04:53	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		4.0	1.0	ng/L		01/21/25 04:13	01/25/25 04:53	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		4.0	1.0	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		10	2.5	ng/L		01/21/25 04:13	01/25/25 04:53	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		10	2.5	ng/L		01/21/25 04:13	01/25/25 04:53	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.5	0.39	ng/L		01/21/25 04:13	01/25/25 04:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	0.72	ng/L		01/21/25 04:13	01/25/25 04:53	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		2.0	0.58	ng/L		01/21/25 04:13	01/25/25 04:53	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-828462/1-A
Matrix: Water
Analysis Batch: 829454

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 828462

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		4.0	1.0	ng/L		01/21/25 04:13	01/25/25 04:53	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		10	2.5	ng/L		01/21/25 04:13	01/25/25 04:53	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		10	2.5	ng/L		01/21/25 04:13	01/25/25 04:53	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*103*		*5 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C5 PFPeA	*103*		*40 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C5 PFHxA	*99.8*		*40 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C4 PFHpA	*88.6*		*40 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C8 PFOA	*68.5*		*40 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C9 PFNA	*69.0*		*40 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C6 PFDA	*71.6*		*40 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C7 PFUnA	*65.1*		*30 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C2 PFDoA	*78.4*		*10 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C2 PFTeDA	*59.3*		*10 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C3 PFBS	*92.1*		*40 - 135*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C3 PFHxS	*86.6*		*40 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C8 PFOS	*75.3*		*40 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C8 FOSA	*74.6*		*40 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
d3-NMeFOSAA	*78.4*		*40 - 170*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
d5-NEtFOSAA	*73.0*		*25 - 135*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C2 4:2 FTS	*95.9*		*40 - 200*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C2 6:2 FTS	*85.3*		*40 - 200*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C2 8:2 FTS	*86.5*		*40 - 300*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C3 HFPO-DA	*95.8*		*40 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
d7-N-MeFOSE-M	*77.0*		*10 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
d9-N-EtFOSE-M	*77.7*		*10 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
d5-NEtPFOSA	*67.8*		*10 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
d3-NMePFOSA	*65.4*		*10 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*

Lab Sample ID: LCS 320-828462/3-A
Matrix: Water
Analysis Batch: 829454

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828462

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	69.8		ng/L		87	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	37.1		ng/L		93	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	41.0		ng/L		103	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	35.9		ng/L		90	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	51.9		ng/L		130	70 - 150
Perfluorononanoic acid (PFNA)	40.0	41.8		ng/L		104	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	43.9		ng/L		110	70 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-828462/3-A
Matrix: Water
Analysis Batch: 829454

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828462

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	40.0	45.6		ng/L		114	70 - 145
Perfluorododecanoic acid (PFDoA)	40.0	40.1		ng/L		100	70 - 140
Perfluorotridecanoic acid (PFTrDA)	40.0	36.2		ng/L		90	65 - 140
Perfluorobutanesulfonic acid (PFBS)	35.5	44.0		ng/L		124	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	31.4		ng/L		83	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	35.0		ng/L		96	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	38.0		ng/L		100	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	36.9		ng/L		99	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	40.3		ng/L		105	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	37.3		ng/L		97	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	28.6		ng/L		74	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	78.3		ng/L		104	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	84.0		ng/L		110	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	64.6		ng/L		84	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	37.8		ng/L		94	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	38.5		ng/L		96	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	41.4		ng/L		103	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	40.9		ng/L		102	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	38.5		ng/L		96	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	192		ng/L		96	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	185		ng/L		92	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	32.0		ng/L		107	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	40.1		ng/L		106	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	40.0		ng/L		100	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	35.5		ng/L		89	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	40.4		ng/L		101	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	37.4	41.7		ng/L		112	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-828462/3-A
Matrix: Water
Analysis Batch: 829454

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828462

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	44.5		ng/L		118	55 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	37.9		ng/L		106	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	63.5		ng/L		79	65 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	199		ng/L		99	70 - 135		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	156		ng/L		78	50 - 145		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*107*		*5 - 130*
13C5 PFPeA	*108*		*40 - 130*
13C5 PFHxA	*93.1*		*40 - 130*
13C4 PFHpA	*94.4*		*40 - 130*
13C8 PFOA	*76.7*		*40 - 130*
13C9 PFNA	*82.9*		*40 - 130*
13C6 PFDA	*73.6*		*40 - 130*
13C7 PFUnA	*76.6*		*30 - 130*
13C2 PFDoA	*86.1*		*10 - 130*
13C2 PFTeDA	*80.9*		*10 - 130*
13C3 PFBS	*85.8*		*40 - 135*
13C3 PFHxS	*95.9*		*40 - 130*
13C8 PFOS	*77.1*		*40 - 130*
13C8 FOSA	*77.1*		*40 - 130*
d3-NMeFOSAA	*79.5*		*40 - 170*
d5-NEtFOSAA	*76.7*		*25 - 135*
13C2 4:2 FTS	*71.1*		*40 - 200*
13C2 6:2 FTS	*76.2*		*40 - 200*
13C2 8:2 FTS	*71.5*		*40 - 300*
13C3 HFPO-DA	*74.9*		*40 - 130*
d7-N-MeFOSE-M	*82.4*		*10 - 130*
d9-N-EtFOSE-M	*79.8*		*10 - 130*
d5-NEtPFOSA	*73.2*		*10 - 130*
d3-NMePFOSA	*77.4*		*10 - 130*

Lab Sample ID: LCSD 320-828462/4-A
Matrix: Water
Analysis Batch: 829454

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 828462

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			80.0	67.9		ng/L		85	70 - 140	3	30
Perfluoropentanoic acid (PFPeA)			40.0	34.7		ng/L		87	65 - 135	7	30
Perfluorohexanoic acid (PFHxA)			40.0	31.7		ng/L		79	70 - 145	26	30
Perfluoroheptanoic acid (PFHpA)			40.0	34.9		ng/L		87	70 - 150	3	30
Perfluorooctanoic acid (PFOA)			40.0	43.6		ng/L		109	70 - 150	17	30
Perfluorononanoic acid (PFNA)			40.0	38.7		ng/L		97	70 - 150	8	30
Perfluorodecanoic acid (PFDA)			40.0	42.3		ng/L		106	70 - 140	4	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-828462/4-A
Matrix: Water
Analysis Batch: 829454

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 828462

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoroundecanoic acid (PFUnA)	40.0	42.0		ng/L		105	70 - 145	8	30
Perfluorododecanoic acid (PFDoA)	40.0	34.0		ng/L		85	70 - 140	17	30
Perfluorotridecanoic acid (PFTrDA)	40.0	33.2		ng/L		83	65 - 140	9	30
Perfluorobutanesulfonic acid (PFBS)	35.5	39.9		ng/L		112	60 - 145	10	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	35.4		ng/L		94	65 - 140	12	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	36.8		ng/L		101	65 - 145	5	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	34.9		ng/L		91	70 - 150	8	30
Perfluorooctanesulfonic acid (PFOS)	37.2	33.8		ng/L		91	55 - 150	9	30
Perfluorononanesulfonic acid (PFNS)	38.5	32.8		ng/L		85	65 - 145	21	30
Perfluorodecanesulfonic acid (PFDS)	38.6	35.3		ng/L		92	60 - 145	5	30
Perfluorododecanesulfonic acid (PFDoS)	38.8	30.8		ng/L		79	50 - 145	7	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	78.8		ng/L		105	70 - 145	1	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	65.7		ng/L		86	65 - 155	24	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	71.3		ng/L		93	60 - 150	10	30
Perfluorooctanesulfonamide (PFOSA)	40.0	38.2		ng/L		95	70 - 145	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	40.3		ng/L		101	60 - 150	4	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	41.7		ng/L		104	65 - 145	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	44.0		ng/L		110	50 - 140	7	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	33.3		ng/L		83	70 - 145	14	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	195		ng/L		98	70 - 145	2	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	193		ng/L		97	70 - 135	4	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	29.2		ng/L		97	70 - 140	9	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	35.3		ng/L		93	65 - 145	13	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	39.6		ng/L		99	55 - 140	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	34.3		ng/L		86	60 - 150	3	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	37.7		ng/L		94	50 - 150	7	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	37.4	27.0	*1	ng/L		72	70 - 155	43	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-828462/4-A
Matrix: Water
Analysis Batch: 829454

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 828462

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	37.8	32.6	*1	ng/L		86	55 - 160	31	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	35.7	32.1		ng/L		90	70 - 140	17	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)	80.0	80.2		ng/L		100	65 - 130	23	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)	200	160		ng/L		80	70 - 135	22	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	200	123		ng/L		61	50 - 145	24	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*107*		*5 - 130*
13C5 PFPeA	*85.0*		*40 - 130*
13C5 PFHxA	*91.1*		*40 - 130*
13C4 PFHpA	*66.7*		*40 - 130*
13C8 PFOA	*74.2*		*40 - 130*
13C9 PFNA	*75.0*		*40 - 130*
13C6 PFDA	*72.9*		*40 - 130*
13C7 PFUnA	*70.2*		*30 - 130*
13C2 PFDoA	*84.9*		*10 - 130*
13C2 PFTeDA	*75.3*		*10 - 130*
13C3 PFBS	*83.7*		*40 - 135*
13C3 PFHxS	*85.6*		*40 - 130*
13C8 PFOS	*77.5*		*40 - 130*
13C8 FOSA	*71.4*		*40 - 130*
d3-NMeFOSAA	*71.1*		*40 - 170*
d5-NEtFOSAA	*80.2*		*25 - 135*
13C2 4:2 FTS	*102*		*40 - 200*
13C2 6:2 FTS	*101*		*40 - 200*
13C2 8:2 FTS	*66.5*		*40 - 300*
13C3 HFPO-DA	*78.7*		*40 - 130*
d7-N-MeFOSE-M	*72.6*		*10 - 130*
d9-N-EtFOSE-M	*71.8*		*10 - 130*
d5-NEtPFOSA	*66.5*		*10 - 130*
d3-NMePFOSA	*66.7*		*10 - 130*

Lab Sample ID: LLCS 320-828462/2-A
Matrix: Water
Analysis Batch: 829454

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828462

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	7.53		ng/L		94	70 - 140
Perfluoropentanoic acid (PFPeA)	4.00	3.13		ng/L		78	65 - 135
Perfluorohexanoic acid (PFHxA)	4.00	3.98		ng/L		100	70 - 145
Perfluoroheptanoic acid (PFHpA)	4.00	3.84		ng/L		96	70 - 150
Perfluorooctanoic acid (PFOA)	4.00	4.22		ng/L		105	70 - 150
Perfluorononanoic acid (PFNA)	4.00	4.64		ng/L		116	70 - 150
Perfluorodecanoic acid (PFDA)	4.00	3.91		ng/L		98	70 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-828462/2-A
Matrix: Water
Analysis Batch: 829454

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828462

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	4.00	3.19		ng/L		80	70 - 145
Perfluorododecanoic acid (PFDoA)	4.00	3.55		ng/L		89	70 - 140
Perfluorotridecanoic acid (PFTrDA)	4.00	3.79		ng/L		95	65 - 140
Perfluorobutanesulfonic acid (PFBS)	3.55	4.21		ng/L		118	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.76	4.48		ng/L		119	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	3.65	4.40		ng/L		121	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.82	3.69		ng/L		97	70 - 150
Perfluorooctanesulfonic acid (PFOS)	3.72	3.50		ng/L		94	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.85	3.66		ng/L		95	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.86	4.01		ng/L		104	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.88	3.56		ng/L		92	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	7.50	7.27		ng/L		97	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.62	6.06		ng/L		80	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.68	6.42		ng/L		84	60 - 150
Perfluorooctanesulfonamide (PFOSA)	4.00	3.73		ng/L		93	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	4.00	3.44		ng/L		86	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	4.00	3.96		ng/L		99	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.00	4.16		ng/L		104	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.00	4.57		ng/L		114	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	20.0	18.8		ng/L		94	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	20.0	19.6		ng/L		98	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.00	2.93		ng/L		98	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	3.87		ng/L		102	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.00	3.44		ng/L		86	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.00	3.45		ng/L		86	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.00	3.76		ng/L		94	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	3.74	3.57		ng/L		95	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-828462/2-A
Matrix: Water
Analysis Batch: 829454

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828462

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	3.78	3.15		ng/L		83	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	3.57	3.38		ng/L		95	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	8.00	6.11		ng/L		76	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	20.0	16.3		ng/L		81	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	20.0	13.2		ng/L		66	50 - 145

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*103*		*5 - 130*
13C5 PFPeA	*109*		*40 - 130*
13C5 PFHxA	*93.6*		*40 - 130*
13C4 PFHpA	*85.6*		*40 - 130*
13C8 PFOA	*88.2*		*40 - 130*
13C9 PFNA	*83.3*		*40 - 130*
13C6 PFDA	*75.6*		*40 - 130*
13C7 PFUnA	*87.3*		*30 - 130*
13C2 PFDoA	*88.5*		*10 - 130*
13C2 PFTeDA	*79.1*		*10 - 130*
13C3 PFBS	*99.2*		*40 - 135*
13C3 PFHxS	*87.4*		*40 - 130*
13C8 PFOS	*89.2*		*40 - 130*
13C8 FOSA	*81.0*		*40 - 130*
d3-NMeFOSAA	*82.6*		*40 - 170*
d5-NEtFOSAA	*74.7*		*25 - 135*
13C2 4:2 FTS	*91.8*		*40 - 200*
13C2 6:2 FTS	*128*		*40 - 200*
13C2 8:2 FTS	*91.3*		*40 - 300*
13C3 HFPO-DA	*85.4*		*40 - 130*
d7-N-MeFOSE-M	*85.5*		*10 - 130*
d9-N-EtFOSE-M	*82.3*		*10 - 130*
d5-NEtPFOSA	*78.4*		*10 - 130*
d3-NMePFOSA	*80.5*		*10 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Lab Sample ID: MB 320-828462/1-A
Matrix: Water
Analysis Batch: 829752

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 828462

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA) - RA	ND		2.0	0.81	ng/L		01/21/25 04:13	01/27/25 14:57	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFTeDA - RA	*56.5*		*10 - 130*	*01/21/25 04:13*	*01/27/25 14:57*	*1*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Lab Sample ID: LCS 320-828462/3-A
Matrix: Water
Analysis Batch: 829752

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828462

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluorotetradecanoic acid (PFTeDA) - RA			40.0	32.0		ng/L		80	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFTeDA - RA	*84.5*		*10 - 130*

Lab Sample ID: LCSD 320-828462/4-A
Matrix: Water
Analysis Batch: 829752

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 828462

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorotetradecanoic acid (PFTeDA) - RA			40.0	32.9		ng/L		82	60 - 140	3	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C2 PFTeDA - RA	*58.6*		*10 - 130*

Lab Sample ID: LLCS 320-828462/2-A
Matrix: Water
Analysis Batch: 829752

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828462

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluorotetradecanoic acid (PFTeDA) - RA			4.00	3.42		ng/L		85	60 - 140		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C2 PFTeDA - RA	*73.0*		*10 - 130*

LCMS

Prep Batch: 828462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118376-1	FB-01172025	Total/NA	Water	1633	
320-118376-1 - RA	FB-01172025	Total/NA	Water	1633	
320-118376-2	GCF-MW-8-N-01172025	Total/NA	Water	1633	
320-118376-2 - RA	GCF-MW-8-N-01172025	Total/NA	Water	1633	
320-118376-3	GCF-MW-8-FD-01172025	Total/NA	Water	1633	
320-118376-3 - RA	GCF-MW-8-FD-01172025	Total/NA	Water	1633	
320-118376-4	EB-01172025	Total/NA	Water	1633	
320-118376-4 - RA	EB-01172025	Total/NA	Water	1633	
320-118376-5	EA-MW-7B-N-01172025	Total/NA	Water	1633	
320-118376-5 - RA	EA-MW-7B-N-01172025	Total/NA	Water	1633	
320-118376-6	EA-MW-7A-N-01172025	Total/NA	Water	1633	
320-118376-6 - RA	EA-MW-7A-N-01172025	Total/NA	Water	1633	
320-118376-7	GCF-MW-10-N-01172025	Total/NA	Water	1633	
320-118376-7 - RA	GCF-MW-10-N-01172025	Total/NA	Water	1633	
MB 320-828462/1-A	Method Blank	Total/NA	Water	1633	
MB 320-828462/1-A - RA	Method Blank	Total/NA	Water	1633	
LCS 320-828462/3-A	Lab Control Sample	Total/NA	Water	1633	
LCS 320-828462/3-A - RA	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-828462/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LCSD 320-828462/4-A - RA	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-828462/2-A	Lab Control Sample	Total/NA	Water	1633	
LLCS 320-828462/2-A - RA	Lab Control Sample	Total/NA	Water	1633	

Analysis Batch: 829454

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118376-1	FB-01172025	Total/NA	Water	1633	828462
320-118376-2	GCF-MW-8-N-01172025	Total/NA	Water	1633	828462
320-118376-3	GCF-MW-8-FD-01172025	Total/NA	Water	1633	828462
320-118376-4	EB-01172025	Total/NA	Water	1633	828462
320-118376-5	EA-MW-7B-N-01172025	Total/NA	Water	1633	828462
320-118376-6	EA-MW-7A-N-01172025	Total/NA	Water	1633	828462
320-118376-7	GCF-MW-10-N-01172025	Total/NA	Water	1633	828462
MB 320-828462/1-A	Method Blank	Total/NA	Water	1633	828462
LCS 320-828462/3-A	Lab Control Sample	Total/NA	Water	1633	828462
LCSD 320-828462/4-A	Lab Control Sample Dup	Total/NA	Water	1633	828462
LLCS 320-828462/2-A	Lab Control Sample	Total/NA	Water	1633	828462

Analysis Batch: 829752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118376-1 - RA	FB-01172025	Total/NA	Water	1633	828462
320-118376-2 - RA	GCF-MW-8-N-01172025	Total/NA	Water	1633	828462
320-118376-3 - RA	GCF-MW-8-FD-01172025	Total/NA	Water	1633	828462
320-118376-4 - RA	EB-01172025	Total/NA	Water	1633	828462
320-118376-5 - RA	EA-MW-7B-N-01172025	Total/NA	Water	1633	828462
320-118376-6 - RA	EA-MW-7A-N-01172025	Total/NA	Water	1633	828462
320-118376-7 - RA	GCF-MW-10-N-01172025	Total/NA	Water	1633	828462
MB 320-828462/1-A - RA	Method Blank	Total/NA	Water	1633	828462
LCS 320-828462/3-A - RA	Lab Control Sample	Total/NA	Water	1633	828462
LCSD 320-828462/4-A - RA	Lab Control Sample Dup	Total/NA	Water	1633	828462
LLCS 320-828462/2-A - RA	Lab Control Sample	Total/NA	Water	1633	828462

QC Association Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118376-1

LCMS

Analysis Batch: 830239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118376-5	EA-MW-7B-N-01172025	Total/NA	Water	1633	828462

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118376-1
Project/Site: Spokane International Airport

Client Sample ID: FB-01172025
Lab Sample ID: 320-118376-1
Date Collected: 01/17/25 00:00
Matrix: Water
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			164.2 mL	5.0 mL	828462	01/21/25 04:13	RMF	EET SAC
Total/NA	Analysis	1633		1			829454	01/25/25 06:48	K1S	EET SAC
Total/NA	Prep	1633	RA		164.2 mL	5.0 mL	828462	01/21/25 04:13	RMF	EET SAC
Total/NA	Analysis	1633	RA	1			829752	01/27/25 16:35	RS1	EET SAC

Client Sample ID: GCF-MW-8-N-01172025
Lab Sample ID: 320-118376-2
Date Collected: 01/17/25 08:55
Matrix: Water
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			145.6 mL	5.0 mL	828462	01/21/25 04:13	RMF	EET SAC
Total/NA	Analysis	1633		1			829454	01/25/25 07:04	K1S	EET SAC
Total/NA	Prep	1633	RA		145.6 mL	5.0 mL	828462	01/21/25 04:13	RMF	EET SAC
Total/NA	Analysis	1633	RA	1			829752	01/27/25 16:52	RS1	EET SAC

Client Sample ID: GCF-MW-8-FD-01172025
Lab Sample ID: 320-118376-3
Date Collected: 01/17/25 09:25
Matrix: Water
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			145.7 mL	5.0 mL	828462	01/21/25 04:13	RMF	EET SAC
Total/NA	Analysis	1633		1			829454	01/25/25 07:21	K1S	EET SAC
Total/NA	Prep	1633	RA		145.7 mL	5.0 mL	828462	01/21/25 04:13	RMF	EET SAC
Total/NA	Analysis	1633	RA	1			829752	01/27/25 17:08	RS1	EET SAC

Client Sample ID: EB-01172025
Lab Sample ID: 320-118376-4
Date Collected: 01/17/25 09:45
Matrix: Water
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			142.2 mL	5.0 mL	828462	01/21/25 04:13	RMF	EET SAC
Total/NA	Analysis	1633		1			829454	01/25/25 07:37	K1S	EET SAC
Total/NA	Prep	1633	RA		142.2 mL	5.0 mL	828462	01/21/25 04:13	RMF	EET SAC
Total/NA	Analysis	1633	RA	1			829752	01/27/25 17:25	RS1	EET SAC

Client Sample ID: EA-MW-7B-N-01172025
Lab Sample ID: 320-118376-5
Date Collected: 01/17/25 09:10
Matrix: Water
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			134.4 mL	5.0 mL	828462	01/21/25 04:13	RMF	EET SAC
Total/NA	Analysis	1633		1			829454	01/25/25 08:26	K1S	EET SAC
Total/NA	Prep	1633	RA		134.4 mL	5.0 mL	828462	01/21/25 04:13	RMF	EET SAC
Total/NA	Analysis	1633	RA	1			829752	01/27/25 21:32	RS1	EET SAC
Total/NA	Prep	1633			134.4 mL	5.0 mL	828462	01/21/25 04:13	RMF	EET SAC
Total/NA	Analysis	1633		20			830239	01/29/25 12:08	AJM	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118376-1
Project/Site: Spokane International Airport

Client Sample ID: EA-MW-7A-N-01172025
Lab Sample ID: 320-118376-6

Date Collected: 01/17/25 10:40
Matrix: Water
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			147.8 mL	5.0 mL	828462	01/21/25 04:13	RMF	EET SAC
Total/NA	Analysis	1633		1			829454	01/25/25 08:43	K1S	EET SAC
Total/NA	Prep	1633	RA		147.8 mL	5.0 mL	828462	01/21/25 04:13	RMF	EET SAC
Total/NA	Analysis	1633	RA	1			829752	01/27/25 18:14	RS1	EET SAC

Client Sample ID: GCF-MW-10-N-01172025
Lab Sample ID: 320-118376-7

Date Collected: 01/17/25 10:45
Matrix: Water
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			148.7 mL	5.0 mL	828462	01/21/25 04:13	RMF	EET SAC
Total/NA	Analysis	1633		1			829454	01/25/25 08:59	K1S	EET SAC
Total/NA	Prep	1633	RA		148.7 mL	5.0 mL	828462	01/21/25 04:13	RMF	EET SAC
Total/NA	Analysis	1633	RA	1			829752	01/27/25 18:31	RS1	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118376-1
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118376-1

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Solid-Phase Extraction (SPE)	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Job ID: 320-118376-1
Project/Site: Spokane International Airport

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118376-1	FB-01172025	Water	01/17/25 00:00	01/18/25 09:00
320-118376-2	GCF-MW-8-N-01172025	Water	01/17/25 08:55	01/18/25 09:00
320-118376-3	GCF-MW-8-FD-01172025	Water	01/17/25 09:25	01/18/25 09:00
320-118376-4	EB-01172025	Water	01/17/25 09:45	01/18/25 09:00
320-118376-5	EA-MW-7B-N-01172025	Water	01/17/25 09:10	01/18/25 09:00
320-118376-6	EA-MW-7A-N-01172025	Water	01/17/25 10:40	01/18/25 09:00
320-118376-7	GCF-MW-10-N-01172025	Water	01/17/25 10:45	01/18/25 09:00

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

Page 1 of 1

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	1/17/25
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley WA 99206	TURNAROUND TIME	Standard
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	Cations EPA 200.7	Anions EPA 300.0	Bromide EPA 300.0	Alkalinity SM 2320 B	Number of Containers
FB-01172025	1/17/25	-	H_2O	X					2
GCF-MW-8-N-01172025	1/17/25	8:55	H_2O	X					3
GCF-MW-8-FD-01172025	1/17/25	9:25	H_2O	X					3
EB-01172025	1/17/25	9:45	H_2O	X					3
EA-MW-7B-01172025	1/17/25	9:10	H_2O	X					3
EA-MW-7A-01172025	1/17/25	10:40	H_2O	X					3
GCF-MW-10-N-01172025	1/17/25	10:45	H_2O	X					3

Comments(special instructions, precautions, additional method numbers, etc.)

- PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

- Cations to be analyzed: Ca, Mg, K, Na
- Anions to be analyzed: Cl, NO_3, SO_4^{2-}
- Alkilinity to be mesaured by titration

320-118376 Chain of Custody

3.7, 3.1 Icon IR0010

Sampled and Relinquished by	Received by
Sign	Sign
Print Luke Puden	Print Macky Morris
Firm Haley & Aldrich	Firm HA
Date 1/17/25 Time 12:25	Date 1/17/25 1227
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Brian Melendrez
Firm HA	Firm Eurofins
Date 1/17/25 Time 1527	Date 1/18/25
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

Form 3003

November 2024

3.3

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118376

Tracking # 7742 5693 0048

Job _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID: C12 Corr Factor: (+ / -) _____ °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: 2287491

Cooler ID: 1 of 2

Temp Observed: 2.7 °C Corrected 2.3 °C

From Temp Blank ☐ Sandwich ☐ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: DM Date 1/18/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials DM Date 01/18/25

Notes: _____

Trizma Lot #(s) _____

Ammonium
Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials DM Date 01/18/25

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 6/9/2025 2:30:29 PM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118375-6

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

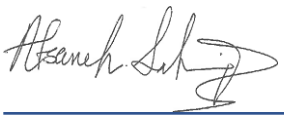
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118375-6
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118375-6 — Eurofins Sacramento

Job Narrative
320-118375-6

Receipt
The samples were received on 1/18/2025 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.3º C.

LCMS
Method 1633: The low level continuing calibration verification (CCVL) associated with batch 320-856044 recovered above the upper control limit for Perfluorotridecanoic acid (PFTrDA). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 28 days. The request for the analysis of the following samples in analytical batch 320-855265 was made outside this time period: JTA-005-N-S025-01162025 (320-118375-28).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 1633 Shake: The following sample was prepared outside of preparation holding time due to activation past holding time: JTA-005-N-S025-01162025 (320-118375-28).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-6

Client Sample ID: JTA-005-N-S025-01162025

Lab Sample ID: 320-118375-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.064	J H	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.056	J H	0.20	0.049	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-6

Client Sample ID: JTA-005-N-S025-01162025
Date Collected: 01/16/25 14:30
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-28
Matrix: Solid
Percent Solids: 82.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND	H	0.39	0.098	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
Perfluoropentanoic acid (PFPeA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
Perfluorohexanoic acid (PFHxA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
Perfluoroheptanoic acid (PFHpA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
Perfluorooctanoic acid (PFOA)	ND	H	0.20	0.061	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
Perfluorononanoic acid (PFNA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
Perfluorodecanoic acid (PFDA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
Perfluoroundecanoic acid (PFUnA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
Perfluorododecanoic acid (PFDoA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
Perfluorotridecanoic acid (PFTrDA)	ND	H ^+	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
Perfluorotetradecanoic acid (PFTeDA)	ND	H	0.20	0.057	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
Perfluorobutanesulfonic acid (PFBS)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
Perfluoropentanesulfonic acid (PFPeS)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
Perfluorohexanesulfonic acid (PFHxS)	**0.064**	**J H**	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
Perfluoroheptanesulfonic acid (PFHpS)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
Perfluorooctanesulfonic acid (PFOS)	**0.056**	**J H**	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
Perfluorononanesulfonic acid (PFNS)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
Perfluorodecanesulfonic acid (PFDS)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
Perfluorododecanesulfonic acid (PFDoS)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND	H	0.39	0.098	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND	H	0.39	0.098	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND	H	0.39	0.098	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
Perfluorooctanesulfonamide (PFOSA)	ND	H	0.20	0.062	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND	H	0.98	0.24	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND	H	0.98	0.24	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	H	0.20	0.061	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1

Client Sample ID: JTA-005-N-S025-01162025
Date Collected: 01/16/25 14:30
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-28
Matrix: Solid
Percent Solids: 82.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	H	0.20	0.073	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND	H	0.20	0.049	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND	H	0.39	0.098	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND	H	0.98	0.24	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND	H	0.98	0.24	ug/Kg	☼	06/05/25 04:25	06/07/25 05:33	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*94.0*		*8 - 130*	*06/05/25 04:25*	*06/07/25 05:33*	*1*
13C5 PFPeA	*99.5*		*35 - 130*	*06/05/25 04:25*	*06/07/25 05:33*	*1*
13C5 PFHxA	*85.6*		*40 - 130*	*06/05/25 04:25*	*06/07/25 05:33*	*1*
13C4 PFHpA	*93.9*		*40 - 130*	*06/05/25 04:25*	*06/07/25 05:33*	*1*
13C8 PFOA	*92.4*		*40 - 130*	*06/05/25 04:25*	*06/07/25 05:33*	*1*
13C9 PFNA	*89.2*		*40 - 130*	*06/05/25 04:25*	*06/07/25 05:33*	*1*
13C6 PFDA	*78.4*		*40 - 130*	*06/05/25 04:25*	*06/07/25 05:33*	*1*
13C7 PFUnA	*82.1*		*40 - 130*	*06/05/25 04:25*	*06/07/25 05:33*	*1*
13C2 PFDoA	*61.4*		*40 - 130*	*06/05/25 04:25*	*06/07/25 05:33*	*1*
13C2 PFTeDA	*58.6*		*20 - 130*	*06/05/25 04:25*	*06/07/25 05:33*	*1*
13C3 PFBS	*78.5*		*40 - 135*	*06/05/25 04:25*	*06/07/25 05:33*	*1*
13C3 PFHxS	*77.9*		*40 - 130*	*06/05/25 04:25*	*06/07/25 05:33*	*1*
13C8 PFOS	*73.8*		*40 - 130*	*06/05/25 04:25*	*06/07/25 05:33*	*1*
13C8 FOSA	*65.9*		*40 - 130*	*06/05/25 04:25*	*06/07/25 05:33*	*1*
d3-NMeFOSAA	*57.5*		*40 - 135*	*06/05/25 04:25*	*06/07/25 05:33*	*1*
d5-NEtFOSAA	*60.3*		*40 - 150*	*06/05/25 04:25*	*06/07/25 05:33*	*1*
13C2 4:2 FTS	*61.7*		*40 - 165*	*06/05/25 04:25*	*06/07/25 05:33*	*1*
13C2 6:2 FTS	*74.6*		*40 - 215*	*06/05/25 04:25*	*06/07/25 05:33*	*1*
13C2 8:2 FTS	*69.9*		*40 - 275*	*06/05/25 04:25*	*06/07/25 05:33*	*1*
13C3 HFPO-DA	*98.6*		*40 - 130*	*06/05/25 04:25*	*06/07/25 05:33*	*1*
d7-N-MeFOSE-M	*53.3*		*20 - 130*	*06/05/25 04:25*	*06/07/25 05:33*	*1*
d9-N-EtFOSE-M	*47.7*		*15 - 130*	*06/05/25 04:25*	*06/07/25 05:33*	*1*
d5-NEtPFOSA	*42.5*		*10 - 130*	*06/05/25 04:25*	*06/07/25 05:33*	*1*
d3-NMePFOSA	*40.8*		*10 - 130*	*06/05/25 04:25*	*06/07/25 05:33*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**18**	**H**	0.10	0.10	%			06/03/25 13:44	1
Percent Solids (EPA 1633)	**82**	**H**	0.10	0.10	%			06/03/25 13:44	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-6

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(8-130)	(35-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)
320-118375-28	JTA-005-N-S025-01162025	94.0	99.5	85.6	93.9	92.4	89.2	78.4	82.1
LCS 320-855628/3-A	Lab Control Sample	107	111	99.7	102	105	99.8	84.8	82.3
LCSD 320-855628/4-A	Lab Control Sample Dup	106	107	96.1	100	100	97.3	84.3	83.5
LLCS 320-855628/2-A	Lab Control Sample	107	104	104	101	105	102	88.6	88.8
MB 320-855628/1-A	Method Blank	106	114	107	109	101	98.0	85.5	91.2

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(40-130)	(20-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-135)	(40-150)
320-118375-28	JTA-005-N-S025-01162025	61.4	58.6	78.5	77.9	73.8	65.9	57.5	60.3
LCS 320-855628/3-A	Lab Control Sample	65.2	63.1	97.4	88.4	82.4	77.1	65.3	65.5
LCSD 320-855628/4-A	Lab Control Sample Dup	65.2	62.6	100	92.1	75.8	66.2	66.3	66.7
LLCS 320-855628/2-A	Lab Control Sample	75.2	67.9	95.4	91.9	84.1	82.1	71.6	76.2
MB 320-855628/1-A	Method Blank	77.6	70.7	95.1	90.8	81.9	77.5	71.3	72.9

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-165)	(40-215)	(40-275)	(40-130)	(20-130)	(15-130)	(10-130)	(10-130)
320-118375-28	JTA-005-N-S025-01162025	61.7	74.6	69.9	98.6	53.3	47.7	42.5	40.8
LCS 320-855628/3-A	Lab Control Sample	79.1	88.0	83.0	93.1	58.9	53.6	50.9	53.2
LCSD 320-855628/4-A	Lab Control Sample Dup	81.5	89.8	82.7	89.5	51.5	49.4	46.6	45.4
LLCS 320-855628/2-A	Lab Control Sample	78.2	87.9	88.5	92.9	68.4	61.8	57.1	55.5
MB 320-855628/1-A	Method Blank	76.8	94.0	88.1	96.8	63.0	57.4	46.7	46.0

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-855628/1-A
Matrix: Solid
Analysis Batch: 856045

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 855628

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-855628/1-A
Matrix: Solid
Analysis Batch: 856045

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 855628

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		06/05/25 04:25	06/07/25 04:27	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		06/05/25 04:25	06/07/25 04:27	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*106*		*8 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C5 PFPeA	*114*		*35 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C5 PFHxA	*107*		*40 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C4 PFHpA	*109*		*40 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C8 PFOA	*101*		*40 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C9 PFNA	*98.0*		*40 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C6 PFDA	*85.5*		*40 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C7 PFUnA	*91.2*		*40 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C2 PFDoA	*77.6*		*40 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C2 PFTeDA	*70.7*		*20 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C3 PFBS	*95.1*		*40 - 135*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C3 PFHxS	*90.8*		*40 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C8 PFOS	*81.9*		*40 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C8 FOSA	*77.5*		*40 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
d3-NMeFOSAA	*71.3*		*40 - 135*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
d5-NEtFOSAA	*72.9*		*40 - 150*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C2 4:2 FTS	*76.8*		*40 - 165*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C2 6:2 FTS	*94.0*		*40 - 215*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C2 8:2 FTS	*88.1*		*40 - 275*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
13C3 HFPO-DA	*96.8*		*40 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
d7-N-MeFOSE-M	*63.0*		*20 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
d9-N-EtFOSE-M	*57.4*		*15 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
d5-NEtPFOSA	*46.7*		*10 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*
d3-NMePFOSA	*46.0*		*10 - 130*	*06/05/25 04:25*	*06/07/25 04:27*	*1*

Lab Sample ID: LCS 320-855628/3-A
Matrix: Solid
Analysis Batch: 856045

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 855628

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.66		ug/Kg		93	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	1.94		ug/Kg		78	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.14		ug/Kg		86	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.30		ug/Kg		92	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.18		ug/Kg		87	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.12		ug/Kg		85	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.45		ug/Kg		98	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-855628/3-A
Matrix: Solid
Analysis Batch: 856045

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 855628

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.17		ug/Kg		87	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.49		ug/Kg		100	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.74		ug/Kg		109	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.70		ug/Kg		108	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	1.99		ug/Kg		90	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.25		ug/Kg		96	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.17		ug/Kg		95	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.42		ug/Kg		101	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.24		ug/Kg		96	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.18		ug/Kg		91	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	1.90		ug/Kg		79	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	1.83		ug/Kg		75	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.48		ug/Kg		95	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.36		ug/Kg		92	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.43		ug/Kg		92	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.38		ug/Kg		95	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.46		ug/Kg		98	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.78		ug/Kg		111	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.53		ug/Kg		101	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.43		ug/Kg		97	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.5		ug/Kg		100	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.9		ug/Kg		103	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	2.05		ug/Kg		109	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.41		ug/Kg		102	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	1.99		ug/Kg		80	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.09		ug/Kg		84	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.06		ug/Kg		83	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-855628/3-A
Matrix: Solid
Analysis Batch: 856045

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 855628

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.18		ug/Kg		93	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.85		ug/Kg		78	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.07		ug/Kg		93	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.04		ug/Kg		81	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.3		ug/Kg		82	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.3		ug/Kg		91	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*107*		*8 - 130*
13C5 PFPeA	*111*		*35 - 130*
13C5 PFHxA	*99.7*		*40 - 130*
13C4 PFHpA	*102*		*40 - 130*
13C8 PFOA	*105*		*40 - 130*
13C9 PFNA	*99.8*		*40 - 130*
13C6 PFDA	*84.8*		*40 - 130*
13C7 PFUnA	*82.3*		*40 - 130*
13C2 PFDoA	*65.2*		*40 - 130*
13C2 PFTeDA	*63.1*		*20 - 130*
13C3 PFBS	*97.4*		*40 - 135*
13C3 PFHxS	*88.4*		*40 - 130*
13C8 PFOS	*82.4*		*40 - 130*
13C8 FOSA	*77.1*		*40 - 130*
d3-NMeFOSAA	*65.3*		*40 - 135*
d5-NEtFOSAA	*65.5*		*40 - 150*
13C2 4:2 FTS	*79.1*		*40 - 165*
13C2 6:2 FTS	*88.0*		*40 - 215*
13C2 8:2 FTS	*83.0*		*40 - 275*
13C3 HFPO-DA	*93.1*		*40 - 130*
d7-N-MeFOSE-M	*58.9*		*20 - 130*
d9-N-EtFOSE-M	*53.6*		*15 - 130*
d5-NEtPFOSA	*50.9*		*10 - 130*
d3-NMePFOSA	*53.2*		*10 - 130*

Lab Sample ID: LCSD 320-855628/4-A
Matrix: Solid
Analysis Batch: 856045

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 855628

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.62		ug/Kg		92	70 - 140	1	30
Perfluoropentanoic acid (PFPeA)			2.50	1.79		ug/Kg		72	60 - 150	8	30
Perfluorohexanoic acid (PFHxA)			2.50	2.26		ug/Kg		90	65 - 140	6	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.24		ug/Kg		89	65 - 145	3	30
Perfluorooctanoic acid (PFOA)			2.50	2.23		ug/Kg		89	70 - 150	2	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-855628/4-A
Matrix: Solid
Analysis Batch: 856045

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 855628

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.12		ug/Kg		85	70 - 155	0	30
Perfluorodecanoic acid (PFDA)	2.50	2.50		ug/Kg		100	70 - 155	2	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.16		ug/Kg		86	70 - 155	0	30
Perfluorododecanoic acid (PFDoA)	2.50	2.51		ug/Kg		100	70 - 150	1	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.74		ug/Kg		110	65 - 150	0	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.86		ug/Kg		115	65 - 150	6	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.18		ug/Kg		98	65 - 145	9	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.27		ug/Kg		97	55 - 160	1	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.15		ug/Kg		94	60 - 150	1	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.50		ug/Kg		105	65 - 155	3	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.33		ug/Kg		100	65 - 160	4	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.25		ug/Kg		94	55 - 140	3	30
Perfluorodecanesulfonic acid (PFDS)	2.41	1.87		ug/Kg		77	40 - 155	2	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	1.84		ug/Kg		76	25 - 160	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.59		ug/Kg		98	60 - 150	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.26		ug/Kg		89	55 - 200	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.72		ug/Kg		98	70 - 150	6	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.42		ug/Kg		97	70 - 140	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.55		ug/Kg		102	70 - 155	4	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.74		ug/Kg		109	70 - 140	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.58		ug/Kg		103	65 - 155	2	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.51		ug/Kg		100	65 - 165	3	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	13.0		ug/Kg		104	70 - 140	5	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.3		ug/Kg		99	70 - 135	5	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.90		ug/Kg		101	70 - 145	7	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.50		ug/Kg		106	70 - 160	4	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	1.99		ug/Kg		79	30 - 140	0	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.19		ug/Kg		88	60 - 150	5	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-855628/4-A
Matrix: Solid
Analysis Batch: 856045

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 855628

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	1.84		ug/Kg		73	60 - 155	12	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.05		ug/Kg		88	70 - 150	6	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.69		ug/Kg		72	45 - 160	9	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.09		ug/Kg		94	70 - 140	1	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.09		ug/Kg		82	45 - 130	1	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.8		ug/Kg		86	60 - 130	5	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.1		ug/Kg		89	60 - 150	2	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*106*		*8 - 130*
13C5 PFPeA	*107*		*35 - 130*
13C5 PFHxA	*96.1*		*40 - 130*
13C4 PFHpA	*100*		*40 - 130*
13C8 PFOA	*100*		*40 - 130*
13C9 PFNA	*97.3*		*40 - 130*
13C6 PFDA	*84.3*		*40 - 130*
13C7 PFUnA	*83.5*		*40 - 130*
13C2 PFDoA	*65.2*		*40 - 130*
13C2 PFTeDA	*62.6*		*20 - 130*
13C3 PFBS	*100*		*40 - 135*
13C3 PFHxS	*92.1*		*40 - 130*
13C8 PFOS	*75.8*		*40 - 130*
13C8 FOSA	*66.2*		*40 - 130*
d3-NMeFOSAA	*66.3*		*40 - 135*
d5-NEtFOSAA	*66.7*		*40 - 150*
13C2 4:2 FTS	*81.5*		*40 - 165*
13C2 6:2 FTS	*89.8*		*40 - 215*
13C2 8:2 FTS	*82.7*		*40 - 275*
13C3 HFPO-DA	*89.5*		*40 - 130*
d7-N-MeFOSE-M	*51.5*		*20 - 130*
d9-N-EtFOSE-M	*49.4*		*15 - 130*
d5-NEtPFOSA	*46.6*		*10 - 130*
d3-NMePFOSA	*45.4*		*10 - 130*

Lab Sample ID: LLCS 320-855628/2-A
Matrix: Solid
Analysis Batch: 856045

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 855628

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.729		ug/Kg		91	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.343		ug/Kg		86	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.319		ug/Kg		80	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-855628/2-A
Matrix: Solid
Analysis Batch: 856045

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 855628

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.376		ug/Kg		94	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.346		ug/Kg		86	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.336		ug/Kg		84	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.398		ug/Kg		99	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.350		ug/Kg		88	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.419		ug/Kg		105	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.463		ug/Kg		116	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.433		ug/Kg		108	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.314		ug/Kg		88	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.356		ug/Kg		95	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.346		ug/Kg		95	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.384		ug/Kg		101	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.390		ug/Kg		105	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.381		ug/Kg		99	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.340		ug/Kg		88	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.331		ug/Kg		85	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.696		ug/Kg		93	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.661		ug/Kg		87	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.730		ug/Kg		95	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.391		ug/Kg		98	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.411		ug/Kg		103	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.454		ug/Kg		114	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.405		ug/Kg		101	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.411		ug/Kg		103	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.96		ug/Kg		98	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.08		ug/Kg		104	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.301		ug/Kg		100	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.393		ug/Kg		104	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.320		ug/Kg		80	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-855628/2-A
Matrix: Solid
Analysis Batch: 856045

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 855628

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.329		ug/Kg		82	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.323		ug/Kg		81	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.350		ug/Kg		94	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.333		ug/Kg		88	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.286		ug/Kg		80	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.665		ug/Kg		83	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	1.59		ug/Kg		80	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	1.60		ug/Kg		80	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*107*		*8 - 130*
13C5 PFPeA	*104*		*35 - 130*
13C5 PFHxA	*104*		*40 - 130*
13C4 PFHpA	*101*		*40 - 130*
13C8 PFOA	*105*		*40 - 130*
13C9 PFNA	*102*		*40 - 130*
13C6 PFDA	*88.6*		*40 - 130*
13C7 PFUnA	*88.8*		*40 - 130*
13C2 PFDoA	*75.2*		*40 - 130*
13C2 PFTeDA	*67.9*		*20 - 130*
13C3 PFBS	*95.4*		*40 - 135*
13C3 PFHxS	*91.9*		*40 - 130*
13C8 PFOS	*84.1*		*40 - 130*
13C8 FOSA	*82.1*		*40 - 130*
d3-NMeFOSAA	*71.6*		*40 - 135*
d5-NEtFOSAA	*76.2*		*40 - 150*
13C2 4:2 FTS	*78.2*		*40 - 165*
13C2 6:2 FTS	*87.9*		*40 - 215*
13C2 8:2 FTS	*88.5*		*40 - 275*
13C3 HFPO-DA	*92.9*		*40 - 130*
d7-N-MeFOSE-M	*68.4*		*20 - 130*
d9-N-EtFOSE-M	*61.8*		*15 - 130*
d5-NEtPFOSA	*57.1*		*10 - 130*
d3-NMePFOSA	*55.5*		*10 - 130*

QC Association Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-6

LCMS

Prep Batch: 855628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-28	JTA-005-N-S025-01162025	Total/NA	Solid	1633 Shake	
MB 320-855628/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-855628/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-855628/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-855628/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 856045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-28	JTA-005-N-S025-01162025	Total/NA	Solid	1633	855628
MB 320-855628/1-A	Method Blank	Total/NA	Solid	1633	855628
LCS 320-855628/3-A	Lab Control Sample	Total/NA	Solid	1633	855628
LCSD 320-855628/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	855628
LLCS 320-855628/2-A	Lab Control Sample	Total/NA	Solid	1633	855628

General Chemistry

Analysis Batch: 855265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-28	JTA-005-N-S025-01162025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118375-6
Project/Site: Spokane International Airport

Client Sample ID: JTA-005-N-S025-01162025
Lab Sample ID: 320-118375-28

Date Collected: 01/16/25 14:30
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			855265	06/03/25 13:44	JCB	EET SAC

Client Sample ID: JTA-005-N-S025-01162025
Lab Sample ID: 320-118375-28

Date Collected: 01/16/25 14:30
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 82.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.48 g	5.0 mL	855628	06/05/25 04:25	R1T	EET SAC
Total/NA	Analysis	1633		1			856045	06/07/25 05:33	RS1	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118375-6
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-06-26

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture
1633		Solid	Percent Solids

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-6

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-6

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118375-28	JTA-005-N-S025-01162025	Solid	01/16/25 14:30	01/18/25 09:00

Afsaneh Salimpour

From: Emily K. Stashak <EKStashak@gsi-net.com>
Sent: Monday, June 2, 2025 1:50 PM
To: Randee Arrington; Afsaneh Salimpour
Cc: Kenia Whitehead; Mass, Sarah; Caleb Grant
Subject: Spokane International Airport / Geiger Field PFAS Support : Sixth Sample Run

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Hello Afsaneh & Randee,

See below for a list of the next batch of samples we'd like to have analyzed for the Spokane International Airport / Geiger Field PFAS Support projects.

- JTA-002-N-S025-01152025 (590-29042/ 320-118378)
- JTA-005-N-S025-01162025 (590-29043/ 320-118375)
- JTA-009-N-S030-01172025 (590-29051/ 320-118424)

Please let me know if you have any questions.

Thanks!

Emily K. Stashak
Environmental Scientist

GSI ENVIRONMENTAL

GSI Environmental Inc.
10801-2 N MoPac, Suite 350 | Austin, Texas 78759
O 512.346.4474 | **C** 832.295.1607
E ekstashak@gsienv.com | www.gsienv.com |

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

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JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118375-5

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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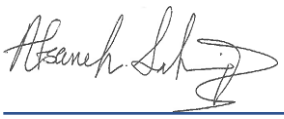
Authorization



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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118375-5
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
*3	ISTD response or retention time outside acceptable limits.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118375-5 — Eurofins Sacramento

Job Narrative
320-118375-5

Receipt
The samples were received on 1/18/2025 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.3º C.

LCMS
Method 1633: Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: JTA-005-N-S017-01162025 (320-118375-27). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 1633: The low level continuing calibration verification (CCVL) associated with batch 320-845716 recovered above the upper control limit for Nonafluoro-3,6-dioxaheptanoic acid (NFDHA). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 1633: The laboratory control sample duplicate (LCSD) for preparation batch 320-845125 and analytical batch 320-845716 recovered outside control limits for the following analytes: Nonafluoro-3,6-dioxaheptanoic acid (NFDHA). These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.(LCSD 320-845125/4-A)

Method 1633: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-845125 and analytical batch 320-845716 recovered outside control limits for the following analytes: Nonafluoro-3,6-dioxaheptanoic acid (NFDHA).

Method 1633: Results for sample JTA-005-N-S017-01162025 (320-118375-27) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 28 days. The request for the analysis of the following sample in analytical batch 320-844782 occurred outside this time period: JTA-005-N-S017-01162025 (320-118375-27).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-5

Client Sample ID: JTA-005-N-S017-01162025 — Lab Sample ID: 320-118375-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.097	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.11	J	0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.71		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.073	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.11	J	0.20	0.063	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	27		1.0	0.25	ug/Kg	5	☼	1633	Total/NA

Client Sample ID: JTA-005-N-S025-01162025 — Lab Sample ID: 320-118375-28

No Detections.

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-5

Client Sample ID: JTA-005-N-S017-01162025
Date Collected: 01/16/25 14:25
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-27
Matrix: Solid
Percent Solids: 93.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
Perfluorohexanoic acid (PFHxA)	**0.097**	**J**	0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
Perfluorooctanoic acid (PFOA)	**0.11**	**J**	0.20	0.062	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
Perfluorohexanesulfonic acid (PFHxS)	**0.71**		0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.073**	**J**	0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
Perfluorooctanesulfonamide (PFOSA)	**0.11**	**J**	0.20	0.063	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*+ *1	0.20	0.062	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1

Client Sample ID: JTA-005-N-S017-01162025

Date Collected: 01/16/25 14:25
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-27

Matrix: Solid
Percent Solids: 93.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	04/09/25 14:02	04/11/25 11:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*28.2*		*8 - 130*	*04/09/25 14:02*	*04/11/25 11:48*	*1*
13C5 PFPeA	*131*	*5+	*35 - 130*	*04/09/25 14:02*	*04/11/25 11:48*	*1*
13C5 PFHxA	*138*	*5+	*40 - 130*	*04/09/25 14:02*	*04/11/25 11:48*	*1*
13C4 PFHpA	*128*		*40 - 130*	*04/09/25 14:02*	*04/11/25 11:48*	*1*
13C8 PFOA	*130*		*40 - 130*	*04/09/25 14:02*	*04/11/25 11:48*	*1*
13C9 PFNA	*116*		*40 - 130*	*04/09/25 14:02*	*04/11/25 11:48*	*1*
13C6 PFDA	*133*	*5+	*40 - 130*	*04/09/25 14:02*	*04/11/25 11:48*	*1*
13C7 PFUnA	*125*		*40 - 130*	*04/09/25 14:02*	*04/11/25 11:48*	*1*
13C2 PFDoA	*140*	*5+	*40 - 130*	*04/09/25 14:02*	*04/11/25 11:48*	*1*
13C2 PFTeDA	*116*		*20 - 130*	*04/09/25 14:02*	*04/11/25 11:48*	*1*
13C3 PFBS	*121*		*40 - 135*	*04/09/25 14:02*	*04/11/25 11:48*	*1*
13C3 PFHxS	*111*		*40 - 130*	*04/09/25 14:02*	*04/11/25 11:48*	*1*
13C8 PFOS	*113*		*40 - 130*	*04/09/25 14:02*	*04/11/25 11:48*	*1*
13C8 FOSA	*131*	*5+	*40 - 130*	*04/09/25 14:02*	*04/11/25 11:48*	*1*
d3-NMeFOSAA	*138*	*5+	*40 - 135*	*04/09/25 14:02*	*04/11/25 11:48*	*1*
d5-NEtFOSAA	*134*		*40 - 150*	*04/09/25 14:02*	*04/11/25 11:48*	*1*
13C2 4:2 FTS	*137*		*40 - 165*	*04/09/25 14:02*	*04/11/25 11:48*	*1*
13C2 6:2 FTS	*118*		*40 - 215*	*04/09/25 14:02*	*04/11/25 11:48*	*1*
13C2 8:2 FTS	*165*		*40 - 275*	*04/09/25 14:02*	*04/11/25 11:48*	*1*
13C3 HFPO-DA	*140*	*5+	*40 - 130*	*04/09/25 14:02*	*04/11/25 11:48*	*1*
d7-N-MeFOSE-M	*118*		*20 - 130*	*04/09/25 14:02*	*04/11/25 11:48*	*1*
d9-N-EtFOSE-M	*114*		*15 - 130*	*04/09/25 14:02*	*04/11/25 11:48*	*1*
d5-NEtPFOSA	*124*		*10 - 130*	*04/09/25 14:02*	*04/11/25 11:48*	*1*
d3-NMePFOSA	*103*		*10 - 130*	*04/09/25 14:02*	*04/11/25 11:48*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**27**		1.0	0.25	ug/Kg	☼	04/09/25 14:02	04/15/25 12:36	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*81.0*	*3	*40 - 130*	*04/09/25 14:02*	*04/15/25 12:36*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**6.2**	**H**	0.10	0.10	%			04/08/25 12:26	1
Percent Solids (EPA 1633)	**94**	**H**	0.10	0.10	%			04/08/25 12:26	1

Client Sample Results

Client: GSI Environmental Inc
Job ID: 320-118375-5
Project/Site: Spokane International Airport

Client Sample ID: JTA-005-N-S025-01162025
Lab Sample ID: 320-118375-28
Date Collected: 01/16/25 14:30
Matrix: Solid
Date Received: 01/18/25 09:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	18	H	0.10	0.10	%			04/09/25 14:49	1
Percent Solids (EPA 1633)	82	H	0.10	0.10	%			04/09/25 14:49	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-5

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (8-130)	PFPeA (35-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (40-130)
320-118375-27	JTA-005-N-S017-01162025	28.2	131 *5+	138 *5+	128	130	116	133 *5+	125
320-118375-27 - DL	JTA-005-N-S017-01162025								
LCS 320-845125/3-A	Lab Control Sample	64.1	119	109	100	105	97.1	108	93.2
LCSD 320-845125/4-A	Lab Control Sample Dup	61.5	120	106	123	107	92.4	111	99.2
LLCS 320-845125/2-A	Lab Control Sample	58.7	119	99.0	106	96.2	84.6	112	91.6
MB 320-845125/1-A	Method Blank	69.3	109	97.5	110	110	99.1	115	94.3

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (40-130)	PFTDA (20-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-135)	d5NEFOS (40-150)
320-118375-27	JTA-005-N-S017-01162025	140 *5+	116	121	111	113	131 *5+	138 *5+	134
320-118375-27 - DL	JTA-005-N-S017-01162025					81.0 *3			
LCS 320-845125/3-A	Lab Control Sample	113	83.2	108	93.1	97.9	103	116	113
LCSD 320-845125/4-A	Lab Control Sample Dup	117	85.4	89.0	85.1	93.0	101	112	105
LLCS 320-845125/2-A	Lab Control Sample	107	86.9	89.6	85.9	85.6	92.2	102	96.0
MB 320-845125/1-A	Method Blank	114	89.5	101	85.8	92.0	105	116	116

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118375-27	JTA-005-N-S017-01162025	137	118	165	140 *5+	118	114	124	103
320-118375-27 - DL	JTA-005-N-S017-01162025								
LCS 320-845125/3-A	Lab Control Sample	112	99.0	175	112	108	102	101	85.8
LCSD 320-845125/4-A	Lab Control Sample Dup	93.9	89.5	153	118	97.6	86.7	97.0	82.9
LLCS 320-845125/2-A	Lab Control Sample	79.5	94.6	166	113	102	92.1	92.6	76.4
MB 320-845125/1-A	Method Blank	112	104	165	110	97.3	87.9	102	86.1

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118375-5
Project/Site: Spokane International Airport

d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-845125/1-A
Matrix: Solid
Analysis Batch: 845716

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 845125

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-845125/1-A
Matrix: Solid
Analysis Batch: 845716

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 845125

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		04/09/25 14:02	04/11/25 09:53	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		04/09/25 14:02	04/11/25 09:53	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*69.3*		*8 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C5 PFPeA	*109*		*35 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C5 PFHxA	*97.5*		*40 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C4 PFHpA	*110*		*40 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C8 PFOA	*110*		*40 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C9 PFNA	*99.1*		*40 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C6 PFDA	*115*		*40 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C7 PFUnA	*94.3*		*40 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C2 PFDoA	*114*		*40 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C2 PFTeDA	*89.5*		*20 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C3 PFBS	*101*		*40 - 135*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C3 PFHxS	*85.8*		*40 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C8 PFOS	*92.0*		*40 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C8 FOSA	*105*		*40 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
d3-NMeFOSAA	*116*		*40 - 135*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
d5-NEtFOSAA	*116*		*40 - 150*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C2 4:2 FTS	*112*		*40 - 165*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C2 6:2 FTS	*104*		*40 - 215*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C2 8:2 FTS	*165*		*40 - 275*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
13C3 HFPO-DA	*110*		*40 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
d7-N-MeFOSE-M	*97.3*		*20 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
d9-N-EtFOSE-M	*87.9*		*15 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
d5-NEtPFOSA	*102*		*10 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*
d3-NMePFOSA	*86.1*		*10 - 130*	*04/09/25 14:02*	*04/11/25 09:53*	*1*

Lab Sample ID: LCS 320-845125/3-A
Matrix: Solid
Analysis Batch: 845716

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 845125

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.75		ug/Kg		95	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.06		ug/Kg		82	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.22		ug/Kg		89	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.47		ug/Kg		99	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.55		ug/Kg		102	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.35		ug/Kg		94	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.31		ug/Kg		92	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-845125/3-A
Matrix: Solid
Analysis Batch: 845716

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 845125

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.40		ug/Kg		96	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.36		ug/Kg		95	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.37		ug/Kg		95	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.85		ug/Kg		114	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	1.94		ug/Kg		88	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.26		ug/Kg		96	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.97		ug/Kg		87	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.03		ug/Kg		85	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.03		ug/Kg		87	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.43		ug/Kg		101	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.28		ug/Kg		95	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.27		ug/Kg		93	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.25		ug/Kg		91	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.71		ug/Kg		99	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.34		ug/Kg		90	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.49		ug/Kg		100	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.75		ug/Kg		110	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.29		ug/Kg		92	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.33		ug/Kg		93	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.24		ug/Kg		90	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	10.7		ug/Kg		85	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	11.3		ug/Kg		90	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.73		ug/Kg		92	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.02		ug/Kg		86	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	1.71		ug/Kg		68	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.16		ug/Kg		87	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.23		ug/Kg		89	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-845125/3-A
Matrix: Solid
Analysis Batch: 845716

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 845125

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	1.99		ug/Kg		85	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.05		ug/Kg		87	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.98		ug/Kg		89	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	2.39		ug/Kg		48	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.9		ug/Kg		95	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.7		ug/Kg		94	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*64.1*		*8 - 130*
13C5 PFPeA	*119*		*35 - 130*
13C5 PFHxA	*109*		*40 - 130*
13C4 PFHpA	*100*		*40 - 130*
13C8 PFOA	*105*		*40 - 130*
13C9 PFNA	*97.1*		*40 - 130*
13C6 PFDA	*108*		*40 - 130*
13C7 PFUnA	*93.2*		*40 - 130*
13C2 PFDoA	*113*		*40 - 130*
13C2 PFTeDA	*83.2*		*20 - 130*
13C3 PFBS	*108*		*40 - 135*
13C3 PFHxS	*93.1*		*40 - 130*
13C8 PFOS	*97.9*		*40 - 130*
13C8 FOSA	*103*		*40 - 130*
d3-NMeFOSAA	*116*		*40 - 135*
d5-NEtFOSAA	*113*		*40 - 150*
13C2 4:2 FTS	*112*		*40 - 165*
13C2 6:2 FTS	*99.0*		*40 - 215*
13C2 8:2 FTS	*175*		*40 - 275*
13C3 HFPO-DA	*112*		*40 - 130*
d7-N-MeFOSE-M	*108*		*20 - 130*
d9-N-EtFOSE-M	*102*		*15 - 130*
d5-NEtPFOSA	*101*		*10 - 130*
d3-NMePFOSA	*85.8*		*10 - 130*

Lab Sample ID: LCSD 320-845125/4-A
Matrix: Solid
Analysis Batch: 845716

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 845125

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	5.01		ug/Kg		100	70 - 140	5	30
Perfluoropentanoic acid (PFPeA)			2.50	2.17		ug/Kg		87	60 - 150	5	30
Perfluorohexanoic acid (PFHxA)			2.50	2.24		ug/Kg		90	65 - 140	1	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.41		ug/Kg		97	65 - 145	2	30
Perfluorooctanoic acid (PFOA)			2.50	2.56		ug/Kg		102	70 - 150	0	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-845125/4-A
Matrix: Solid
Analysis Batch: 845716

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 845125

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.26		ug/Kg		90	70 - 155	4	30
Perfluorodecanoic acid (PFDA)	2.50	2.40		ug/Kg		96	70 - 155	4	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.31		ug/Kg		92	70 - 155	4	30
Perfluorododecanoic acid (PFDoA)	2.50	2.26		ug/Kg		90	70 - 150	4	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.19		ug/Kg		88	65 - 150	8	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.87		ug/Kg		115	65 - 150	1	30
Perfluorobutanesulfonic acid (PFBS)	2.22	1.97		ug/Kg		89	65 - 145	1	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.20		ug/Kg		94	55 - 160	3	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.94		ug/Kg		85	60 - 150	2	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.28		ug/Kg		96	65 - 155	12	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.08		ug/Kg		90	65 - 160	3	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.42		ug/Kg		101	55 - 140	0	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.35		ug/Kg		98	40 - 155	3	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.21		ug/Kg		91	25 - 160	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.55		ug/Kg		97	60 - 150	7	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.56		ug/Kg		96	55 - 200	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.43		ug/Kg		92	70 - 150	2	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.48		ug/Kg		99	70 - 140	0	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.70		ug/Kg		108	70 - 155	2	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.34		ug/Kg		93	70 - 140	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.24		ug/Kg		90	65 - 155	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.24		ug/Kg		90	65 - 165	0	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	10.7		ug/Kg		86	70 - 140	0	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.1		ug/Kg		97	70 - 135	7	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.76		ug/Kg		94	70 - 145	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.20		ug/Kg		93	70 - 160	9	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	1.93		ug/Kg		77	30 - 140	12	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.45		ug/Kg		98	60 - 150	12	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-845125/4-A
Matrix: Solid
Analysis Batch: 845716

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 845125

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	3.91	*+ *1	ug/Kg		156	60 - 155	55	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.08		ug/Kg		89	70 - 150	5	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.15		ug/Kg		91	45 - 160	4	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.03		ug/Kg		91	70 - 140	3	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	2.57		ug/Kg		51	45 - 130	7	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	13.3		ug/Kg		106	60 - 130	11	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	13.6		ug/Kg		109	60 - 150	15	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*61.5*		*8 - 130*
13C5 PFPeA	*120*		*35 - 130*
13C5 PFHxA	*106*		*40 - 130*
13C4 PFHpA	*123*		*40 - 130*
13C8 PFOA	*107*		*40 - 130*
13C9 PFNA	*92.4*		*40 - 130*
13C6 PFDA	*111*		*40 - 130*
13C7 PFUnA	*99.2*		*40 - 130*
13C2 PFDoA	*117*		*40 - 130*
13C2 PFTeDA	*85.4*		*20 - 130*
13C3 PFBS	*89.0*		*40 - 135*
13C3 PFHxS	*85.1*		*40 - 130*
13C8 PFOS	*93.0*		*40 - 130*
13C8 FOSA	*101*		*40 - 130*
d3-NMeFOSAA	*112*		*40 - 135*
d5-NEtFOSAA	*105*		*40 - 150*
13C2 4:2 FTS	*93.9*		*40 - 165*
13C2 6:2 FTS	*89.5*		*40 - 215*
13C2 8:2 FTS	*153*		*40 - 275*
13C3 HFPO-DA	*118*		*40 - 130*
d7-N-MeFOSE-M	*97.6*		*20 - 130*
d9-N-EtFOSE-M	*86.7*		*15 - 130*
d5-NEtPFOSA	*97.0*		*10 - 130*
d3-NMePFOSA	*82.9*		*10 - 130*

Lab Sample ID: LLCS 320-845125/2-A
Matrix: Solid
Analysis Batch: 845716

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 845125

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.805		ug/Kg		101	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.354		ug/Kg		88	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.386		ug/Kg		97	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-845125/2-A
Matrix: Solid
Analysis Batch: 845716

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 845125

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.451		ug/Kg		113	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.450		ug/Kg		112	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.449		ug/Kg		112	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.382		ug/Kg		95	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.407		ug/Kg		102	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.398		ug/Kg		99	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.407		ug/Kg		102	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.454		ug/Kg		114	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.358		ug/Kg		101	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.394		ug/Kg		105	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.360		ug/Kg		99	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.374		ug/Kg		98	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.353		ug/Kg		95	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.406		ug/Kg		106	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.402		ug/Kg		104	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.382		ug/Kg		98	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.889		ug/Kg		118	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.819		ug/Kg		108	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.777		ug/Kg		101	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.429		ug/Kg		107	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.467		ug/Kg		117	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.389		ug/Kg		97	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.410		ug/Kg		102	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.397		ug/Kg		99	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.78		ug/Kg		89	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	1.91		ug/Kg		96	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.293		ug/Kg		98	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.387		ug/Kg		102	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.277		ug/Kg		69	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-845125/2-A
Matrix: Solid
Analysis Batch: 845716

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 845125

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.400	0.391		ug/Kg		98	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.400	0.427		ug/Kg		107	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	0.374	0.350		ug/Kg		94	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	0.378	0.342		ug/Kg		90	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.357	0.381		ug/Kg		107	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.800	0.366	J	ug/Kg		46	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	2.00	2.22		ug/Kg		111	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	2.00	2.33		ug/Kg		117	60 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*58.7*		*8 - 130*
13C5 PFPeA	*119*		*35 - 130*
13C5 PFHxA	*99.0*		*40 - 130*
13C4 PFHpA	*106*		*40 - 130*
13C8 PFOA	*96.2*		*40 - 130*
13C9 PFNA	*84.6*		*40 - 130*
13C6 PFDA	*112*		*40 - 130*
13C7 PFUnA	*91.6*		*40 - 130*
13C2 PFDoA	*107*		*40 - 130*
13C2 PFTeDA	*86.9*		*20 - 130*
13C3 PFBS	*89.6*		*40 - 135*
13C3 PFHxS	*85.9*		*40 - 130*
13C8 PFOS	*85.6*		*40 - 130*
13C8 FOSA	*92.2*		*40 - 130*
d3-NMeFOSAA	*102*		*40 - 135*
d5-NEtFOSAA	*96.0*		*40 - 150*
13C2 4:2 FTS	*79.5*		*40 - 165*
13C2 6:2 FTS	*94.6*		*40 - 215*
13C2 8:2 FTS	*166*		*40 - 275*
13C3 HFPO-DA	*113*		*40 - 130*
d7-N-MeFOSE-M	*102*		*20 - 130*
d9-N-EtFOSE-M	*92.1*		*15 - 130*
d5-NEtPFOSA	*92.6*		*10 - 130*
d3-NMePFOSA	*76.4*		*10 - 130*

QC Association Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-5

LCMS

Prep Batch: 845125

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-27	JTA-005-N-S017-01162025	Total/NA	Solid	1633 Shake	
320-118375-27 - DL	JTA-005-N-S017-01162025	Total/NA	Solid	1633 Shake	
MB 320-845125/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-845125/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-845125/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-845125/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 845716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-27	JTA-005-N-S017-01162025	Total/NA	Solid	1633	845125
MB 320-845125/1-A	Method Blank	Total/NA	Solid	1633	845125
LCS 320-845125/3-A	Lab Control Sample	Total/NA	Solid	1633	845125
LCSD 320-845125/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	845125
LLCS 320-845125/2-A	Lab Control Sample	Total/NA	Solid	1633	845125

Analysis Batch: 846147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-27 - DL	JTA-005-N-S017-01162025	Total/NA	Solid	1633	845125

General Chemistry

Analysis Batch: 844782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-27	JTA-005-N-S017-01162025	Total/NA	Solid	1633	

Analysis Batch: 845130

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-28	JTA-005-N-S025-01162025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-5

Client Sample ID: JTA-005-N-S017-01162025
Lab Sample ID: 320-118375-27
Date Collected: 01/16/25 14:25
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			844782	04/08/25 12:26	JCB	EET SAC

Client Sample ID: JTA-005-N-S017-01162025
Lab Sample ID: 320-118375-27
Date Collected: 01/16/25 14:25
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 93.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.14 g	5.0 mL	845125	04/09/25 14:02	ATB	EET SAC
Total/NA	Analysis	1633		1			845716	04/11/25 11:48	EMF	EET SAC
Total/NA	Prep	1633 Shake	DL		2.14 g	5.0 mL	845125	04/09/25 14:02	ATB	EET SAC
Total/NA	Analysis	1633	DL	5			846147	04/15/25 12:36	EMF	EET SAC

Client Sample ID: JTA-005-N-S025-01162025
Lab Sample ID: 320-118375-28
Date Collected: 01/16/25 14:30
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			845130	04/09/25 14:49	K1D	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118375-5
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture
1633		Solid	Percent Solids

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-5

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-5

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118375-27	JTA-005-N-S017-01162025	Solid	01/16/25 14:25	01/18/25 09:00
320-118375-28	JTA-005-N-S025-01162025	Solid	01/16/25 14:30	01/18/25 09:00

Afsaneh Salimpour

From: Emily K. Stashak <EKStashak@gsi-net.com>
Sent: Monday, April 28, 2025 2:59 PM
To: Afsaneh Salimpour
Cc: Kenia Whitehead; Caleb Grant; Mass, Sarah
Subject: RE: Spokane International Airport - Fifth Round Analysis & Sample Extraction

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Hello Afsaneh,

Please proceed with 1633 analysis for the following soil samples:

COC	Client Sample ID
320-118378	JTA-002-N-S020-01152025
320-118375	JTA-005-N-S017-01162025
320-118424	JTA-008-N-S017-01172025
320-118424	JTA-009-N-S020-01172025

Let me know if you have any questions.

Best,

Emily K. Stashak
Environmental Scientist
GSI Environmental Inc.
O 512.346.4474 | **C** 832.295.1607

From: Afsaneh Salimpour <Afsaneh.Salimpour@et.eurofinsus.com>
Sent: Tuesday, April 8, 2025 3:08 PM
To: Emily K. Stashak <EKStashak@gsi-net.com>
Cc: Kenia Whitehead <kwhitehead@gsi-net.com>; Caleb Grant <cgrant@gsi-net.com>; Mass, Sarah <SMass@haleyaldrich.com>
Subject: RE: Spokane International Airport - Fifth Round Analysis & Sample Extraction

I will make the changes.
thanks

Afsaneh Salimpour
(she/her)
Project Manager

Eurofins Environment Testing Northern California, LLC-Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
USA

Phone: 510-410-7009
Main office: 916-373-5600
E-mail: Afsaneh.Salimpour@et.eurofinsus.com
www.eurofinsus.com/env

From: Emily K. Stashak <EKStashak@gsi-net.com>
Sent: Tuesday, April 8, 2025 12:53 PM
To: Afsaneh Salimpour <Afsaneh.Salimpour@et.eurofinsus.com>
Cc: Kenia Whitehead <kwhitehead@gsi-net.com>; Caleb Grant <cgrant@gsi-net.com>; Mass, Sarah <SMass@haleyaldrich.com>
Subject: RE: Spokane International Airport - Fifth Round Analysis & Sample Extraction

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Correct.

Thanks!

Emily K. Stashak
Environmental Scientist

GSI Environmental Inc.
O 512.346.4474 | **C** 832.295.1607

From: Afsaneh Salimpour <Afsaneh.Salimpour@et.eurofinsus.com>
Sent: Tuesday, April 8, 2025 2:52 PM
To: Emily K. Stashak <EKStashak@gsi-net.com>
Cc: Kenia Whitehead <kwhitehead@gsi-net.com>; Caleb Grant <cgrant@gsi-net.com>; Mass, Sarah <SMass@haleyaldrich.com>
Subject: RE: Spokane International Airport - Fifth Round Analysis & Sample Extraction

Emily,
To confirm you all the attached samples to be extracted but hold for the analysis? Correct?
thanks

Afsaneh Salimpour
(she/her)
Project Manager

Eurofins Environment Testing Northern California, LLC-Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
USA

Phone: 510-410-7009
Main office: 916-373-5600
E-mail: Afsaneh.Salimpour@et.eurofinsus.com
www.eurofinsus.com/env

From: Emily K. Stashak <EKStashak@gsi-net.com>
Sent: Tuesday, April 8, 2025 12:47 PM

To: Afsaneh Salimpour <Afsaneh.Salimpour@et.eurofinsus.com>
Cc: Kenia Whitehead <kwhitehead@gsi-net.com>; Caleb Grant <cgrant@gsi-net.com>; Mass, Sarah <SMass@haleyaldrich.com>
Subject: RE: Spokane International Airport - Fifth Round Analysis & Sample Extraction

Unverified Sender: The sender of this email has not been verified. Review the content of the message carefully and verify the identity of the sender before acting on this email: replying, opening attachments or clicking links.

Hello Afsaneh,

So sorry to change our fifth sample analysis request again, can we modify so that *all samples* listed in the sheet I sent are extracted but on hold for 1633 analysis?

Best,

Emily K. Stashak
Environmental Scientist

GSI Environmental Inc.
O 512.346.4474 | **C** 832.295.1607

From: Emily K. Stashak
Sent: Monday, April 7, 2025 7:24 PM
To: Afsaneh.Salimpour@et.eurofinsus.com
Cc: Kenia Whitehead <kwhitehead@gsi-net.com>; Caleb Grant <cgrant@gsi-net.com>; Mass, Sarah <SMass@haleyaldrich.com>
Subject: Spokane International Airport - Fifth Round Analysis & Sample Extraction

Hello Afsaneh,

Please see the attached list of the next samples to run for the fifth round of analysis or those to be extracted to extend the hold time for PFAS.
While we're still waiting on a couple of results from the fourth round of analysis, I wanted to make sure we get the extraction done before the hold time expires for samples still under consideration for analysis.
Let me know if you have any questions.

Best,

Emily K. Stashak
Environmental Scientist

GSI ENVIRONMENTAL

GSI Environmental Inc.
10801-2 N MoPac, Suite 350 | Austin, Texas 78759
O 512.346.4474 | **C** 832.295.1607
E ekstashak@gsienv.com | www.gsienv.com |

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 4/2/2025 8:04:44 AM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118375-4

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

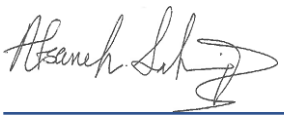
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



Generated
4/2/2025 8:04:44 AM

Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118375-4
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118375-4 — Eurofins Sacramento

Job Narrative
320-118375-4

Receipt
The samples were received on 1/18/2025 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.3º C.

LCMS
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 28 days. The following samples in analytical batch 320-841906 were prepared and analyzed outside this time period because the request for the analysis came after 28 days had passed : JTA-005-N-S015-01162025 (320-118375-26).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-4

Client Sample ID: JTA-005-N-S015-01162025

Lab Sample ID: 320-118375-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.16	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.50		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.066	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	19		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.088	J	0.20	0.062	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-4

Client Sample ID: JTA-005-N-S015-01162025
Date Collected: 01/16/25 13:50
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-26
Matrix: Solid
Percent Solids: 92.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
Perfluorohexanoic acid (PFHxA)	**0.16**	**J**	0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
Perfluorohexanesulfonic acid (PFHxS)	**0.50**		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.066**	**J**	0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
Perfluorooctanesulfonic acid (PFOS)	**19**		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
Perfluorooctanesulfonamide (PFOSA)	**0.088**	**J**	0.20	0.062	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.25	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.25	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1

Client Sample ID: JTA-005-N-S015-01162025
Date Collected: 01/16/25 13:50
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-26
Matrix: Solid
Percent Solids: 92.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	03/31/25 07:16	04/01/25 14:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*100*		*8 - 130*	*03/31/25 07:16*	*04/01/25 14:59*	*1*
13C5 PFPeA	*90.8*		*35 - 130*	*03/31/25 07:16*	*04/01/25 14:59*	*1*
13C5 PFHxA	*97.3*		*40 - 130*	*03/31/25 07:16*	*04/01/25 14:59*	*1*
13C4 PFHpA	*95.7*		*40 - 130*	*03/31/25 07:16*	*04/01/25 14:59*	*1*
13C8 PFOA	*94.5*		*40 - 130*	*03/31/25 07:16*	*04/01/25 14:59*	*1*
13C9 PFNA	*90.9*		*40 - 130*	*03/31/25 07:16*	*04/01/25 14:59*	*1*
13C6 PFDA	*85.0*		*40 - 130*	*03/31/25 07:16*	*04/01/25 14:59*	*1*
13C7 PFUnA	*72.4*		*40 - 130*	*03/31/25 07:16*	*04/01/25 14:59*	*1*
13C2 PFDoA	*67.8*		*40 - 130*	*03/31/25 07:16*	*04/01/25 14:59*	*1*
13C2 PFTeDA	*59.3*		*20 - 130*	*03/31/25 07:16*	*04/01/25 14:59*	*1*
13C3 PFBS	*96.3*		*40 - 135*	*03/31/25 07:16*	*04/01/25 14:59*	*1*
13C3 PFHxS	*85.8*		*40 - 130*	*03/31/25 07:16*	*04/01/25 14:59*	*1*
13C8 PFOS	*80.1*		*40 - 130*	*03/31/25 07:16*	*04/01/25 14:59*	*1*
13C8 FOSA	*76.4*		*40 - 130*	*03/31/25 07:16*	*04/01/25 14:59*	*1*
d3-NMeFOSAA	*91.3*		*40 - 135*	*03/31/25 07:16*	*04/01/25 14:59*	*1*
d5-NEtFOSAA	*84.5*		*40 - 150*	*03/31/25 07:16*	*04/01/25 14:59*	*1*
13C2 4:2 FTS	*94.8*		*40 - 165*	*03/31/25 07:16*	*04/01/25 14:59*	*1*
13C2 6:2 FTS	*100*		*40 - 215*	*03/31/25 07:16*	*04/01/25 14:59*	*1*
13C2 8:2 FTS	*79.7*		*40 - 275*	*03/31/25 07:16*	*04/01/25 14:59*	*1*
13C3 HFPO-DA	*91.9*		*40 - 130*	*03/31/25 07:16*	*04/01/25 14:59*	*1*
d7-N-MeFOSE-M	*61.5*		*20 - 130*	*03/31/25 07:16*	*04/01/25 14:59*	*1*
d9-N-EtFOSE-M	*56.1*		*15 - 130*	*03/31/25 07:16*	*04/01/25 14:59*	*1*
d5-NEtPFOSA	*57.1*		*10 - 130*	*03/31/25 07:16*	*04/01/25 14:59*	*1*
d3-NMePFOSA	*52.9*		*10 - 130*	*03/31/25 07:16*	*04/01/25 14:59*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**7.4**	**H**	0.10	0.10	%			03/24/25 13:12	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-4

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(8-130)	(35-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)
320-118375-26	JTA-005-N-S015-01162025	100	90.8	97.3	95.7	94.5	90.9	85.0	72.4
LCS 320-843241/3-A	Lab Control Sample	94.1	92.5	95.3	102	98.8	97.2	91.5	85.0
LCSD 320-843241/4-A	Lab Control Sample Dup	103	93.8	95.7	97.9	94.9	94.8	85.2	75.6
LLCS 320-843241/2-A	Lab Control Sample	97.8	98.9	97.6	91.8	94.8	95.0	86.0	79.6
MB 320-843241/1-A	Method Blank	94.7	89.7	89.8	93.9	94.8	91.6	84.8	74.3

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(40-130)	(20-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-135)	(40-150)
320-118375-26	JTA-005-N-S015-01162025	67.8	59.3	96.3	85.8	80.1	76.4	91.3	84.5
LCS 320-843241/3-A	Lab Control Sample	73.7	67.9	84.9	84.5	82.9	74.2	94.1	87.9
LCSD 320-843241/4-A	Lab Control Sample Dup	66.5	60.5	84.8	85.1	81.6	82.2	99.9	89.5
LLCS 320-843241/2-A	Lab Control Sample	82.5	71.2	88.3	88.6	78.1	83.5	98.8	89.3
MB 320-843241/1-A	Method Blank	65.1	62.5	93.0	85.5	76.1	66.8	86.0	74.6

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-165)	(40-215)	(40-275)	(40-130)	(20-130)	(15-130)	(10-130)	(10-130)
320-118375-26	JTA-005-N-S015-01162025	94.8	100	79.7	91.9	61.5	56.1	57.1	52.9
LCS 320-843241/3-A	Lab Control Sample	91.3	84.3	84.9	89.9	55.3	49.0	54.9	49.1
LCSD 320-843241/4-A	Lab Control Sample Dup	97.5	86.7	94.2	96.6	66.4	53.4	57.0	53.9
LLCS 320-843241/2-A	Lab Control Sample	97.4	95.3	86.9	95.5	70.9	63.3	56.7	52.4
MB 320-843241/1-A	Method Blank	107	93.6	91.1	87.7	48.6	44.0	47.1	45.7

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-843241/1-A
Matrix: Solid
Analysis Batch: 843597

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 843241

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-843241/1-A
Matrix: Solid
Analysis Batch: 843597

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 843241

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 13:53	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 13:53	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*94.7*		*8 - 130*	*03/31/25 07:16*	*04/01/25 13:53*	*1*
13C5 PFPeA	*89.7*		*35 - 130*	*03/31/25 07:16*	*04/01/25 13:53*	*1*
13C5 PFHxA	*89.8*		*40 - 130*	*03/31/25 07:16*	*04/01/25 13:53*	*1*
13C4 PFHpA	*93.9*		*40 - 130*	*03/31/25 07:16*	*04/01/25 13:53*	*1*
13C8 PFOA	*94.8*		*40 - 130*	*03/31/25 07:16*	*04/01/25 13:53*	*1*
13C9 PFNA	*91.6*		*40 - 130*	*03/31/25 07:16*	*04/01/25 13:53*	*1*
13C6 PFDA	*84.8*		*40 - 130*	*03/31/25 07:16*	*04/01/25 13:53*	*1*
13C7 PFUnA	*74.3*		*40 - 130*	*03/31/25 07:16*	*04/01/25 13:53*	*1*
13C2 PFDoA	*65.1*		*40 - 130*	*03/31/25 07:16*	*04/01/25 13:53*	*1*
13C2 PFTeDA	*62.5*		*20 - 130*	*03/31/25 07:16*	*04/01/25 13:53*	*1*
13C3 PFBS	*93.0*		*40 - 135*	*03/31/25 07:16*	*04/01/25 13:53*	*1*
13C3 PFHxS	*85.5*		*40 - 130*	*03/31/25 07:16*	*04/01/25 13:53*	*1*
13C8 PFOS	*76.1*		*40 - 130*	*03/31/25 07:16*	*04/01/25 13:53*	*1*
13C8 FOSA	*66.8*		*40 - 130*	*03/31/25 07:16*	*04/01/25 13:53*	*1*
d3-NMeFOSAA	*86.0*		*40 - 135*	*03/31/25 07:16*	*04/01/25 13:53*	*1*
d5-NEtFOSAA	*74.6*		*40 - 150*	*03/31/25 07:16*	*04/01/25 13:53*	*1*
13C2 4:2 FTS	*107*		*40 - 165*	*03/31/25 07:16*	*04/01/25 13:53*	*1*
13C2 6:2 FTS	*93.6*		*40 - 215*	*03/31/25 07:16*	*04/01/25 13:53*	*1*
13C2 8:2 FTS	*91.1*		*40 - 275*	*03/31/25 07:16*	*04/01/25 13:53*	*1*
13C3 HFPO-DA	*87.7*		*40 - 130*	*03/31/25 07:16*	*04/01/25 13:53*	*1*
d7-N-MeFOSE-M	*48.6*		*20 - 130*	*03/31/25 07:16*	*04/01/25 13:53*	*1*
d9-N-EtFOSE-M	*44.0*		*15 - 130*	*03/31/25 07:16*	*04/01/25 13:53*	*1*
d5-NEtPFOSA	*47.1*		*10 - 130*	*03/31/25 07:16*	*04/01/25 13:53*	*1*
d3-NMePFOSA	*45.7*		*10 - 130*	*03/31/25 07:16*	*04/01/25 13:53*	*1*

Lab Sample ID: LCS 320-843241/3-A
Matrix: Solid
Analysis Batch: 843597

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	5.18		ug/Kg		104	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.35		ug/Kg		94	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.36		ug/Kg		94	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.24		ug/Kg		90	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.19		ug/Kg		88	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.58		ug/Kg		103	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.55		ug/Kg		102	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-843241/3-A
Matrix: Solid
Analysis Batch: 843597

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.45		ug/Kg		98	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.47		ug/Kg		99	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.52		ug/Kg		101	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.81		ug/Kg		112	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.03		ug/Kg		91	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.22		ug/Kg		95	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.12		ug/Kg		93	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.66		ug/Kg		111	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.26		ug/Kg		97	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.45		ug/Kg		102	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.05		ug/Kg		85	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.00		ug/Kg		83	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.77		ug/Kg		102	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.69		ug/Kg		99	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.57		ug/Kg		95	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.49		ug/Kg		99	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.60		ug/Kg		104	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.29		ug/Kg		92	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.35		ug/Kg		94	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.26		ug/Kg		90	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.3		ug/Kg		99	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.9		ug/Kg		103	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.69		ug/Kg		90	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.28		ug/Kg		97	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.38		ug/Kg		95	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.53		ug/Kg		101	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.67		ug/Kg		107	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-843241/3-A
Matrix: Solid
Analysis Batch: 843597

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.25		ug/Kg		96	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.87		ug/Kg		79	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.12		ug/Kg		95	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.85		ug/Kg		97	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*94.1*		*8 - 130*
13C5 PFPeA	*92.5*		*35 - 130*
13C5 PFHxA	*95.3*		*40 - 130*
13C4 PFHpA	*102*		*40 - 130*
13C8 PFOA	*98.8*		*40 - 130*
13C9 PFNA	*97.2*		*40 - 130*
13C6 PFDA	*91.5*		*40 - 130*
13C7 PFUnA	*85.0*		*40 - 130*
13C2 PFDoA	*73.7*		*40 - 130*
13C2 PFTeDA	*67.9*		*20 - 130*
13C3 PFBS	*84.9*		*40 - 135*
13C3 PFHxS	*84.5*		*40 - 130*
13C8 PFOS	*82.9*		*40 - 130*
13C8 FOSA	*74.2*		*40 - 130*
d3-NMeFOSAA	*94.1*		*40 - 135*
d5-NEtFOSAA	*87.9*		*40 - 150*
13C2 4:2 FTS	*91.3*		*40 - 165*
13C2 6:2 FTS	*84.3*		*40 - 215*
13C2 8:2 FTS	*84.9*		*40 - 275*
13C3 HFPO-DA	*89.9*		*40 - 130*
d7-N-MeFOSE-M	*55.3*		*20 - 130*
d9-N-EtFOSE-M	*49.0*		*15 - 130*
d5-NEtPFOSA	*54.9*		*10 - 130*
d3-NMePFOSA	*49.1*		*10 - 130*

Lab Sample ID: LCSD 320-843241/4-A
Matrix: Solid
Analysis Batch: 843597

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.50		ug/Kg		90	70 - 140	14	30
Perfluoropentanoic acid (PFPeA)			2.50	2.34		ug/Kg		93	60 - 150	1	30
Perfluorohexanoic acid (PFHxA)			2.50	2.44		ug/Kg		98	65 - 140	3	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.27		ug/Kg		91	65 - 145	1	30
Perfluorooctanoic acid (PFOA)			2.50	2.27		ug/Kg		91	70 - 150	4	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-843241/4-A
Matrix: Solid
Analysis Batch: 843597

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.24		ug/Kg		90	70 - 155	14	30
Perfluorodecanoic acid (PFDA)	2.50	2.60		ug/Kg		104	70 - 155	2	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.52		ug/Kg		101	70 - 155	3	30
Perfluorododecanoic acid (PFDoA)	2.50	2.57		ug/Kg		103	70 - 150	4	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.57		ug/Kg		103	65 - 150	2	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.69		ug/Kg		108	65 - 150	4	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.03		ug/Kg		91	65 - 145	0	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.17		ug/Kg		92	55 - 160	2	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.17		ug/Kg		95	60 - 150	2	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.54		ug/Kg		106	65 - 155	5	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.29		ug/Kg		98	65 - 160	1	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.57		ug/Kg		107	55 - 140	5	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.17		ug/Kg		90	40 - 155	6	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.17		ug/Kg		89	25 - 160	8	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.12		ug/Kg		88	60 - 150	15	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.52		ug/Kg		95	55 - 200	4	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.55		ug/Kg		95	70 - 150	1	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.43		ug/Kg		97	70 - 140	2	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.54		ug/Kg		102	70 - 155	2	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.30		ug/Kg		92	70 - 140	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.32		ug/Kg		93	65 - 155	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.20		ug/Kg		88	65 - 165	3	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.1		ug/Kg		89	70 - 140	11	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.7		ug/Kg		101	70 - 135	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.71		ug/Kg		91	70 - 145	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.20		ug/Kg		93	70 - 160	4	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.28		ug/Kg		91	30 - 140	4	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.59		ug/Kg		104	60 - 150	2	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-843241/4-A
Matrix: Solid
Analysis Batch: 843597

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.73		ug/Kg		109	60 - 155	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.08		ug/Kg		89	70 - 150	8	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.71		ug/Kg		72	45 - 160	9	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.11		ug/Kg		95	70 - 140	0	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.89		ug/Kg		98	45 - 130	1	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 130	0	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.0		ug/Kg		88	60 - 150	4	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*103*		*8 - 130*
13C5 PFPeA	*93.8*		*35 - 130*
13C5 PFHxA	*95.7*		*40 - 130*
13C4 PFHpA	*97.9*		*40 - 130*
13C8 PFOA	*94.9*		*40 - 130*
13C9 PFNA	*94.8*		*40 - 130*
13C6 PFDA	*85.2*		*40 - 130*
13C7 PFUnA	*75.6*		*40 - 130*
13C2 PFDoA	*66.5*		*40 - 130*
13C2 PFTeDA	*60.5*		*20 - 130*
13C3 PFBS	*84.8*		*40 - 135*
13C3 PFHxS	*85.1*		*40 - 130*
13C8 PFOS	*81.6*		*40 - 130*
13C8 FOSA	*82.2*		*40 - 130*
d3-NMeFOSAA	*99.9*		*40 - 135*
d5-NEtFOSAA	*89.5*		*40 - 150*
13C2 4:2 FTS	*97.5*		*40 - 165*
13C2 6:2 FTS	*86.7*		*40 - 215*
13C2 8:2 FTS	*94.2*		*40 - 275*
13C3 HFPO-DA	*96.6*		*40 - 130*
d7-N-MeFOSE-M	*66.4*		*20 - 130*
d9-N-EtFOSE-M	*53.4*		*15 - 130*
d5-NEtPFOSA	*57.0*		*10 - 130*
d3-NMePFOSA	*53.9*		*10 - 130*

Lab Sample ID: LLCS 320-843241/2-A
Matrix: Solid
Analysis Batch: 843597

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.840		ug/Kg		105	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.382		ug/Kg		95	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.442		ug/Kg		111	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-843241/2-A
Matrix: Solid
Analysis Batch: 843597

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.437		ug/Kg		109	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.403		ug/Kg		101	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.393		ug/Kg		98	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.435		ug/Kg		109	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.437		ug/Kg		109	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.427		ug/Kg		107	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.462		ug/Kg		116	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.475		ug/Kg		119	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.345		ug/Kg		97	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.351		ug/Kg		93	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.353		ug/Kg		97	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.478		ug/Kg		125	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.420		ug/Kg		113	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.473		ug/Kg		123	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.423		ug/Kg		110	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.470		ug/Kg		121	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.719		ug/Kg		96	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.786		ug/Kg		103	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.796		ug/Kg		104	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.427		ug/Kg		107	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.435		ug/Kg		109	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.390		ug/Kg		98	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.403		ug/Kg		101	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.390		ug/Kg		98	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.97		ug/Kg		99	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.16		ug/Kg		108	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.305		ug/Kg		102	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.357		ug/Kg		94	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.384		ug/Kg		96	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-843241/2-A
Matrix: Solid
Analysis Batch: 843597

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.399		ug/Kg		100	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.409		ug/Kg		102	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.375		ug/Kg		100	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.351		ug/Kg		93	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.345		ug/Kg		97	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.826		ug/Kg		103	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	1.87		ug/Kg		93	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	1.95		ug/Kg		97	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*97.8*		*8 - 130*
13C5 PFPeA	*98.9*		*35 - 130*
13C5 PFHxA	*97.6*		*40 - 130*
13C4 PFHpA	*91.8*		*40 - 130*
13C8 PFOA	*94.8*		*40 - 130*
13C9 PFNA	*95.0*		*40 - 130*
13C6 PFDA	*86.0*		*40 - 130*
13C7 PFUnA	*79.6*		*40 - 130*
13C2 PFDoA	*82.5*		*40 - 130*
13C2 PFTeDA	*71.2*		*20 - 130*
13C3 PFBS	*88.3*		*40 - 135*
13C3 PFHxS	*88.6*		*40 - 130*
13C8 PFOS	*78.1*		*40 - 130*
13C8 FOSA	*83.5*		*40 - 130*
d3-NMeFOSAA	*98.8*		*40 - 135*
d5-NEtFOSAA	*89.3*		*40 - 150*
13C2 4:2 FTS	*97.4*		*40 - 165*
13C2 6:2 FTS	*95.3*		*40 - 215*
13C2 8:2 FTS	*86.9*		*40 - 275*
13C3 HFPO-DA	*95.5*		*40 - 130*
d7-N-MeFOSE-M	*70.9*		*20 - 130*
d9-N-EtFOSE-M	*63.3*		*15 - 130*
d5-NEtPFOSA	*56.7*		*10 - 130*
d3-NMePFOSA	*52.4*		*10 - 130*

QC Association Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-4

LCMS

Prep Batch: 843241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-26	JTA-005-N-S015-01162025	Total/NA	Solid	1633 Shake	
MB 320-843241/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-843241/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-843241/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-843241/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 843597

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-26	JTA-005-N-S015-01162025	Total/NA	Solid	1633	843241
MB 320-843241/1-A	Method Blank	Total/NA	Solid	1633	843241
LCS 320-843241/3-A	Lab Control Sample	Total/NA	Solid	1633	843241
LCSD 320-843241/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	843241
LLCS 320-843241/2-A	Lab Control Sample	Total/NA	Solid	1633	843241

General Chemistry

Analysis Batch: 841906

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-26	JTA-005-N-S015-01162025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118375-4
Project/Site: Spokane International Airport

Client Sample ID: JTA-005-N-S015-01162025
Lab Sample ID: 320-118375-26
Date Collected: 01/16/25 13:50
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			841906	03/24/25 13:12	JCB	EET SAC

Client Sample ID: JTA-005-N-S015-01162025
Lab Sample ID: 320-118375-26
Date Collected: 01/16/25 13:50
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 92.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.20 g	5.0 mL	843241	03/31/25 07:16	CGL	EET SAC
Total/NA	Analysis	1633		1			843597	04/01/25 14:59	EMF	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118375-4
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-4

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-4

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118375-26	JTA-005-N-S015-01162025	Solid	01/16/25 13:50	01/18/25 09:00

HALEY & ALDRICH

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave. Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
		DELIVERY DATE	
		TURNAROUND TIME	
		PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	HOLD	Number of Containers
JTA-002-N-S040-01162025	1/16/2025	8.30	Soil		X	1
JTA-002-N-S042-01162025	1/16/2025	8.35	Soil		X	1
JTA-003-N-S000-01162025	1/16/2025	9.30	Soil			1
JTA-003-N-S001-01162025	1/16/2025	9.35	Soil	X		1
JTA-003-N-S003-01162025	1/16/2025	9 40	Soil	X		1
JTA-003-N-S006-01162025	1/16/2025	9 45	Soil		X	1
JTA-003-N-S010-01162025	1/16/2025	9 50	Soil		X	1
JTA-003-N-S015-01162025	1/16/2025	9:55	Soil		X	1
JTA-003-N-S020-01162025	1/16/2025	10 00	Soil		X	1
JTA-003-N-S030-01162025	1/16/2025	10·05	Soil		X	1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118375 Chain of Custody

0.8 corr WGOL

Sampled and Relinquished by	Received by
Sign	Sign
Print Bonnie Govero	Print Macky Morris
Firm H&A	Firm EETSPO
Date 1/17/25 Time 1148	Date 1/17/25 1148
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Ryan Medeiros
Firm EETSPO	Firm EETSPO
Date 1/17/25 Time 1527	Date 1/17/25 0900
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY Project Manager PINK - Haley & Aldrich Laboratory

Form 3003

November 2024

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450.
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-001
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 11922 E 1st Ave, Spokane Valley WA 99206
CONTACT Randee Arrington

DELIVERY DATE
TURNAROUND TIME
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	HOLD	Number of Containers
JTA-004-N-S000-01162025	1/16/2025	10 40	Soil		X	1
JTA-004-N-S001-01162025	1/16/2025	10 45	Soil	X		1
JTA-004-N-S003-01162025	1/16/2025	10:50	Soil	X		1
JTA-004-FD-S003-01162025	1/16/2025	10.55	Soil	X		1
JTA-004-N-S006-01162025	1/16/2025	11·00	Soil		X	1
JTA-004-N-S010-01162025	1/16/2025	11 05	Soil		X	1
JTA-004-N-S015-01162025	1/16/2025	11 10	Soil		X	1
JTA-004-N-S020-01162025	1/16/2025	11 15	Soil		X	1
JTA-004-N-S030-01162025	1/16/2025	11:20	Soil		X	1
JTA-005-N-S000-01162025	1/16/2025	13.25	Soil		X	1

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.
– TOC: Total Organic Carbon

0.8, @or 1 P004

Sampled and Relinquished by	Received by
Sign	Sign
Print Bonnie Govan	Print Macky Morris
Firm H&A	Firm EET SPO
Date 1/17/25 Time 1148	Date 1/17/25 1148
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Logan Nelson
Firm EETSPO	Firm EETSAC
Date 1/17/25 Time 1527	Date 1/18/25 0900
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE Laboratory CANARY Project Manager PINK - Haley & Aldrich Laboratory

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
		DELIVERY DATE	
		TURNAROUND TIME	
		PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	HOLD	Number of Containers
JTA-005-N-S001-01162025	1/16/2025	13.30	Soil	X		1
JTA-005-N-S003-01162025	1/16/2025	13.35	Soil	X		1
JTA-005-FD-S003-01162025	1/16/2025	14 05	Soil	X		1
JTA-005-N-S006-01162025	1/16/2025	13 40	Soil		X	1
JTA-005-N-S010-01162025	1/16/2025	13 45	Soil		X	1
JTA-005-N-S015-01162025	1/16/2025	13.50	Soil		X	1
JTA-005-N-S017-01162025	1/16/2025	14.25	Soil		X	1
JTA-005-N-S025-01162025	1/16/2025	14.30	Soil		X	1
JTA-006-N-S000-01162025	1/16/2025	14.55	Soil		X	1
JTA-006-N-S001-01162025	1/16/2025	15 00	Soil	X		1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

0.8cor 1R006

Sampled and Relinquished by	Received by
Sign	Sign
Print Bonnie Govern	Print Macky Morris
Firm H&A	Firm EEL SPK
Date 1/17/25 Time 1148	Date 1/17/25 1148
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Nathan Mehaffey
Firm EEL SPK	Firm EETSPK
Date 1/17/25 Time 1529	Date 1/18/25 0900
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
		DELIVERY DATE	
		TURNAROUND TIME	
		PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	HOLD	Number of Containers
JTA-006-FD-S001-01162025	1/16/2025	15.30	Soil	X		1
JTA-006-N-S003-01162025	1/16/2025	15 05	Soil	X		1
JTA-006-N-S006-01162025	1/16/2025	15 10	Soil		X	1
JTA-006-N-S010-01162025	1/16/2025	15 15	Soil		X	1
JTA-006-N-S013-01162025	1/16/2025	15.20	Soil		X	1
JTA-006-N-S021-01162025	1/16/2025	15:25	Soil		X	1
JTA-006-N-S028-01162025	1/16/2025	15.30	Soil		X	1

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

0.8 cool Wreagle

Sampled and Relinquished by	Received by
Sign	Sign
Print Bonnie Gavin	Print Macky Morris
Firm H&A	Firm ELS SAC
Date 1/17/25 Time 1148	Date 1/17/25 1148
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Ryan Nichols
Firm ELS SAC	Firm ELS SAC
Date 1/17/25 Time 1527	Date 1/16/25 0910
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Form 3003

3.3

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450.
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-001
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 11922 E 1st Ave. Spokane Valley WA 99206
CONTACT Randee Arrington

DELIVERY DATE
TURNAROUND TIME
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	HOLD	Number of Containers
EB-0116-2025	1/16/2025	8.40	Water	X		3
FB-01162025	1/16/2025	0·00	Water	X		2

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

0.4, 0.8 cor Hold

Sampled and Relinquished by	Received by
Sign	Sign
Print Bonnie Gavoni	Print Macky Morris
Firm H&A	Firm EEL SPO
Date 1/17/25 Time 1148	Date 1/17/25 1148
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Lacey Anderson
Firm EEL SPO	Firm Eurofins
Date 1/17/25 Time 1527	Date 1/18/25 0900
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
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Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Form 3003

3-3

eurofins | Environment Testing

Loc: 320
118375

Sacramento Sample Receiving Notes (SSRN)

Tracking # 9242 5693 0048

Job: _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID UI2 Corr Factor (+ / -) _____ °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal 2287491

Cooler ID 1 of 2

Temp Observed: 2 °C Corrected: 3 °C

From. Temp Blank ☐ Sandwich ☐ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: DM Date 1/18/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials DM Date 01/18/25

Notes: _____

Trizma Lot #(s): _____

Ammonium
Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials DM Date 01/18/25

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 3/14/2025 10:48:39 AM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118375-3

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

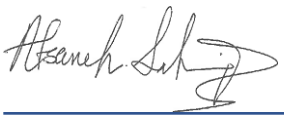
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118375-3
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
*3	ISTD response or retention time outside acceptable limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-118375-3

Receipt
The samples were received on 1/18/2025 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.3º C.

LCMS
Method 1633: Results for samples JTA-005-N-S010-01162025 (320-118375-25) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 28 days. The request for the analysis of the following samples in analytical batch 320-838822 occurred outside of this time period : JTA-003-N-S010-01162025 (320-118375-7), JTA-004-N-S010-01162025 (320-118375-16), JTA-005-N-S010-01162025 (320-118375-25) and JTA-006-N-S010-01162025 (320-118375-34).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-3

Client Sample ID: JTA-003-N-S010-01162025 — Lab Sample ID: 320-118375-7

No Detections.

Client Sample ID: JTA-004-N-S010-01162025 — Lab Sample ID: 320-118375-16

No Detections.

Client Sample ID: JTA-005-N-S010-01162025 — Lab Sample ID: 320-118375-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.16	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.15	J	0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.071	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.1		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.16	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	160		20	5.0	ug/Kg	100	☼	1633	Total/NA

Client Sample ID: JTA-006-N-S010-01162025 — Lab Sample ID: 320-118375-34

No Detections.

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-3

Client Sample ID: JTA-003-N-S010-01162025
Date Collected: 01/16/25 09:50
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-7
Matrix: Solid
Percent Solids: 95.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.096	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.060	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.096	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.096	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.096	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.96	0.24	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.96	0.24	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1

Client Sample ID: JTA-003-N-S010-01162025

Lab Sample ID: 320-118375-7
Date Collected: 01/16/25 09:50
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 95.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.072	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.096	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	03/12/25 12:05	03/12/25 22:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*85.1*		*8 - 130*	*03/12/25 12:05*	*03/12/25 22:51*	*1*
13C5 PFPeA	*108*		*35 - 130*	*03/12/25 12:05*	*03/12/25 22:51*	*1*
13C5 PFHxA	*93.6*		*40 - 130*	*03/12/25 12:05*	*03/12/25 22:51*	*1*
13C4 PFHpA	*105*		*40 - 130*	*03/12/25 12:05*	*03/12/25 22:51*	*1*
13C8 PFOA	*88.4*		*40 - 130*	*03/12/25 12:05*	*03/12/25 22:51*	*1*
13C9 PFNA	*82.4*		*40 - 130*	*03/12/25 12:05*	*03/12/25 22:51*	*1*
13C6 PFDA	*95.2*		*40 - 130*	*03/12/25 12:05*	*03/12/25 22:51*	*1*
13C7 PFUnA	*88.4*		*40 - 130*	*03/12/25 12:05*	*03/12/25 22:51*	*1*
13C2 PFDoA	*93.0*		*40 - 130*	*03/12/25 12:05*	*03/12/25 22:51*	*1*
13C2 PFTeDA	*77.1*		*20 - 130*	*03/12/25 12:05*	*03/12/25 22:51*	*1*
13C3 PFBS	*74.5*		*40 - 135*	*03/12/25 12:05*	*03/12/25 22:51*	*1*
13C3 PFHxS	*81.2*		*40 - 130*	*03/12/25 12:05*	*03/12/25 22:51*	*1*
13C8 PFOS	*85.9*		*40 - 130*	*03/12/25 12:05*	*03/12/25 22:51*	*1*
13C8 FOSA	*84.7*		*40 - 130*	*03/12/25 12:05*	*03/12/25 22:51*	*1*
d3-NMeFOSAA	*102*		*40 - 135*	*03/12/25 12:05*	*03/12/25 22:51*	*1*
d5-NEtFOSAA	*90.9*		*40 - 150*	*03/12/25 12:05*	*03/12/25 22:51*	*1*
13C2 4:2 FTS	*83.3*		*40 - 165*	*03/12/25 12:05*	*03/12/25 22:51*	*1*
13C2 6:2 FTS	*80.2*		*40 - 215*	*03/12/25 12:05*	*03/12/25 22:51*	*1*
13C2 8:2 FTS	*76.7*		*40 - 275*	*03/12/25 12:05*	*03/12/25 22:51*	*1*
13C3 HFPO-DA	*101*		*40 - 130*	*03/12/25 12:05*	*03/12/25 22:51*	*1*
d7-N-MeFOSE-M	*76.7*		*20 - 130*	*03/12/25 12:05*	*03/12/25 22:51*	*1*
d9-N-EtFOSE-M	*65.2*		*15 - 130*	*03/12/25 12:05*	*03/12/25 22:51*	*1*
d5-NEtPFOSA	*72.0*		*10 - 130*	*03/12/25 12:05*	*03/12/25 22:51*	*1*
d3-NMePFOSA	*70.3*		*10 - 130*	*03/12/25 12:05*	*03/12/25 22:51*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**4.7**	**H**	0.10	0.10	%			03/10/25 15:22	1

Client Sample ID: JTA-004-N-S010-01162025

Lab Sample ID: 320-118375-16
Date Collected: 01/16/25 11:05
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 94.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.099	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-3

Client Sample ID: JTA-004-N-S010-01162025
Date Collected: 01/16/25 11:05
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-16
Matrix: Solid
Percent Solids: 94.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.099	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.099	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.099	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.099	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1

Client Sample ID: JTA-004-N-S010-01162025

Lab Sample ID: 320-118375-16

Date Collected: 01/16/25 11:05
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 94.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	03/12/25 12:05	03/12/25 23:07	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*44.5*		*8 - 130*	*03/12/25 12:05*	*03/12/25 23:07*	*1*
13C5 PFPeA	*69.0*		*35 - 130*	*03/12/25 12:05*	*03/12/25 23:07*	*1*
13C5 PFHxA	*61.8*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:07*	*1*
13C4 PFHpA	*68.6*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:07*	*1*
13C8 PFOA	*64.5*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:07*	*1*
13C9 PFNA	*59.4*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:07*	*1*
13C6 PFDA	*71.0*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:07*	*1*
13C7 PFUnA	*69.8*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:07*	*1*
13C2 PFDoA	*65.6*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:07*	*1*
13C2 PFTeDA	*49.1*		*20 - 130*	*03/12/25 12:05*	*03/12/25 23:07*	*1*
13C3 PFBS	*63.8*		*40 - 135*	*03/12/25 12:05*	*03/12/25 23:07*	*1*
13C3 PFHxS	*66.7*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:07*	*1*
13C8 PFOS	*69.0*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:07*	*1*
13C8 FOSA	*65.6*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:07*	*1*
d3-NMeFOSAA	*46.0*		*40 - 135*	*03/12/25 12:05*	*03/12/25 23:07*	*1*
d5-NEtFOSAA	*47.7*		*40 - 150*	*03/12/25 12:05*	*03/12/25 23:07*	*1*
13C2 4:2 FTS	*45.8*		*40 - 165*	*03/12/25 12:05*	*03/12/25 23:07*	*1*
13C2 6:2 FTS	*52.3*		*40 - 215*	*03/12/25 12:05*	*03/12/25 23:07*	*1*
13C2 8:2 FTS	*44.0*		*40 - 275*	*03/12/25 12:05*	*03/12/25 23:07*	*1*
13C3 HFPO-DA	*73.2*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:07*	*1*
d7-N-MeFOSE-M	*66.6*		*20 - 130*	*03/12/25 12:05*	*03/12/25 23:07*	*1*
d9-N-EtFOSE-M	*56.4*		*15 - 130*	*03/12/25 12:05*	*03/12/25 23:07*	*1*
d5-NEtPFOSA	*62.4*		*10 - 130*	*03/12/25 12:05*	*03/12/25 23:07*	*1*
d3-NMePFOSA	*72.3*		*10 - 130*	*03/12/25 12:05*	*03/12/25 23:07*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**5.2**	**H**	0.10	0.10	%			03/10/25 15:22	1

Client Sample ID: JTA-005-N-S010-01162025

Lab Sample ID: 320-118375-25

Date Collected: 01/16/25 13:45
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 94.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
Perfluorohexanoic acid (PFHxA)	**0.16**	**J**	0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
Perfluorooctanoic acid (PFOA)	**0.15**	**J**	0.20	0.062	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1

Client Sample ID: JTA-005-N-S010-01162025
Date Collected: 01/16/25 13:45
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-25
Matrix: Solid
Percent Solids: 94.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
Perfluoropentanesulfonic acid (PFPeS)	**0.071**	**J**	0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
Perfluorohexanesulfonic acid (PFHxS)	**2.1**		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.16**	**J**	0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	03/12/25 12:05	03/12/25 23:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*83.6*		*8 - 130*	*03/12/25 12:05*	*03/12/25 23:24*	*1*

Client Sample ID: JTA-005-N-S010-01162025

Lab Sample ID: 320-118375-25

Date Collected: 01/16/25 13:45
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 94.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	96.9		35 - 130	03/12/25 12:05	03/12/25 23:24	1
13C5 PFHxA	90.7		40 - 130	03/12/25 12:05	03/12/25 23:24	1
13C4 PFHpA	99.5		40 - 130	03/12/25 12:05	03/12/25 23:24	1
13C8 PFOA	90.9		40 - 130	03/12/25 12:05	03/12/25 23:24	1
13C9 PFNA	83.5		40 - 130	03/12/25 12:05	03/12/25 23:24	1
13C6 PFDA	101		40 - 130	03/12/25 12:05	03/12/25 23:24	1
13C7 PFUnA	94.4		40 - 130	03/12/25 12:05	03/12/25 23:24	1
13C2 PFDoA	91.4		40 - 130	03/12/25 12:05	03/12/25 23:24	1
13C2 PFTeDA	81.3		20 - 130	03/12/25 12:05	03/12/25 23:24	1
13C3 PFBS	84.5		40 - 135	03/12/25 12:05	03/12/25 23:24	1
13C3 PFHxS	85.2		40 - 130	03/12/25 12:05	03/12/25 23:24	1
13C8 PFOS	97.7		40 - 130	03/12/25 12:05	03/12/25 23:24	1
13C8 FOSA	115		40 - 130	03/12/25 12:05	03/12/25 23:24	1
d3-NMeFOSAA	122		40 - 135	03/12/25 12:05	03/12/25 23:24	1
d5-NEtFOSAA	122		40 - 150	03/12/25 12:05	03/12/25 23:24	1
13C2 4:2 FTS	92.2		40 - 165	03/12/25 12:05	03/12/25 23:24	1
13C2 6:2 FTS	99.6		40 - 215	03/12/25 12:05	03/12/25 23:24	1
13C2 8:2 FTS	90.9		40 - 275	03/12/25 12:05	03/12/25 23:24	1
13C3 HFPO-DA	90.9		40 - 130	03/12/25 12:05	03/12/25 23:24	1
d7-N-MeFOSE-M	111		20 - 130	03/12/25 12:05	03/12/25 23:24	1
d9-N-EtFOSE-M	94.3		15 - 130	03/12/25 12:05	03/12/25 23:24	1
d5-NEtPFOSA	110		10 - 130	03/12/25 12:05	03/12/25 23:24	1
d3-NMePFOSA	114		10 - 130	03/12/25 12:05	03/12/25 23:24	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	160		20	5.0	ug/Kg	☼	03/12/25 12:05	03/13/25 12:46	100

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	82.4	*3	40 - 130	03/12/25 12:05	03/13/25 12:46	100

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	5.6	H	0.10	0.10	%			03/10/25 15:22	1

Client Sample ID: JTA-006-N-S010-01162025

Lab Sample ID: 320-118375-34

Date Collected: 01/16/25 15:15
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 96.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-3

Client Sample ID: JTA-006-N-S010-01162025
Date Collected: 01/16/25 15:15
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-34
Matrix: Solid
Percent Solids: 96.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.25	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.25	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	03/12/25 12:05	03/12/25 23:40	1

Client Sample ID: JTA-006-N-S010-01162025
Date Collected: 01/16/25 15:15
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-34
Matrix: Solid
Percent Solids: 96.4

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*72.2*		*8 - 130*	*03/12/25 12:05*	*03/12/25 23:40*	*1*
13C5 PFPeA	*101*		*35 - 130*	*03/12/25 12:05*	*03/12/25 23:40*	*1*
13C5 PFHxA	*94.7*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:40*	*1*
13C4 PFHpA	*103*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:40*	*1*
13C8 PFOA	*99.7*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:40*	*1*
13C9 PFNA	*87.6*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:40*	*1*
13C6 PFDA	*111*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:40*	*1*
13C7 PFUnA	*115*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:40*	*1*
13C2 PFDoA	*109*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:40*	*1*
13C2 PFTeDA	*96.1*		*20 - 130*	*03/12/25 12:05*	*03/12/25 23:40*	*1*
13C3 PFBS	*87.8*		*40 - 135*	*03/12/25 12:05*	*03/12/25 23:40*	*1*
13C3 PFHxS	*86.8*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:40*	*1*
13C8 PFOS	*89.7*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:40*	*1*
13C8 FOSA	*88.4*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:40*	*1*
d3-NMeFOSAA	*103*		*40 - 135*	*03/12/25 12:05*	*03/12/25 23:40*	*1*
d5-NEtFOSAA	*99.0*		*40 - 150*	*03/12/25 12:05*	*03/12/25 23:40*	*1*
13C2 4:2 FTS	*87.2*		*40 - 165*	*03/12/25 12:05*	*03/12/25 23:40*	*1*
13C2 6:2 FTS	*96.2*		*40 - 215*	*03/12/25 12:05*	*03/12/25 23:40*	*1*
13C2 8:2 FTS	*85.2*		*40 - 275*	*03/12/25 12:05*	*03/12/25 23:40*	*1*
13C3 HFPO-DA	*98.1*		*40 - 130*	*03/12/25 12:05*	*03/12/25 23:40*	*1*
d7-N-MeFOSE-M	*87.8*		*20 - 130*	*03/12/25 12:05*	*03/12/25 23:40*	*1*
d9-N-EtFOSE-M	*73.8*		*15 - 130*	*03/12/25 12:05*	*03/12/25 23:40*	*1*
d5-NEtPFOSA	*87.6*		*10 - 130*	*03/12/25 12:05*	*03/12/25 23:40*	*1*
d3-NMePFOSA	*86.5*		*10 - 130*	*03/12/25 12:05*	*03/12/25 23:40*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**3.6**	**H**	0.10	0.10	%			03/10/25 15:22	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118375-3
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(8-130)	(35-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)
320-118375-7	JTA-003-N-S010-01162025	85.1	108	93.6	105	88.4	82.4	95.2	88.4
320-118375-16	JTA-004-N-S010-01162025	44.5	69.0	61.8	68.6	64.5	59.4	71.0	69.8
320-118375-25	JTA-005-N-S010-01162025	83.6	96.9	90.7	99.5	90.9	83.5	101	94.4
320-118375-25 - DL	JTA-005-N-S010-01162025								
320-118375-34	JTA-006-N-S010-01162025	72.2	101	94.7	103	99.7	87.6	111	115
LCS 320-839244/3-A	Lab Control Sample	69.6	104	90.6	99.9	93.4	84.3	99.9	97.1
LCSD 320-839244/4-A	Lab Control Sample Dup	88.0	101	89.0	98.5	100	83.1	100	97.9
LLCS 320-839244/2-A	Lab Control Sample	76.1	92.5	90.1	92.4	89.4	83.5	102	99.6
MB 320-839244/1-A	Method Blank	71.9	89.5	86.1	88.7	85.9	82.8	97.5	94.6

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(40-130)	(20-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-135)	(40-150)
320-118375-7	JTA-003-N-S010-01162025	93.0	77.1	74.5	81.2	85.9	84.7	102	90.9
320-118375-16	JTA-004-N-S010-01162025	65.6	49.1	63.8	66.7	69.0	65.6	46.0	47.7
320-118375-25	JTA-005-N-S010-01162025	91.4	81.3	84.5	85.2	97.7	115	122	122
320-118375-25 - DL	JTA-005-N-S010-01162025					82.4 *3			
320-118375-34	JTA-006-N-S010-01162025	109	96.1	87.8	86.8	89.7	88.4	103	99.0
LCS 320-839244/3-A	Lab Control Sample	97.6	82.8	80.1	87.1	95.7	92.7	109	104
LCSD 320-839244/4-A	Lab Control Sample Dup	98.9	81.8	85.7	89.9	88.1	85.9	104	90.3
LLCS 320-839244/2-A	Lab Control Sample	97.6	88.4	87.2	89.8	87.4	87.6	103	95.4
MB 320-839244/1-A	Method Blank	96.7	83.5	82.0	84.5	87.9	84.7	99.8	90.9

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-165)	(40-215)	(40-275)	(40-130)	(20-130)	(15-130)	(10-130)	(10-130)
320-118375-7	JTA-003-N-S010-01162025	83.3	80.2	76.7	101	76.7	65.2	72.0	70.3
320-118375-16	JTA-004-N-S010-01162025	45.8	52.3	44.0	73.2	66.6	56.4	62.4	72.3
320-118375-25	JTA-005-N-S010-01162025	92.2	99.6	90.9	90.9	111	94.3	110	114
320-118375-25 - DL	JTA-005-N-S010-01162025								
320-118375-34	JTA-006-N-S010-01162025	87.2	96.2	85.2	98.1	87.8	73.8	87.6	86.5
LCS 320-839244/3-A	Lab Control Sample	88.2	94.7	91.1	99.9	84.1	73.4	88.6	87.9
LCSD 320-839244/4-A	Lab Control Sample Dup	92.6	98.7	91.8	94.7	72.6	61.2	81.0	80.5
LLCS 320-839244/2-A	Lab Control Sample	88.6	102	92.9	93.6	78.8	68.0	82.3	82.4
MB 320-839244/1-A	Method Blank	87.7	96.2	87.3	92.3	78.7	67.6	81.6	83.2

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118375-3
Project/Site: Spokane International Airport

d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-839244/1-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 839244

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-839244/1-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 839244

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		03/12/25 12:05	03/12/25 21:45	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*71.9*		*8 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C5 PFPeA	*89.5*		*35 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C5 PFHxA	*86.1*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C4 PFHpA	*88.7*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C8 PFOA	*85.9*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C9 PFNA	*82.8*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C6 PFDA	*97.5*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C7 PFUnA	*94.6*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 PFDoA	*96.7*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 PFTeDA	*83.5*		*20 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C3 PFBS	*82.0*		*40 - 135*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C3 PFHxS	*84.5*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C8 PFOS	*87.9*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C8 FOSA	*84.7*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d3-NMeFOSAA	*99.8*		*40 - 135*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d5-NEtFOSAA	*90.9*		*40 - 150*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 4:2 FTS	*87.7*		*40 - 165*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 6:2 FTS	*96.2*		*40 - 215*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 8:2 FTS	*87.3*		*40 - 275*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C3 HFPO-DA	*92.3*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d7-N-MeFOSE-M	*78.7*		*20 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d9-N-EtFOSE-M	*67.6*		*15 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d5-NEtPFOSA	*81.6*		*10 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d3-NMePFOSA	*83.2*		*10 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*

Lab Sample ID: LCS 320-839244/3-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.84		ug/Kg		97	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.13		ug/Kg		85	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.31		ug/Kg		92	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.53		ug/Kg		101	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.21		ug/Kg		88	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.48		ug/Kg		99	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.29		ug/Kg		91	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-839244/3-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.60		ug/Kg		104	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.49		ug/Kg		100	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.62		ug/Kg		105	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.68		ug/Kg		107	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	1.75		ug/Kg		79	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.05		ug/Kg		87	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.89		ug/Kg		83	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.42		ug/Kg		102	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.28		ug/Kg		98	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.36		ug/Kg		98	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.35		ug/Kg		98	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.30		ug/Kg		95	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.87		ug/Kg		104	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.83		ug/Kg		101	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.87		ug/Kg		102	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.36		ug/Kg		94	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.49		ug/Kg		100	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.47		ug/Kg		99	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.21		ug/Kg		89	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.32		ug/Kg		93	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.9		ug/Kg		95	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	13.0		ug/Kg		104	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.90		ug/Kg		102	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.17		ug/Kg		92	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	1.95		ug/Kg		78	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.15		ug/Kg		86	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.09		ug/Kg		84	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-839244/3-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.29		ug/Kg		98	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.21		ug/Kg		94	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.14		ug/Kg		96	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	2.99		ug/Kg		60	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.6		ug/Kg		93	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*69.6*		*8 - 130*
13C5 PFPeA	*104*		*35 - 130*
13C5 PFHxA	*90.6*		*40 - 130*
13C4 PFHpA	*99.9*		*40 - 130*
13C8 PFOA	*93.4*		*40 - 130*
13C9 PFNA	*84.3*		*40 - 130*
13C6 PFDA	*99.9*		*40 - 130*
13C7 PFUnA	*97.1*		*40 - 130*
13C2 PFDoA	*97.6*		*40 - 130*
13C2 PFTeDA	*82.8*		*20 - 130*
13C3 PFBS	*80.1*		*40 - 135*
13C3 PFHxS	*87.1*		*40 - 130*
13C8 PFOS	*95.7*		*40 - 130*
13C8 FOSA	*92.7*		*40 - 130*
d3-NMeFOSAA	*109*		*40 - 135*
d5-NEtFOSAA	*104*		*40 - 150*
13C2 4:2 FTS	*88.2*		*40 - 165*
13C2 6:2 FTS	*94.7*		*40 - 215*
13C2 8:2 FTS	*91.1*		*40 - 275*
13C3 HFPO-DA	*99.9*		*40 - 130*
d7-N-MeFOSE-M	*84.1*		*20 - 130*
d9-N-EtFOSE-M	*73.4*		*15 - 130*
d5-NEtPFOSA	*88.6*		*10 - 130*
d3-NMePFOSA	*87.9*		*10 - 130*

Lab Sample ID: LCSD 320-839244/4-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.82		ug/Kg		96	70 - 140	0	30
Perfluoropentanoic acid (PFPeA)			2.50	2.14		ug/Kg		86	60 - 150	0	30
Perfluorohexanoic acid (PFHxA)			2.50	2.38		ug/Kg		95	65 - 140	3	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.35		ug/Kg		94	65 - 145	7	30
Perfluorooctanoic acid (PFOA)			2.50	2.14		ug/Kg		86	70 - 150	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-839244/4-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)			2.50	2.33		ug/Kg		93	70 - 155	6	30
Perfluorodecanoic acid (PFDA)			2.50	2.27		ug/Kg		91	70 - 155	1	30
Perfluoroundecanoic acid (PFUnA)			2.50	2.59		ug/Kg		104	70 - 155	0	30
Perfluorododecanoic acid (PFDoA)			2.50	2.39		ug/Kg		96	70 - 150	4	30
Perfluorotridecanoic acid (PFTrDA)			2.50	2.53		ug/Kg		101	65 - 150	3	30
Perfluorotetradecanoic acid (PFTeDA)			2.50	2.57		ug/Kg		103	65 - 150	4	30
Perfluorobutanesulfonic acid (PFBS)			2.22	1.61		ug/Kg		73	65 - 145	8	30
Perfluoropentanesulfonic acid (PFPeS)			2.35	2.01		ug/Kg		86	55 - 160	2	30
Perfluorohexanesulfonic acid (PFHxS)			2.28	1.88		ug/Kg		83	60 - 150	1	30
Perfluoroheptanesulfonic acid (PFHpS)			2.39	2.39		ug/Kg		100	65 - 155	2	30
Perfluorooctanesulfonic acid (PFOS)			2.33	2.24		ug/Kg		96	65 - 160	2	30
Perfluorononanesulfonic acid (PFNS)			2.41	2.33		ug/Kg		97	55 - 140	1	30
Perfluorodecanesulfonic acid (PFDS)			2.41	2.36		ug/Kg		98	40 - 155	0	30
Perfluorododecanesulfonic acid (PFDoS)			2.43	2.10		ug/Kg		87	25 - 160	9	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			4.69	5.00		ug/Kg		107	60 - 150	3	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			4.76	4.84		ug/Kg		102	55 - 200	0	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)			4.80	4.88		ug/Kg		102	70 - 150	0	30
Perfluorooctanesulfonamide (PFOSA)			2.50	2.34		ug/Kg		94	70 - 140	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)			2.50	2.44		ug/Kg		97	70 - 155	2	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)			2.50	2.39		ug/Kg		95	70 - 140	3	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			2.50	2.14		ug/Kg		85	65 - 155	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			2.50	2.50		ug/Kg		100	65 - 165	7	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)			12.5	11.6		ug/Kg		93	70 - 140	3	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)			12.5	12.6		ug/Kg		101	70 - 135	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)			1.88	1.83		ug/Kg		97	70 - 145	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.37	2.12		ug/Kg		89	70 - 160	3	30
Perfluoro-3-methoxypropanoic acid (PFMPA)			2.50	1.98		ug/Kg		79	30 - 140	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)			2.50	2.04		ug/Kg		82	60 - 150	5	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-839244/4-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	1.69		ug/Kg		67	60 - 155	22	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.26		ug/Kg		97	70 - 150	1	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.11		ug/Kg		90	45 - 160	4	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.27		ug/Kg		102	70 - 140	6	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.04		ug/Kg		81	45 - 130	30	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 130	0	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 150	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*88.0*		*8 - 130*
13C5 PFPeA	*101*		*35 - 130*
13C5 PFHxA	*89.0*		*40 - 130*
13C4 PFHpA	*98.5*		*40 - 130*
13C8 PFOA	*100*		*40 - 130*
13C9 PFNA	*83.1*		*40 - 130*
13C6 PFDA	*100*		*40 - 130*
13C7 PFUnA	*97.9*		*40 - 130*
13C2 PFDoA	*98.9*		*40 - 130*
13C2 PFTeDA	*81.8*		*20 - 130*
13C3 PFBS	*85.7*		*40 - 135*
13C3 PFHxS	*89.9*		*40 - 130*
13C8 PFOS	*88.1*		*40 - 130*
13C8 FOSA	*85.9*		*40 - 130*
d3-NMeFOSAA	*104*		*40 - 135*
d5-NEtFOSAA	*90.3*		*40 - 150*
13C2 4:2 FTS	*92.6*		*40 - 165*
13C2 6:2 FTS	*98.7*		*40 - 215*
13C2 8:2 FTS	*91.8*		*40 - 275*
13C3 HFPO-DA	*94.7*		*40 - 130*
d7-N-MeFOSE-M	*72.6*		*20 - 130*
d9-N-EtFOSE-M	*61.2*		*15 - 130*
d5-NEtPFOSA	*81.0*		*10 - 130*
d3-NMePFOSA	*80.5*		*10 - 130*

Lab Sample ID: LLCS 320-839244/2-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.786		ug/Kg		98	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.364		ug/Kg		91	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.407		ug/Kg		102	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-839244/2-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.433		ug/Kg		108	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.411		ug/Kg		103	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.396		ug/Kg		99	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.394		ug/Kg		99	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.431		ug/Kg		108	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.421		ug/Kg		105	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.450		ug/Kg		113	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.439		ug/Kg		110	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.283		ug/Kg		80	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.341		ug/Kg		91	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.302		ug/Kg		83	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.392		ug/Kg		103	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.378		ug/Kg		101	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.400		ug/Kg		104	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.398		ug/Kg		103	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.340		ug/Kg		88	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.807		ug/Kg		108	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.803		ug/Kg		105	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.747		ug/Kg		97	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.396		ug/Kg		99	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.381		ug/Kg		95	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.387		ug/Kg		97	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.348		ug/Kg		87	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.364		ug/Kg		91	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.88		ug/Kg		94	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.06		ug/Kg		103	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.278		ug/Kg		93	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.361		ug/Kg		95	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.352		ug/Kg		88	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-839244/2-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.368		ug/Kg		92	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.367		ug/Kg		92	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.377		ug/Kg		101	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.365		ug/Kg		97	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.337		ug/Kg		95	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.587		ug/Kg		73	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	1.78		ug/Kg		89	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	1.83		ug/Kg		91	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*76.1*		*8 - 130*
13C5 PFPeA	*92.5*		*35 - 130*
13C5 PFHxA	*90.1*		*40 - 130*
13C4 PFHpA	*92.4*		*40 - 130*
13C8 PFOA	*89.4*		*40 - 130*
13C9 PFNA	*83.5*		*40 - 130*
13C6 PFDA	*102*		*40 - 130*
13C7 PFUnA	*99.6*		*40 - 130*
13C2 PFDoA	*97.6*		*40 - 130*
13C2 PFTeDA	*88.4*		*20 - 130*
13C3 PFBS	*87.2*		*40 - 135*
13C3 PFHxS	*89.8*		*40 - 130*
13C8 PFOS	*87.4*		*40 - 130*
13C8 FOSA	*87.6*		*40 - 130*
d3-NMeFOSAA	*103*		*40 - 135*
d5-NEtFOSAA	*95.4*		*40 - 150*
13C2 4:2 FTS	*88.6*		*40 - 165*
13C2 6:2 FTS	*102*		*40 - 215*
13C2 8:2 FTS	*92.9*		*40 - 275*
13C3 HFPO-DA	*93.6*		*40 - 130*
d7-N-MeFOSE-M	*78.8*		*20 - 130*
d9-N-EtFOSE-M	*68.0*		*15 - 130*
d5-NEtPFOSA	*82.3*		*10 - 130*
d3-NMePFOSA	*82.4*		*10 - 130*

Client: GSI Environmental Inc
Job ID: 320-118375-3
Project/Site: Spokane International Airport

Method: 1633 - Percent Moisture

Lab Sample ID: 320-118375-16 DU
Client Sample ID: JTA-004-N-S010-01162025
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 838822

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	5.2	H		5.1		%				3	20

QC Association Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-3

LCMS

Prep Batch: 839244

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-7	JTA-003-N-S010-01162025	Total/NA	Solid	1633 Shake	
320-118375-16	JTA-004-N-S010-01162025	Total/NA	Solid	1633 Shake	
320-118375-25	JTA-005-N-S010-01162025	Total/NA	Solid	1633 Shake	
320-118375-25 - DL	JTA-005-N-S010-01162025	Total/NA	Solid	1633 Shake	
320-118375-34	JTA-006-N-S010-01162025	Total/NA	Solid	1633 Shake	
MB 320-839244/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-839244/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-839244/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-839244/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 839392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-7	JTA-003-N-S010-01162025	Total/NA	Solid	1633	839244
320-118375-16	JTA-004-N-S010-01162025	Total/NA	Solid	1633	839244
320-118375-25	JTA-005-N-S010-01162025	Total/NA	Solid	1633	839244
320-118375-34	JTA-006-N-S010-01162025	Total/NA	Solid	1633	839244
MB 320-839244/1-A	Method Blank	Total/NA	Solid	1633	839244
LCS 320-839244/3-A	Lab Control Sample	Total/NA	Solid	1633	839244
LCSD 320-839244/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	839244
LLCS 320-839244/2-A	Lab Control Sample	Total/NA	Solid	1633	839244

Analysis Batch: 839573

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-25 - DL	JTA-005-N-S010-01162025	Total/NA	Solid	1633	839244

General Chemistry

Analysis Batch: 838822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-7	JTA-003-N-S010-01162025	Total/NA	Solid	1633	
320-118375-16	JTA-004-N-S010-01162025	Total/NA	Solid	1633	
320-118375-25	JTA-005-N-S010-01162025	Total/NA	Solid	1633	
320-118375-34	JTA-006-N-S010-01162025	Total/NA	Solid	1633	
320-118375-16 DU	JTA-004-N-S010-01162025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-3

Client Sample ID: JTA-003-N-S010-01162025
Lab Sample ID: 320-118375-7
Date Collected: 01/16/25 09:50
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			838822	03/10/25 15:22	CFR	EET SAC

Client Sample ID: JTA-003-N-S010-01162025
Lab Sample ID: 320-118375-7
Date Collected: 01/16/25 09:50
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 95.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.18 g	5.0 mL	839244	03/12/25 12:05	MKC	EET SAC
Total/NA	Analysis	1633		1			839392	03/12/25 22:51	C1P	EET SAC

Client Sample ID: JTA-004-N-S010-01162025
Lab Sample ID: 320-118375-16
Date Collected: 01/16/25 11:05
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			838822	03/10/25 15:22	CFR	EET SAC

Client Sample ID: JTA-004-N-S010-01162025
Lab Sample ID: 320-118375-16
Date Collected: 01/16/25 11:05
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 94.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.14 g	5.0 mL	839244	03/12/25 12:05	MKC	EET SAC
Total/NA	Analysis	1633		1			839392	03/12/25 23:07	C1P	EET SAC

Client Sample ID: JTA-005-N-S010-01162025
Lab Sample ID: 320-118375-25
Date Collected: 01/16/25 13:45
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			838822	03/10/25 15:22	CFR	EET SAC

Client Sample ID: JTA-005-N-S010-01162025
Lab Sample ID: 320-118375-25
Date Collected: 01/16/25 13:45
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 94.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.12 g	5.0 mL	839244	03/12/25 12:05	MKC	EET SAC
Total/NA	Analysis	1633		1			839392	03/12/25 23:24	C1P	EET SAC
Total/NA	Prep	1633 Shake	DL		2.12 g	5.0 mL	839244	03/12/25 12:05	MKC	EET SAC
Total/NA	Analysis	1633	DL	100			839573	03/13/25 12:46	C1P	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118375-3
Project/Site: Spokane International Airport

Client Sample ID: JTA-006-N-S010-01162025
Lab Sample ID: 320-118375-34
Date Collected: 01/16/25 15:15
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			838822	03/10/25 15:22	CFR	EET SAC

Client Sample ID: JTA-006-N-S010-01162025
Lab Sample ID: 320-118375-34
Date Collected: 01/16/25 15:15
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 96.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.11 g	5.0 mL	839244	03/12/25 12:05	MKC	EET SAC
Total/NA	Analysis	1633		1			839392	03/12/25 23:40	C1P	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118375-3
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-3

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Job ID: 320-118375-3
Project/Site: Spokane International Airport

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118375-7	JTA-003-N-S010-01162025	Solid	01/16/25 09:50	01/18/25 09:00
320-118375-16	JTA-004-N-S010-01162025	Solid	01/16/25 11:05	01/18/25 09:00
320-118375-25	JTA-005-N-S010-01162025	Solid	01/16/25 13:45	01/18/25 09:00
320-118375-34	JTA-006-N-S010-01162025	Solid	01/16/25 15:15	01/18/25 09:00

HALEY & ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave. Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
		DELIVERY DATE	
		TURNAROUND TIME	
		PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	HOLD	Number of Containers
JTA-002-N-S040-01162025	1/16/2025	8.30	Soil		X	1
JTA-002-N-S042-01162025	1/16/2025	8.35	Soil		X	1
JTA-003-N-S000-01162025	1/16/2025	9.30	Soil			1
JTA-003-N-S001-01162025	1/16/2025	9.35	Soil	X		1
JTA-003-N-S003-01162025	1/16/2025	9 40	Soil	X		1
JTA-003-N-S006-01162025	1/16/2025	9 45	Soil		X	1
JTA-003-N-S010-01162025	1/16/2025	9 50	Soil		X	1
JTA-003-N-S015-01162025	1/16/2025	9:55	Soil		X	1
JTA-003-N-S020-01162025	1/16/2025	10 00	Soil		X	1
JTA-003-N-S030-01162025	1/16/2025	10·05	Soil		X	1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118375 Chain of Custody

0.8 corr WGOL

Sampled and Relinquished by	Received by
Sign	Sign
Print Bonnie Govero	Print Macky Morris
Firm HEA	Firm EETSPO
Date 1/17/25 Time 1148	Date 1/17/25 1148
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Ryan Medeiros
Firm EETSPO	Firm EETSPO
Date 1/17/25 Time 1527	Date 1/17/25 0900
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.
_____
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY Project Manager PINK - Haley & Aldrich Laboratory

Form 3003

November 2024

ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450.
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-001
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 11922 E 1st Ave. Spokane Valley WA 99206
CONTACT Randee Arrington

DELIVERY DATE
TURNAROUND TIME
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	HOLD	Number of Containers
JTA-004-N-S000-01162025	1/16/2025	10 40	Soil		X	1
JTA-004-N-S001-01162025	1/16/2025	10 45	Soil	X		1
JTA-004-N-S003-01162025	1/16/2025	10:50	Soil	X		1
JTA-004-FD-S003-01162025	1/16/2025	10.55	Soil	X		1
JTA-004-N-S006-01162025	1/16/2025	11·00	Soil		X	1
JTA-004-N-S010-01162025	1/16/2025	11 05	Soil		X	1
JTA-004-N-S015-01162025	1/16/2025	11 10	Soil		X	1
JTA-004-N-S020-01162025	1/16/2025	11 15	Soil		X	1
JTA-004-N-S030-01162025	1/16/2025	11:20	Soil		X	1
JTA-005-N-S000-01162025	1/16/2025	13.25	Soil		X	1

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.
– TOC: Total Organic Carbon

0.8, @or 1 P004

Sampled and Relinquished by	Received by
Sign	Sign
Print Bonnie Govan	Print Macky Morris
Firm H&A	Firm EET SPO
Date 1/17/25 Time 1148	Date 1/17/25 1148
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Logan Nelson
Firm EETSPO	Firm EETSPK
Date 1/17/25 Time 1527	Date 1/18/25 0900
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.
_____
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE Laboratory CANARY Project Manager PINK - Haley & Aldrich Laboratory

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
		DELIVERY DATE	
		TURNAROUND TIME	
		PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	HOLD	Number of Containers
JTA-005-N-S001-01162025	1/16/2025	13.30	Soil	X		1
JTA-005-N-S003-01162025	1/16/2025	13.35	Soil	X		1
JTA-005-FD-S003-01162025	1/16/2025	14 05	Soil	X		1
JTA-005-N-S006-01162025	1/16/2025	13 40	Soil		X	1
JTA-005-N-S010-01162025	1/16/2025	13 45	Soil		X	1
JTA-005-N-S015-01162025	1/16/2025	13.50	Soil		X	1
JTA-005-N-S017-01162025	1/16/2025	14.25	Soil		X	1
JTA-005-N-S025-01162025	1/16/2025	14.30	Soil		X	1
JTA-006-N-S000-01162025	1/16/2025	14.55	Soil		X	1
JTA-006-N-S001-01162025	1/16/2025	15 00	Soil	X		1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

0.8car 1Rook

Sampled and Relinquished by	Received by
Sign	Sign
Print Bonnie Govan	Print Macky Morris
Firm H&A	Firm EEL SPK
Date 1/17/25 Time 1148	Date 1/17/25 1148
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Nathan Mehaffey
Firm EEL SPK	Firm EETSM
Date 1/17/25 Time 1529	Date 1/18/25 0900
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Form 3003

3.3

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington

DELIVERY DATE
TURNAROUND TIME
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	HOLD	Number of Containers
JTA-006-FD-S001-01162025	1/16/2025	15.30	Soil	X		1
JTA-006-N-S003-01162025	1/16/2025	15 05	Soil	X		1
JTA-006-N-S006-01162025	1/16/2025	15 10	Soil		X	1
JTA-006-N-S010-01162025	1/16/2025	15 15	Soil		X	1
JTA-006-N-S013-01162025	1/16/2025	15.20	Soil		X	1
JTA-006-N-S021-01162025	1/16/2025	15:25	Soil		X	1
JTA-006-N-S028-01162025	1/16/2025	15.30	Soil		X	1

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

0.8 cool Ice

Sampled and Relinquished by	Received by
Sign	Sign
Print Bonnie Gavin	Print Macky Morris
Firm H&A	Firm ELES PO
Date 1/17/25 Time 1148	Date 1/17/25 1148
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Ryan Nichols
Firm ELES PO	Firm Eurofins
Date 1/17/25 Time 1527	Date 1/16/25 0910
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Form 3003

3.3

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450.
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-001
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 11922 E 1st Ave. Spokane Valley WA 99206
CONTACT Randee Arrington

DELIVERY DATE
TURNAROUND TIME
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	HOLD	Number of Containers
EB-0116-2025	1/16/2025	8.40	Water	X		3
FB-01162025	1/16/2025	0·00	Water	X		2

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

0.4, 0.8 cor Hold

Sampled and Relinquished by
Sign
Print Bonnie Gavoni
Firm H&A
Date 1/17/25 Time 1148

Received by
Sign
Print Macky Morris
Firm ESESPO
Date 1/17/25 1148

Relinquished by
Sign
Print Macky Morris
Firm ESESPO
Date 1/17/25 Time 1527

Received by
Sign
Print
Firm
Date 1/18/25 0940

Relinquished by
Sign
Print
Firm
Date Time

Received by
Sign
Print
Firm
Date

LIQUID
VOA Vial
Amber Glass
Plastic Bottle
Preservative
Volume

SOLID
VOA Vial
Amber Glass
Clear Glass
Preservative
Volume

PRESERVATION KEY
A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
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_____
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Form 3003

3-3

3/14/2025

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118375

Tracking # 9242 5693 0048

Job: _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID 012 Corr Factor (+ / -) _____ °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal 2287491

Cooler ID 1 of 2

Temp Observed: 2 °C Corrected: 3 °C

From. Temp Blank ☐ Sandwich ☐ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: DM Date 1/18/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials DM Date 01/18/25

Notes: _____

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials DM Date 01/18/25

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 2/28/2025 8:57:49 AM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118375-2

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

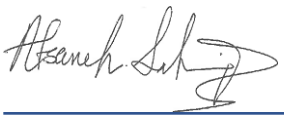
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118375-2
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
*3	ISTD response or retention time outside acceptable limits.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118375-2 — Eurofins Sacramento

Job Narrative
320-118375-2

Receipt
The samples were received on 1/18/2025 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.3º C.

LCMS
Method 1633: Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: JTA-004-N-S000-01162025 (320-118375-11). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 1633: Results for samples JTA-005-N-S000-01162025 (320-118375-20) and JTA-005-N-S006-01162025 (320-118375-24) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 14 days. The following samples in analytical batch 320-834905 were prepared and analyzed outside this time period : JTA-003-N-S000-01162025 (320-118375-3), JTA-003-N-S006-01162025 (320-118375-6), JTA-004-N-S000-01162025 (320-118375-11), JTA-004-N-S006-01162025 (320-118375-15), JTA-005-N-S000-01162025 (320-118375-20), JTA-005-N-S006-01162025 (320-118375-24), JTA-006-N-S000-01162025 (320-118375-29) and JTA-006-N-S006-01162025 (320-118375-33).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-2

Client Sample ID: JTA-003-N-S000-01162025 — Lab Sample ID: 320-118375-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorononanoic acid (PFNA)	0.052	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.065	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.93		0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-003-N-S006-01162025 — Lab Sample ID: 320-118375-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.078	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-004-N-S000-01162025 — Lab Sample ID: 320-118375-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.10	J	0.40	0.099	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.087	J	0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.057	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.053	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.087	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	8.2		0.20	0.050	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-004-N-S006-01162025 — Lab Sample ID: 320-118375-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.071	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.84		0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-005-N-S000-01162025 — Lab Sample ID: 320-118375-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.17	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.39		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.75		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.063	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.069	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.10	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.11	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.1		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.19	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.52		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	1.2		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanesulfonic acid (PFDoS)	0.58		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	1.3		0.20	0.063	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	36		2.0	0.50	ug/Kg	10	☼	1633	Total/NA

Client Sample ID: JTA-005-N-S006-01162025 — Lab Sample ID: 320-118375-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.056	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.24		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.3		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.14	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Client Sample ID: JTA-005-N-S006-01162025 (Continued) — Lab Sample ID: 320-118375-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS) - DL	44		2.0	0.50	ug/Kg	10	☼	1633	Total/NA

Client Sample ID: JTA-006-N-S000-01162025 — Lab Sample ID: 320-118375-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.10	J	0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.063	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.21		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.4		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.084	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.23		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanesulfonic acid (PFDoS)	0.096	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.16	J	0.20	0.062	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-006-N-S006-01162025 — Lab Sample ID: 320-118375-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.13	J	0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.65		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.24		0.20	0.050	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-2

Client Sample ID: JTA-003-N-S000-01162025
Date Collected: 01/16/25 09:30
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-3
Matrix: Solid
Percent Solids: 87.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
Perfluorononanoic acid (PFNA)	**0.052**	**J**	0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
Perfluorodecanoic acid (PFDA)	**0.065**	**J**	0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
Perfluorooctanesulfonic acid (PFOS)	**0.93**		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.25	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.25	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1

Client Sample ID: JTA-003-N-S000-01162025

Lab Sample ID: 320-118375-3

Date Collected: 01/16/25 09:30
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 87.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	02/26/25 09:29	02/26/25 20:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91.0*		*8 - 130*	*02/26/25 09:29*	*02/26/25 20:54*	*1*
13C5 PFPeA	*94.9*		*35 - 130*	*02/26/25 09:29*	*02/26/25 20:54*	*1*
13C5 PFHxA	*112*		*40 - 130*	*02/26/25 09:29*	*02/26/25 20:54*	*1*
13C4 PFHpA	*96.5*		*40 - 130*	*02/26/25 09:29*	*02/26/25 20:54*	*1*
13C8 PFOA	*87.2*		*40 - 130*	*02/26/25 09:29*	*02/26/25 20:54*	*1*
13C9 PFNA	*84.3*		*40 - 130*	*02/26/25 09:29*	*02/26/25 20:54*	*1*
13C6 PFDA	*89.5*		*40 - 130*	*02/26/25 09:29*	*02/26/25 20:54*	*1*
13C7 PFUnA	*92.9*		*40 - 130*	*02/26/25 09:29*	*02/26/25 20:54*	*1*
13C2 PFDoA	*101*		*40 - 130*	*02/26/25 09:29*	*02/26/25 20:54*	*1*
13C2 PFTeDA	*111*		*20 - 130*	*02/26/25 09:29*	*02/26/25 20:54*	*1*
13C3 PFBS	*82.2*		*40 - 135*	*02/26/25 09:29*	*02/26/25 20:54*	*1*
13C3 PFHxS	*102*		*40 - 130*	*02/26/25 09:29*	*02/26/25 20:54*	*1*
13C8 PFOS	*88.5*		*40 - 130*	*02/26/25 09:29*	*02/26/25 20:54*	*1*
13C8 FOSA	*85.6*		*40 - 130*	*02/26/25 09:29*	*02/26/25 20:54*	*1*
d3-NMeFOSAA	*85.9*		*40 - 135*	*02/26/25 09:29*	*02/26/25 20:54*	*1*
d5-NEtFOSAA	*104*		*40 - 150*	*02/26/25 09:29*	*02/26/25 20:54*	*1*
13C2 4:2 FTS	*162*		*40 - 165*	*02/26/25 09:29*	*02/26/25 20:54*	*1*
13C2 6:2 FTS	*163*		*40 - 215*	*02/26/25 09:29*	*02/26/25 20:54*	*1*
13C2 8:2 FTS	*158*		*40 - 275*	*02/26/25 09:29*	*02/26/25 20:54*	*1*
13C3 HFPO-DA	*101*		*40 - 130*	*02/26/25 09:29*	*02/26/25 20:54*	*1*
d7-N-MeFOSE-M	*90.9*		*20 - 130*	*02/26/25 09:29*	*02/26/25 20:54*	*1*
d9-N-EtFOSE-M	*64.3*		*15 - 130*	*02/26/25 09:29*	*02/26/25 20:54*	*1*
d5-NEtPFOSA	*85.7*		*10 - 130*	*02/26/25 09:29*	*02/26/25 20:54*	*1*
d3-NMePFOSA	*96.3*		*10 - 130*	*02/26/25 09:29*	*02/26/25 20:54*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	13	H	0.10	0.10	%			02/21/25 13:16	1

Client Sample ID: JTA-003-N-S006-01162025

Lab Sample ID: 320-118375-6

Date Collected: 01/16/25 09:45
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 88.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.099	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-2

Client Sample ID: JTA-003-N-S006-01162025
Date Collected: 01/16/25 09:45
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-6
Matrix: Solid
Percent Solids: 88.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
Perfluorohexanesulfonic acid (PFHxS)	**0.078**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.099	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1

Client Sample ID: JTA-003-N-S006-01162025

Lab Sample ID: 320-118375-6
Date Collected: 01/16/25 09:45
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 88.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/26/25 09:29	02/26/25 21:44	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*100*		*8 - 130*	*02/26/25 09:29*	*02/26/25 21:44*	*1*
13C5 PFPeA	*86.2*		*35 - 130*	*02/26/25 09:29*	*02/26/25 21:44*	*1*
13C5 PFHxA	*99.9*		*40 - 130*	*02/26/25 09:29*	*02/26/25 21:44*	*1*
13C4 PFHpA	*91.1*		*40 - 130*	*02/26/25 09:29*	*02/26/25 21:44*	*1*
13C8 PFOA	*82.8*		*40 - 130*	*02/26/25 09:29*	*02/26/25 21:44*	*1*
13C9 PFNA	*80.1*		*40 - 130*	*02/26/25 09:29*	*02/26/25 21:44*	*1*
13C6 PFDA	*87.8*		*40 - 130*	*02/26/25 09:29*	*02/26/25 21:44*	*1*
13C7 PFUnA	*92.7*		*40 - 130*	*02/26/25 09:29*	*02/26/25 21:44*	*1*
13C2 PFDoA	*89.9*		*40 - 130*	*02/26/25 09:29*	*02/26/25 21:44*	*1*
13C2 PFTeDA	*91.3*		*20 - 130*	*02/26/25 09:29*	*02/26/25 21:44*	*1*
13C3 PFBS	*79.3*		*40 - 135*	*02/26/25 09:29*	*02/26/25 21:44*	*1*
13C3 PFHxS	*96.7*		*40 - 130*	*02/26/25 09:29*	*02/26/25 21:44*	*1*
13C8 PFOS	*84.8*		*40 - 130*	*02/26/25 09:29*	*02/26/25 21:44*	*1*
13C8 FOSA	*75.2*		*40 - 130*	*02/26/25 09:29*	*02/26/25 21:44*	*1*
d3-NMeFOSAA	*87.5*		*40 - 135*	*02/26/25 09:29*	*02/26/25 21:44*	*1*
d5-NEtFOSAA	*90.3*		*40 - 150*	*02/26/25 09:29*	*02/26/25 21:44*	*1*
13C2 4:2 FTS	*91.2*		*40 - 165*	*02/26/25 09:29*	*02/26/25 21:44*	*1*
13C2 6:2 FTS	*97.9*		*40 - 215*	*02/26/25 09:29*	*02/26/25 21:44*	*1*
13C2 8:2 FTS	*90.7*		*40 - 275*	*02/26/25 09:29*	*02/26/25 21:44*	*1*
13C3 HFPO-DA	*79.2*		*40 - 130*	*02/26/25 09:29*	*02/26/25 21:44*	*1*
d7-N-MeFOSE-M	*71.5*		*20 - 130*	*02/26/25 09:29*	*02/26/25 21:44*	*1*
d9-N-EtFOSE-M	*55.1*		*15 - 130*	*02/26/25 09:29*	*02/26/25 21:44*	*1*
d5-NEtPFOSA	*77.8*		*10 - 130*	*02/26/25 09:29*	*02/26/25 21:44*	*1*
d3-NMePFOSA	*79.6*		*10 - 130*	*02/26/25 09:29*	*02/26/25 21:44*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**11**	**H**	0.10	0.10	%			02/21/25 13:16	1

Client Sample ID: JTA-004-N-S000-01162025

Lab Sample ID: 320-118375-11
Date Collected: 01/16/25 10:40
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 81.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.10**	**J**	0.40	0.099	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
Perfluorooctanoic acid (PFOA)	**0.087**	**J**	0.20	0.062	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
Perfluorononanoic acid (PFNA)	**0.057**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
Perfluorodecanoic acid (PFDA)	**0.053**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1

Client Sample ID: JTA-004-N-S000-01162025
Date Collected: 01/16/25 10:40
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-11
Matrix: Solid
Percent Solids: 81.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
Perfluorohexanesulfonic acid (PFHxS)	**0.087**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
Perfluorooctanesulfonic acid (PFOS)	**8.2**		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.099	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/26/25 09:29	02/26/25 22:00	1

Client Sample ID: JTA-004-N-S000-01162025

Lab Sample ID: 320-118375-11

Date Collected: 01/16/25 10:40
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 81.6

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*92.5*		*8 - 130*	*02/26/25 09:29*	*02/26/25 22:00*	*1*
13C5 PFPeA	*91.9*		*35 - 130*	*02/26/25 09:29*	*02/26/25 22:00*	*1*
13C5 PFHxA	*115*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:00*	*1*
13C4 PFHpA	*107*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:00*	*1*
13C8 PFOA	*95.9*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:00*	*1*
13C9 PFNA	*89.8*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:00*	*1*
13C6 PFDA	*95.1*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:00*	*1*
13C7 PFUnA	*100*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:00*	*1*
13C2 PFDoA	*104*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:00*	*1*
13C2 PFTeDA	*124*		*20 - 130*	*02/26/25 09:29*	*02/26/25 22:00*	*1*
13C3 PFBS	*81.0*		*40 - 135*	*02/26/25 09:29*	*02/26/25 22:00*	*1*
13C3 PFHxS	*105*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:00*	*1*
13C8 PFOS	*90.5*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:00*	*1*
13C8 FOSA	*93.0*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:00*	*1*
d3-NMeFOSAA	*88.0*		*40 - 135*	*02/26/25 09:29*	*02/26/25 22:00*	*1*
d5-NEtFOSAA	*104*		*40 - 150*	*02/26/25 09:29*	*02/26/25 22:00*	*1*
13C2 4:2 FTS	*170*	**5+*	*40 - 165*	*02/26/25 09:29*	*02/26/25 22:00*	*1*
13C2 6:2 FTS	*176*		*40 - 215*	*02/26/25 09:29*	*02/26/25 22:00*	*1*
13C2 8:2 FTS	*146*		*40 - 275*	*02/26/25 09:29*	*02/26/25 22:00*	*1*
13C3 HFPO-DA	*104*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:00*	*1*
d7-N-MeFOSE-M	*90.0*		*20 - 130*	*02/26/25 09:29*	*02/26/25 22:00*	*1*
d9-N-EtFOSE-M	*70.9*		*15 - 130*	*02/26/25 09:29*	*02/26/25 22:00*	*1*
d5-NEtPFOSA	*91.9*		*10 - 130*	*02/26/25 09:29*	*02/26/25 22:00*	*1*
d3-NMePFOSA	*102*		*10 - 130*	*02/26/25 09:29*	*02/26/25 22:00*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**18**	**H**	0.10	0.10	%			02/21/25 13:16	1

Client Sample ID: JTA-004-N-S006-01162025

Lab Sample ID: 320-118375-15

Date Collected: 01/16/25 11:00
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 86.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
Perfluorohexanesulfonic acid (PFHxS)	**0.071**	**J**	0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1

Client Sample ID: JTA-004-N-S006-01162025
Date Collected: 01/16/25 11:00
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-15
Matrix: Solid
Percent Solids: 86.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
Perfluorooctanesulfonic acid (PFOS)	**0.84**		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.24	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.24	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.073	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	02/26/25 09:29	02/26/25 22:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*59.1*		*8 - 130*	*02/26/25 09:29*	*02/26/25 22:17*	*1*
13C5 PFPeA	*74.1*		*35 - 130*	*02/26/25 09:29*	*02/26/25 22:17*	*1*
13C5 PFHxA	*109*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:17*	*1*
13C4 PFHpA	*94.1*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:17*	*1*
13C8 PFOA	*81.3*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:17*	*1*

Client Sample ID: JTA-004-N-S006-01162025

Lab Sample ID: 320-118375-15

Date Collected: 01/16/25 11:00
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 86.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C9 PFNA	*83.6*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:17*	*1*
13C6 PFDA	*85.3*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:17*	*1*
13C7 PFUnA	*85.3*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:17*	*1*
13C2 PFDoA	*95.2*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:17*	*1*
13C2 PFTeDA	*120*		*20 - 130*	*02/26/25 09:29*	*02/26/25 22:17*	*1*
13C3 PFBS	*72.9*		*40 - 135*	*02/26/25 09:29*	*02/26/25 22:17*	*1*
13C3 PFHxS	*95.3*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:17*	*1*
13C8 PFOS	*86.2*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:17*	*1*
13C8 FOSA	*79.9*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:17*	*1*
d3-NMeFOSAA	*85.0*		*40 - 135*	*02/26/25 09:29*	*02/26/25 22:17*	*1*
d5-NEtFOSAA	*91.7*		*40 - 150*	*02/26/25 09:29*	*02/26/25 22:17*	*1*
13C2 4:2 FTS	*105*		*40 - 165*	*02/26/25 09:29*	*02/26/25 22:17*	*1*
13C2 6:2 FTS	*94.8*		*40 - 215*	*02/26/25 09:29*	*02/26/25 22:17*	*1*
13C2 8:2 FTS	*83.6*		*40 - 275*	*02/26/25 09:29*	*02/26/25 22:17*	*1*
13C3 HFPO-DA	*87.3*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:17*	*1*
d7-N-MeFOSE-M	*84.3*		*20 - 130*	*02/26/25 09:29*	*02/26/25 22:17*	*1*
d9-N-EtFOSE-M	*56.0*		*15 - 130*	*02/26/25 09:29*	*02/26/25 22:17*	*1*
d5-NEtPFOSA	*84.7*		*10 - 130*	*02/26/25 09:29*	*02/26/25 22:17*	*1*
d3-NMePFOSA	*88.0*		*10 - 130*	*02/26/25 09:29*	*02/26/25 22:17*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**14**	**H**	0.10	0.10	%			02/21/25 13:16	1

Client Sample ID: JTA-005-N-S000-01162025

Lab Sample ID: 320-118375-20

Date Collected: 01/16/25 13:25
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 86.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
Perfluoropentanoic acid (PFPeA)	**0.17**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
Perfluorohexanoic acid (PFHxA)	**0.39**		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
Perfluorooctanoic acid (PFOA)	**0.75**		0.20	0.062	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
Perfluoroundecanoic acid (PFUnA)	**0.063**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
Perfluorododecanoic acid (PFDoA)	**0.069**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
Perfluorobutanesulfonic acid (PFBS)	**0.10**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
Perfluoropentanesulfonic acid (PFPeS)	**0.11**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
Perfluorohexanesulfonic acid (PFHxS)	**2.1**		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.19**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-2

Client Sample ID: JTA-005-N-S000-01162025
Date Collected: 01/16/25 13:25
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-20
Matrix: Solid
Percent Solids: 86.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanesulfonic acid (PFNS)	**0.52**		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
Perfluorodecanesulfonic acid (PFDS)	**1.2**		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
Perfluorododecanesulfonic acid (PFDoS)	**0.58**		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
Perfluorooctanesulfonamide (PFOSA)	**1.3**		0.20	0.063	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/26/25 09:29	02/26/25 22:33	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*62.6*		*8 - 130*	*02/26/25 09:29*	*02/26/25 22:33*	*1*
13C5 PFPeA	*90.7*		*35 - 130*	*02/26/25 09:29*	*02/26/25 22:33*	*1*
13C5 PFHxA	*109*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:33*	*1*
13C4 PFHpA	*107*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:33*	*1*
13C8 PFOA	*79.8*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:33*	*1*
13C9 PFNA	*88.2*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:33*	*1*

Client Sample ID: JTA-005-N-S000-01162025
Lab Sample ID: 320-118375-20
Date Collected: 01/16/25 13:25
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 86.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C6 PFDA	90.8		40 - 130	02/26/25 09:29	02/26/25 22:33	1
13C7 PFUnA	93.4		40 - 130	02/26/25 09:29	02/26/25 22:33	1
13C2 PFDoA	91.3		40 - 130	02/26/25 09:29	02/26/25 22:33	1
13C2 PFTeDA	100		20 - 130	02/26/25 09:29	02/26/25 22:33	1
13C3 PFBS	81.5		40 - 135	02/26/25 09:29	02/26/25 22:33	1
13C3 PFHxS	97.4		40 - 130	02/26/25 09:29	02/26/25 22:33	1
13C8 PFOS	98.9		40 - 130	02/26/25 09:29	02/26/25 22:33	1
13C8 FOSA	96.4		40 - 130	02/26/25 09:29	02/26/25 22:33	1
d3-NMeFOSAA	106		40 - 135	02/26/25 09:29	02/26/25 22:33	1
d5-NEtFOSAA	112		40 - 150	02/26/25 09:29	02/26/25 22:33	1
13C2 4:2 FTS	119		40 - 165	02/26/25 09:29	02/26/25 22:33	1
13C2 6:2 FTS	160		40 - 215	02/26/25 09:29	02/26/25 22:33	1
13C2 8:2 FTS	123		40 - 275	02/26/25 09:29	02/26/25 22:33	1
13C3 HFPO-DA	94.1		40 - 130	02/26/25 09:29	02/26/25 22:33	1
d7-N-MeFOSE-M	95.0		20 - 130	02/26/25 09:29	02/26/25 22:33	1
d9-N-EtFOSE-M	80.0		15 - 130	02/26/25 09:29	02/26/25 22:33	1
d5-NEtPFOSA	102		10 - 130	02/26/25 09:29	02/26/25 22:33	1
d3-NMePFOSA	104		10 - 130	02/26/25 09:29	02/26/25 22:33	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**36**		2.0	0.50	ug/Kg	☼	02/26/25 09:29	02/27/25 14:41	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	95.8	*3	40 - 130	02/26/25 09:29	02/27/25 14:41	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**14**	**H**	0.10	0.10	%			02/21/25 13:16	1

Client Sample ID: JTA-005-N-S006-01162025
Lab Sample ID: 320-118375-24
Date Collected: 01/16/25 13:40
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 95.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
Perfluorohexanoic acid (PFHxA)	**0.056**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
Perfluorooctanoic acid (PFOA)	**0.24**		0.20	0.062	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1

Client Sample ID: JTA-005-N-S006-01162025
Date Collected: 01/16/25 13:40
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-24
Matrix: Solid
Percent Solids: 95.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**1.3**		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.14**	**J**	0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/26/25 09:29	02/26/25 22:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*111*		*8 - 130*	*02/26/25 09:29*	*02/26/25 22:50*	*1*
13C5 PFPeA	*80.5*		*35 - 130*	*02/26/25 09:29*	*02/26/25 22:50*	*1*
13C5 PFHxA	*104*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:50*	*1*
13C4 PFHpA	*97.4*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:50*	*1*
13C8 PFOA	*92.8*		*40 - 130*	*02/26/25 09:29*	*02/26/25 22:50*	*1*

Client Sample ID: JTA-005-N-S006-01162025

Lab Sample ID: 320-118375-24

Date Collected: 01/16/25 13:40
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 95.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C9 PFNA	85.6		40 - 130	02/26/25 09:29	02/26/25 22:50	1
13C6 PFDA	89.1		40 - 130	02/26/25 09:29	02/26/25 22:50	1
13C7 PFUnA	81.5		40 - 130	02/26/25 09:29	02/26/25 22:50	1
13C2 PFDoA	85.3		40 - 130	02/26/25 09:29	02/26/25 22:50	1
13C2 PFTeDA	83.3		20 - 130	02/26/25 09:29	02/26/25 22:50	1
13C3 PFBS	78.2		40 - 135	02/26/25 09:29	02/26/25 22:50	1
13C3 PFHxS	91.9		40 - 130	02/26/25 09:29	02/26/25 22:50	1
13C8 PFOS	96.3		40 - 130	02/26/25 09:29	02/26/25 22:50	1
13C8 FOSA	94.8		40 - 130	02/26/25 09:29	02/26/25 22:50	1
d3-NMeFOSAA	107		40 - 135	02/26/25 09:29	02/26/25 22:50	1
d5-NEtFOSAA	110		40 - 150	02/26/25 09:29	02/26/25 22:50	1
13C2 4:2 FTS	86.0		40 - 165	02/26/25 09:29	02/26/25 22:50	1
13C2 6:2 FTS	88.0		40 - 215	02/26/25 09:29	02/26/25 22:50	1
13C2 8:2 FTS	87.5		40 - 275	02/26/25 09:29	02/26/25 22:50	1
13C3 HFPO-DA	85.4		40 - 130	02/26/25 09:29	02/26/25 22:50	1
d7-N-MeFOSE-M	87.0		20 - 130	02/26/25 09:29	02/26/25 22:50	1
d9-N-EtFOSE-M	68.0		15 - 130	02/26/25 09:29	02/26/25 22:50	1
d5-NEtPFOSA	90.4		10 - 130	02/26/25 09:29	02/26/25 22:50	1
d3-NMePFOSA	90.9		10 - 130	02/26/25 09:29	02/26/25 22:50	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	44		2.0	0.50	ug/Kg	☼	02/26/25 09:29	02/27/25 14:57	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	98.3	*3	40 - 130	02/26/25 09:29	02/27/25 14:57	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	4.6	H	0.10	0.10	%			02/21/25 13:16	1

Client Sample ID: JTA-006-N-S000-01162025

Lab Sample ID: 320-118375-29

Date Collected: 01/16/25 14:55
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 90.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
Perfluorooctanoic acid (PFOA)	0.10	J	0.20	0.061	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
Perfluorodecanoic acid (PFDA)	0.063	J	0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-2

Client Sample ID: JTA-006-N-S000-01162025
Date Collected: 01/16/25 14:55
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-29
Matrix: Solid
Percent Solids: 90.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**0.21**		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
Perfluorooctanesulfonic acid (PFOS)	**4.4**		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
Perfluorononanesulfonic acid (PFNS)	**0.084**	**J**	0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
Perfluorodecanesulfonic acid (PFDS)	**0.23**		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
Perfluorododecanesulfonic acid (PFDoS)	**0.096**	**J**	0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
Perfluorooctanesulfonamide (PFOSA)	**0.16**	**J**	0.20	0.062	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.24	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.24	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.073	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	02/26/25 09:29	02/26/25 23:07	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*66.5*		*8 - 130*	*02/26/25 09:29*	*02/26/25 23:07*	*1*

Client Sample ID: JTA-006-N-S000-01162025

Lab Sample ID: 320-118375-29

Date Collected: 01/16/25 14:55
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 90.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	97.1		35 - 130	02/26/25 09:29	02/26/25 23:07	1
13C5 PFHxA	109		40 - 130	02/26/25 09:29	02/26/25 23:07	1
13C4 PFHpA	105		40 - 130	02/26/25 09:29	02/26/25 23:07	1
13C8 PFOA	96.7		40 - 130	02/26/25 09:29	02/26/25 23:07	1
13C9 PFNA	90.2		40 - 130	02/26/25 09:29	02/26/25 23:07	1
13C6 PFDA	93.7		40 - 130	02/26/25 09:29	02/26/25 23:07	1
13C7 PFUnA	91.2		40 - 130	02/26/25 09:29	02/26/25 23:07	1
13C2 PFDoA	95.8		40 - 130	02/26/25 09:29	02/26/25 23:07	1
13C2 PFTeDA	106		20 - 130	02/26/25 09:29	02/26/25 23:07	1
13C3 PFBS	87.7		40 - 135	02/26/25 09:29	02/26/25 23:07	1
13C3 PFHxS	112		40 - 130	02/26/25 09:29	02/26/25 23:07	1
13C8 PFOS	87.8		40 - 130	02/26/25 09:29	02/26/25 23:07	1
13C8 FOSA	80.6		40 - 130	02/26/25 09:29	02/26/25 23:07	1
d3-NMeFOSAA	87.4		40 - 135	02/26/25 09:29	02/26/25 23:07	1
d5-NEtFOSAA	111		40 - 150	02/26/25 09:29	02/26/25 23:07	1
13C2 4:2 FTS	136		40 - 165	02/26/25 09:29	02/26/25 23:07	1
13C2 6:2 FTS	120		40 - 215	02/26/25 09:29	02/26/25 23:07	1
13C2 8:2 FTS	118		40 - 275	02/26/25 09:29	02/26/25 23:07	1
13C3 HFPO-DA	99.4		40 - 130	02/26/25 09:29	02/26/25 23:07	1
d7-N-MeFOSE-M	79.1		20 - 130	02/26/25 09:29	02/26/25 23:07	1
d9-N-EtFOSE-M	67.3		15 - 130	02/26/25 09:29	02/26/25 23:07	1
d5-NEtPFOSA	87.6		10 - 130	02/26/25 09:29	02/26/25 23:07	1
d3-NMePFOSA	91.9		10 - 130	02/26/25 09:29	02/26/25 23:07	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**9.4**	**H**	0.10	0.10	%			02/21/25 13:16	1

Client Sample ID: JTA-006-N-S006-01162025

Lab Sample ID: 320-118375-33

Date Collected: 01/16/25 15:10
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 94.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
Perfluorooctanoic acid (PFOA)	**0.13**	**J**	0.20	0.062	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
Perfluorohexanesulfonic acid (PFHxS)	**0.65**		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1

Client Sample ID: JTA-006-N-S006-01162025
Date Collected: 01/16/25 15:10
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-33
Matrix: Solid
Percent Solids: 94.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
Perfluorooctanesulfonic acid (PFOS)	**0.24**		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/26/25 09:29	02/26/25 23:23	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*81.8*		*8 - 130*	*02/26/25 09:29*	*02/26/25 23:23*	*1*
13C5 PFPeA	*97.9*		*35 - 130*	*02/26/25 09:29*	*02/26/25 23:23*	*1*
13C5 PFHxA	*112*		*40 - 130*	*02/26/25 09:29*	*02/26/25 23:23*	*1*
13C4 PFHpA	*96.5*		*40 - 130*	*02/26/25 09:29*	*02/26/25 23:23*	*1*
13C8 PFOA	*91.8*		*40 - 130*	*02/26/25 09:29*	*02/26/25 23:23*	*1*

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-2

Client Sample ID: JTA-006-N-S006-01162025
Date Collected: 01/16/25 15:10
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-33
Matrix: Solid
Percent Solids: 94.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C9 PFNA	93.5		40 - 130	02/26/25 09:29	02/26/25 23:23	1
13C6 PFDA	91.6		40 - 130	02/26/25 09:29	02/26/25 23:23	1
13C7 PFUnA	92.2		40 - 130	02/26/25 09:29	02/26/25 23:23	1
13C2 PFDoA	99.6		40 - 130	02/26/25 09:29	02/26/25 23:23	1
13C2 PFTeDA	91.5		20 - 130	02/26/25 09:29	02/26/25 23:23	1
13C3 PFBS	82.5		40 - 135	02/26/25 09:29	02/26/25 23:23	1
13C3 PFHxS	105		40 - 130	02/26/25 09:29	02/26/25 23:23	1
13C8 PFOS	91.1		40 - 130	02/26/25 09:29	02/26/25 23:23	1
13C8 FOSA	81.0		40 - 130	02/26/25 09:29	02/26/25 23:23	1
d3-NMeFOSAA	91.4		40 - 135	02/26/25 09:29	02/26/25 23:23	1
d5-NEtFOSAA	90.2		40 - 150	02/26/25 09:29	02/26/25 23:23	1
13C2 4:2 FTS	89.4		40 - 165	02/26/25 09:29	02/26/25 23:23	1
13C2 6:2 FTS	88.6		40 - 215	02/26/25 09:29	02/26/25 23:23	1
13C2 8:2 FTS	94.3		40 - 275	02/26/25 09:29	02/26/25 23:23	1
13C3 HFPO-DA	85.5		40 - 130	02/26/25 09:29	02/26/25 23:23	1
d7-N-MeFOSE-M	76.6		20 - 130	02/26/25 09:29	02/26/25 23:23	1
d9-N-EtFOSE-M	74.6		15 - 130	02/26/25 09:29	02/26/25 23:23	1
d5-NEtPFOSA	87.5		10 - 130	02/26/25 09:29	02/26/25 23:23	1
d3-NMePFOSA	90.1		10 - 130	02/26/25 09:29	02/26/25 23:23	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	5.5	H	0.10	0.10	%			02/21/25 13:16	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-2

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (8-130)	PFPeA (35-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (40-130)
320-118375-3	JTA-003-N-S000-01162025	91.0	94.9	112	96.5	87.2	84.3	89.5	92.9
320-118375-6	JTA-003-N-S006-01162025	100	86.2	99.9	91.1	82.8	80.1	87.8	92.7
320-118375-11	JTA-004-N-S000-01162025	92.5	91.9	115	107	95.9	89.8	95.1	100
320-118375-15	JTA-004-N-S006-01162025	59.1	74.1	109	94.1	81.3	83.6	85.3	85.3
320-118375-20	JTA-005-N-S000-01162025	62.6	90.7	109	107	79.8	88.2	90.8	93.4
320-118375-20 - DL	JTA-005-N-S000-01162025								
320-118375-24	JTA-005-N-S006-01162025	111	80.5	104	97.4	92.8	85.6	89.1	81.5
320-118375-24 - DL	JTA-005-N-S006-01162025								
320-118375-29	JTA-006-N-S000-01162025	66.5	97.1	109	105	96.7	90.2	93.7	91.2
320-118375-33	JTA-006-N-S006-01162025	81.8	97.9	112	96.5	91.8	93.5	91.6	92.2
LCS 320-835844/3-A	Lab Control Sample	93.7	97.2	120	107	106	89.9	88.2	97.7
LCSD 320-835844/4-A	Lab Control Sample Dup	98.7	91.9	106	102	88.3	91.3	88.0	97.7
LLCS 320-835844/2-A	Lab Control Sample	110	91.8	111	99.3	95.7	94.5	99.5	96.3
MB 320-835844/1-A	Method Blank	116	108	118	110	91.5	89.3	95.3	93.8

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (40-130)	PFTDA (20-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-135)	d5NEFOS (40-150)
320-118375-3	JTA-003-N-S000-01162025	101	111	82.2	102	88.5	85.6	85.9	104
320-118375-6	JTA-003-N-S006-01162025	89.9	91.3	79.3	96.7	84.8	75.2	87.5	90.3
320-118375-11	JTA-004-N-S000-01162025	104	124	81.0	105	90.5	93.0	88.0	104
320-118375-15	JTA-004-N-S006-01162025	95.2	120	72.9	95.3	86.2	79.9	85.0	91.7
320-118375-20	JTA-005-N-S000-01162025	91.3	100	81.5	97.4	98.9	96.4	106	112
320-118375-20 - DL	JTA-005-N-S000-01162025					95.8 *3			
320-118375-24	JTA-005-N-S006-01162025	85.3	83.3	78.2	91.9	96.3	94.8	107	110
320-118375-24 - DL	JTA-005-N-S006-01162025					98.3 *3			
320-118375-29	JTA-006-N-S000-01162025	95.8	106	87.7	112	87.8	80.6	87.4	111
320-118375-33	JTA-006-N-S006-01162025	99.6	91.5	82.5	105	91.1	81.0	91.4	90.2
LCS 320-835844/3-A	Lab Control Sample	102	93.0	86.0	116	94.9	81.5	93.8	94.6
LCSD 320-835844/4-A	Lab Control Sample Dup	98.4	98.8	83.3	109	96.9	84.2	94.4	100
LLCS 320-835844/2-A	Lab Control Sample	101	97.6	94.5	108	91.3	78.5	94.8	94.4
MB 320-835844/1-A	Method Blank	98.4	89.9	88.6	117	86.8	82.2	90.2	95.9

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118375-3	JTA-003-N-S000-01162025	162	163	158	101	90.9	64.3	85.7	96.3
320-118375-6	JTA-003-N-S006-01162025	91.2	97.9	90.7	79.2	71.5	55.1	77.8	79.6
320-118375-11	JTA-004-N-S000-01162025	170 *5+	176	146	104	90.0	70.9	91.9	102
320-118375-15	JTA-004-N-S006-01162025	105	94.8	83.6	87.3	84.3	56.0	84.7	88.0
320-118375-20	JTA-005-N-S000-01162025	119	160	123	94.1	95.0	80.0	102	104
320-118375-20 - DL	JTA-005-N-S000-01162025								
320-118375-24	JTA-005-N-S006-01162025	86.0	88.0	87.5	85.4	87.0	68.0	90.4	90.9
320-118375-24 - DL	JTA-005-N-S006-01162025								
320-118375-29	JTA-006-N-S000-01162025	136	120	118	99.4	79.1	67.3	87.6	91.9
320-118375-33	JTA-006-N-S006-01162025	89.4	88.6	94.3	85.5	76.6	74.6	87.5	90.1
LCS 320-835844/3-A	Lab Control Sample	98.6	94.4	99.8	96.6	86.5	68.5	87.7	84.4
LCSD 320-835844/4-A	Lab Control Sample Dup	90.3	99.4	92.9	90.3	85.6	80.0	87.7	87.3
LLCS 320-835844/2-A	Lab Control Sample	104	104	99.4	89.0	77.8	60.6	76.7	80.9
MB 320-835844/1-A	Method Blank	113	101	92.9	99.1	73.2	59.6	77.2	80.9

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-2

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-835844/1-A
Matrix: Solid
Analysis Batch: 836105

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 835844

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-835844/1-A
Matrix: Solid
Analysis Batch: 836105

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 835844

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		02/26/25 09:29	02/26/25 19:15	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		02/26/25 09:29	02/26/25 19:15	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*116*		*8 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C5 PFPeA	*108*		*35 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C5 PFHxA	*118*		*40 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C4 PFHpA	*110*		*40 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C8 PFOA	*91.5*		*40 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C9 PFNA	*89.3*		*40 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C6 PFDA	*95.3*		*40 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C7 PFUnA	*93.8*		*40 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C2 PFDoA	*98.4*		*40 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C2 PFTeDA	*89.9*		*20 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C3 PFBS	*88.6*		*40 - 135*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C3 PFHxS	*117*		*40 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C8 PFOS	*86.8*		*40 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C8 FOSA	*82.2*		*40 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
d3-NMeFOSAA	*90.2*		*40 - 135*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
d5-NEtFOSAA	*95.9*		*40 - 150*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C2 4:2 FTS	*113*		*40 - 165*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C2 6:2 FTS	*101*		*40 - 215*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C2 8:2 FTS	*92.9*		*40 - 275*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
13C3 HFPO-DA	*99.1*		*40 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
d7-N-MeFOSE-M	*73.2*		*20 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
d9-N-EtFOSE-M	*59.6*		*15 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
d5-NEtPFOSA	*77.2*		*10 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*
d3-NMePFOSA	*80.9*		*10 - 130*	*02/26/25 09:29*	*02/26/25 19:15*	*1*

Lab Sample ID: LCS 320-835844/3-A
Matrix: Solid
Analysis Batch: 836105

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835844

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.27		ug/Kg		85	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.68		ug/Kg		107	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.18		ug/Kg		87	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.46		ug/Kg		98	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.50		ug/Kg		100	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.64		ug/Kg		106	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.77		ug/Kg		111	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-835844/3-A
Matrix: Solid
Analysis Batch: 836105

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835844

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.51		ug/Kg		100	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.39		ug/Kg		95	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.47		ug/Kg		99	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.51		ug/Kg		100	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.30		ug/Kg		104	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	1.87		ug/Kg		79	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.93		ug/Kg		85	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.05		ug/Kg		86	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.30		ug/Kg		99	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.15		ug/Kg		89	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.24		ug/Kg		93	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.02		ug/Kg		83	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.77		ug/Kg		102	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.58		ug/Kg		96	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.80		ug/Kg		100	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.49		ug/Kg		100	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.62		ug/Kg		105	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.23		ug/Kg		89	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.57		ug/Kg		103	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.58		ug/Kg		103	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.3		ug/Kg		90	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	13.3		ug/Kg		106	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.86		ug/Kg		99	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.30		ug/Kg		97	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.29		ug/Kg		91	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.74		ug/Kg		110	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	1.95		ug/Kg		78	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-835844/3-A
Matrix: Solid
Analysis Batch: 836105

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835844

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.07		ug/Kg		89	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.33		ug/Kg		99	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.85		ug/Kg		83	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	3.72		ug/Kg		74	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.2		ug/Kg		81	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	9.36		ug/Kg		75	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*93.7*		*8 - 130*
13C5 PFPeA	*97.2*		*35 - 130*
13C5 PFHxA	*120*		*40 - 130*
13C4 PFHpA	*107*		*40 - 130*
13C8 PFOA	*106*		*40 - 130*
13C9 PFNA	*89.9*		*40 - 130*
13C6 PFDA	*88.2*		*40 - 130*
13C7 PFUnA	*97.7*		*40 - 130*
13C2 PFDoA	*102*		*40 - 130*
13C2 PFTeDA	*93.0*		*20 - 130*
13C3 PFBS	*86.0*		*40 - 135*
13C3 PFHxS	*116*		*40 - 130*
13C8 PFOS	*94.9*		*40 - 130*
13C8 FOSA	*81.5*		*40 - 130*
d3-NMeFOSAA	*93.8*		*40 - 135*
d5-NEtFOSAA	*94.6*		*40 - 150*
13C2 4:2 FTS	*98.6*		*40 - 165*
13C2 6:2 FTS	*94.4*		*40 - 215*
13C2 8:2 FTS	*99.8*		*40 - 275*
13C3 HFPO-DA	*96.6*		*40 - 130*
d7-N-MeFOSE-M	*86.5*		*20 - 130*
d9-N-EtFOSE-M	*68.5*		*15 - 130*
d5-NEtPFOSA	*87.7*		*10 - 130*
d3-NMePFOSA	*84.4*		*10 - 130*

Lab Sample ID: LCSD 320-835844/4-A
Matrix: Solid
Analysis Batch: 836105

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 835844

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.08		ug/Kg		82	70 - 140	4	30
Perfluoropentanoic acid (PFPeA)			2.50	2.53		ug/Kg		101	60 - 150	6	30
Perfluorohexanoic acid (PFHxA)			2.50	2.23		ug/Kg		89	65 - 140	2	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.40		ug/Kg		96	65 - 145	2	30
Perfluorooctanoic acid (PFOA)			2.50	2.51		ug/Kg		101	70 - 150	0	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-835844/4-A
Matrix: Solid
Analysis Batch: 836105

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 835844

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.45		ug/Kg		98	70 - 155	7	30
Perfluorodecanoic acid (PFDA)	2.50	2.62		ug/Kg		105	70 - 155	6	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.40		ug/Kg		96	70 - 155	5	30
Perfluorododecanoic acid (PFDoA)	2.50	2.47		ug/Kg		99	70 - 150	4	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.39		ug/Kg		96	65 - 150	3	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.43		ug/Kg		97	65 - 150	3	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.38		ug/Kg		107	65 - 145	3	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	1.88		ug/Kg		80	55 - 160	1	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.84		ug/Kg		81	60 - 150	5	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.10		ug/Kg		88	65 - 155	2	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.26		ug/Kg		97	65 - 160	2	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.14		ug/Kg		89	55 - 140	0	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.16		ug/Kg		90	40 - 155	4	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.13		ug/Kg		88	25 - 160	5	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.66		ug/Kg		99	60 - 150	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.40		ug/Kg		92	55 - 200	4	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	5.08		ug/Kg		106	70 - 150	6	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.32		ug/Kg		93	70 - 140	7	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.48		ug/Kg		99	70 - 155	6	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.21		ug/Kg		88	70 - 140	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.55		ug/Kg		102	65 - 155	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.46		ug/Kg		98	65 - 165	5	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.3		ug/Kg		90	70 - 140	0	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	11.4		ug/Kg		91	70 - 135	15	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.85		ug/Kg		99	70 - 145	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.18		ug/Kg		92	70 - 160	5	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.41		ug/Kg		96	30 - 140	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.54		ug/Kg		102	60 - 150	7	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-835844/4-A
Matrix: Solid
Analysis Batch: 836105

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 835844

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.20		ug/Kg		88	60 - 155	12	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.42		ug/Kg		103	70 - 150	15	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.34		ug/Kg		99	45 - 160	1	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.86		ug/Kg		83	70 - 140	1	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.00		ug/Kg		80	45 - 130	7	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.8		ug/Kg		86	60 - 130	6	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	9.88		ug/Kg		79	60 - 150	5	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*98.7*		*8 - 130*
13C5 PFPeA	*91.9*		*35 - 130*
13C5 PFHxA	*106*		*40 - 130*
13C4 PFHpA	*102*		*40 - 130*
13C8 PFOA	*88.3*		*40 - 130*
13C9 PFNA	*91.3*		*40 - 130*
13C6 PFDA	*88.0*		*40 - 130*
13C7 PFUnA	*97.7*		*40 - 130*
13C2 PFDoA	*98.4*		*40 - 130*
13C2 PFTeDA	*98.8*		*20 - 130*
13C3 PFBS	*83.3*		*40 - 135*
13C3 PFHxS	*109*		*40 - 130*
13C8 PFOS	*96.9*		*40 - 130*
13C8 FOSA	*84.2*		*40 - 130*
d3-NMeFOSAA	*94.4*		*40 - 135*
d5-NEtFOSAA	*100*		*40 - 150*
13C2 4:2 FTS	*90.3*		*40 - 165*
13C2 6:2 FTS	*99.4*		*40 - 215*
13C2 8:2 FTS	*92.9*		*40 - 275*
13C3 HFPO-DA	*90.3*		*40 - 130*
d7-N-MeFOSE-M	*85.6*		*20 - 130*
d9-N-EtFOSE-M	*80.0*		*15 - 130*
d5-NEtPFOSA	*87.7*		*10 - 130*
d3-NMePFOSA	*87.3*		*10 - 130*

Lab Sample ID: LLCS 320-835844/2-A
Matrix: Solid
Analysis Batch: 836105

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835844

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.678		ug/Kg		85	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.490		ug/Kg		123	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.350		ug/Kg		87	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-835844/2-A
Matrix: Solid
Analysis Batch: 836105

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835844

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.408		ug/Kg		102	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.404		ug/Kg		101	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.417		ug/Kg		104	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.394		ug/Kg		99	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.434		ug/Kg		109	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.422		ug/Kg		106	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.397		ug/Kg		99	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.415		ug/Kg		104	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.385		ug/Kg		108	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.347		ug/Kg		92	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.347		ug/Kg		95	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.359		ug/Kg		94	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.365		ug/Kg		98	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.364		ug/Kg		95	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.367		ug/Kg		95	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.333		ug/Kg		86	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.756		ug/Kg		101	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.695		ug/Kg		91	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.858		ug/Kg		112	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.403		ug/Kg		101	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.408		ug/Kg		102	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.393		ug/Kg		98	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.392		ug/Kg		98	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.397		ug/Kg		99	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.85		ug/Kg		93	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.17		ug/Kg		109	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.328		ug/Kg		109	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.380		ug/Kg		100	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.401		ug/Kg		100	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-835844/2-A
Matrix: Solid
Analysis Batch: 836105

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835844

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.432		ug/Kg		108	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.239		ug/Kg		60	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.387		ug/Kg		104	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.380		ug/Kg		101	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.293		ug/Kg		82	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.688		ug/Kg		86	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	1.55		ug/Kg		77	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	1.49		ug/Kg		74	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*110*		*8 - 130*
13C5 PFPeA	*91.8*		*35 - 130*
13C5 PFHxA	*111*		*40 - 130*
13C4 PFHpA	*99.3*		*40 - 130*
13C8 PFOA	*95.7*		*40 - 130*
13C9 PFNA	*94.5*		*40 - 130*
13C6 PFDA	*99.5*		*40 - 130*
13C7 PFUnA	*96.3*		*40 - 130*
13C2 PFDoA	*101*		*40 - 130*
13C2 PFTeDA	*97.6*		*20 - 130*
13C3 PFBS	*94.5*		*40 - 135*
13C3 PFHxS	*108*		*40 - 130*
13C8 PFOS	*91.3*		*40 - 130*
13C8 FOSA	*78.5*		*40 - 130*
d3-NMeFOSAA	*94.8*		*40 - 135*
d5-NEtFOSAA	*94.4*		*40 - 150*
13C2 4:2 FTS	*104*		*40 - 165*
13C2 6:2 FTS	*104*		*40 - 215*
13C2 8:2 FTS	*99.4*		*40 - 275*
13C3 HFPO-DA	*89.0*		*40 - 130*
d7-N-MeFOSE-M	*77.8*		*20 - 130*
d9-N-EtFOSE-M	*60.6*		*15 - 130*
d5-NEtPFOSA	*76.7*		*10 - 130*
d3-NMePFOSA	*80.9*		*10 - 130*

Client: GSI Environmental Inc
Job ID: 320-118375-2
Project/Site: Spokane International Airport

Method: 1633 - Percent Moisture

Lab Sample ID: 320-118375-24 DU
Client Sample ID: JTA-005-N-S006-01162025
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 834905

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	4.6	H		4.3		%				5	20

LCMS

Prep Batch: 835844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-3	JTA-003-N-S000-01162025	Total/NA	Solid	1633 Shake	
320-118375-6	JTA-003-N-S006-01162025	Total/NA	Solid	1633 Shake	
320-118375-11	JTA-004-N-S000-01162025	Total/NA	Solid	1633 Shake	
320-118375-15	JTA-004-N-S006-01162025	Total/NA	Solid	1633 Shake	
320-118375-20 - DL	JTA-005-N-S000-01162025	Total/NA	Solid	1633 Shake	
320-118375-20	JTA-005-N-S000-01162025	Total/NA	Solid	1633 Shake	
320-118375-24 - DL	JTA-005-N-S006-01162025	Total/NA	Solid	1633 Shake	
320-118375-24	JTA-005-N-S006-01162025	Total/NA	Solid	1633 Shake	
320-118375-29	JTA-006-N-S000-01162025	Total/NA	Solid	1633 Shake	
320-118375-33	JTA-006-N-S006-01162025	Total/NA	Solid	1633 Shake	
MB 320-835844/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-835844/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-835844/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-835844/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 836105

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-3	JTA-003-N-S000-01162025	Total/NA	Solid	1633	835844
320-118375-6	JTA-003-N-S006-01162025	Total/NA	Solid	1633	835844
320-118375-11	JTA-004-N-S000-01162025	Total/NA	Solid	1633	835844
320-118375-15	JTA-004-N-S006-01162025	Total/NA	Solid	1633	835844
320-118375-20	JTA-005-N-S000-01162025	Total/NA	Solid	1633	835844
320-118375-24	JTA-005-N-S006-01162025	Total/NA	Solid	1633	835844
320-118375-29	JTA-006-N-S000-01162025	Total/NA	Solid	1633	835844
320-118375-33	JTA-006-N-S006-01162025	Total/NA	Solid	1633	835844
MB 320-835844/1-A	Method Blank	Total/NA	Solid	1633	835844
LCS 320-835844/3-A	Lab Control Sample	Total/NA	Solid	1633	835844
LCSD 320-835844/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	835844
LLCS 320-835844/2-A	Lab Control Sample	Total/NA	Solid	1633	835844

Analysis Batch: 836143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-20 - DL	JTA-005-N-S000-01162025	Total/NA	Solid	1633	835844
320-118375-24 - DL	JTA-005-N-S006-01162025	Total/NA	Solid	1633	835844

General Chemistry

Analysis Batch: 834905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-3	JTA-003-N-S000-01162025	Total/NA	Solid	1633	
320-118375-6	JTA-003-N-S006-01162025	Total/NA	Solid	1633	
320-118375-11	JTA-004-N-S000-01162025	Total/NA	Solid	1633	
320-118375-15	JTA-004-N-S006-01162025	Total/NA	Solid	1633	
320-118375-20	JTA-005-N-S000-01162025	Total/NA	Solid	1633	
320-118375-24	JTA-005-N-S006-01162025	Total/NA	Solid	1633	
320-118375-29	JTA-006-N-S000-01162025	Total/NA	Solid	1633	
320-118375-33	JTA-006-N-S006-01162025	Total/NA	Solid	1633	
320-118375-24 DU	JTA-005-N-S006-01162025	Total/NA	Solid	1633	

Client Sample ID: JTA-003-N-S000-01162025
Lab Sample ID: 320-118375-3
Date Collected: 01/16/25 09:30
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834905	02/21/25 13:16	JCB	EET SAC

Client Sample ID: JTA-003-N-S000-01162025
Lab Sample ID: 320-118375-3
Date Collected: 01/16/25 09:30
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 87.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.34 g	5.0 mL	835844	02/26/25 09:29	KTH	EET SAC
Total/NA	Analysis	1633		1			836105	02/26/25 20:54	K1D	EET SAC

Client Sample ID: JTA-003-N-S006-01162025
Lab Sample ID: 320-118375-6
Date Collected: 01/16/25 09:45
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834905	02/21/25 13:16	JCB	EET SAC

Client Sample ID: JTA-003-N-S006-01162025
Lab Sample ID: 320-118375-6
Date Collected: 01/16/25 09:45
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 88.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.27 g	5.0 mL	835844	02/26/25 09:29	KTH	EET SAC
Total/NA	Analysis	1633		1			836105	02/26/25 21:44	K1D	EET SAC

Client Sample ID: JTA-004-N-S000-01162025
Lab Sample ID: 320-118375-11
Date Collected: 01/16/25 10:40
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834905	02/21/25 13:16	JCB	EET SAC

Client Sample ID: JTA-004-N-S000-01162025
Lab Sample ID: 320-118375-11
Date Collected: 01/16/25 10:40
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 81.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.47 g	5.0 mL	835844	02/26/25 09:29	KTH	EET SAC
Total/NA	Analysis	1633		1			836105	02/26/25 22:00	K1D	EET SAC

Client Sample ID: JTA-004-N-S006-01162025
Lab Sample ID: 320-118375-15
Date Collected: 01/16/25 11:00
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834905	02/21/25 13:16	JCB	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-2

Client Sample ID: JTA-004-N-S006-01162025
Lab Sample ID: 320-118375-15
Date Collected: 01/16/25 11:00
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 86.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.37 g	5.0 mL	835844	02/26/25 09:29	KTH	EET SAC
Total/NA	Analysis	1633		1			836105	02/26/25 22:17	K1D	EET SAC

Client Sample ID: JTA-005-N-S000-01162025
Lab Sample ID: 320-118375-20
Date Collected: 01/16/25 13:25
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834905	02/21/25 13:16	JCB	EET SAC

Client Sample ID: JTA-005-N-S000-01162025
Lab Sample ID: 320-118375-20
Date Collected: 01/16/25 13:25
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 86.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	DL		2.31 g	5.0 mL	835844	02/26/25 09:29	KTH	EET SAC
Total/NA	Analysis	1633	DL	10			836143	02/27/25 14:41	RS1	EET SAC
Total/NA	Prep	1633 Shake			2.31 g	5.0 mL	835844	02/26/25 09:29	KTH	EET SAC
Total/NA	Analysis	1633		1			836105	02/26/25 22:33	K1D	EET SAC

Client Sample ID: JTA-005-N-S006-01162025
Lab Sample ID: 320-118375-24
Date Collected: 01/16/25 13:40
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834905	02/21/25 13:16	JCB	EET SAC

Client Sample ID: JTA-005-N-S006-01162025
Lab Sample ID: 320-118375-24
Date Collected: 01/16/25 13:40
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 95.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	DL		2.10 g	5.0 mL	835844	02/26/25 09:29	KTH	EET SAC
Total/NA	Analysis	1633	DL	10			836143	02/27/25 14:57	RS1	EET SAC
Total/NA	Prep	1633 Shake			2.10 g	5.0 mL	835844	02/26/25 09:29	KTH	EET SAC
Total/NA	Analysis	1633		1			836105	02/26/25 22:50	K1D	EET SAC

Client Sample ID: JTA-006-N-S000-01162025
Lab Sample ID: 320-118375-29
Date Collected: 01/16/25 14:55
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834905	02/21/25 13:16	JCB	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-2

Client Sample ID: JTA-006-N-S000-01162025

Lab Sample ID: 320-118375-29

Date Collected: 01/16/25 14:55
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 90.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.26 g	5.0 mL	835844	02/26/25 09:29	KTH	EET SAC
Total/NA	Analysis	1633		1			836105	02/26/25 23:07	K1D	EET SAC

Client Sample ID: JTA-006-N-S006-01162025

Lab Sample ID: 320-118375-33

Date Collected: 01/16/25 15:10
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834905	02/21/25 13:16	JCB	EET SAC

Client Sample ID: JTA-006-N-S006-01162025

Lab Sample ID: 320-118375-33

Date Collected: 01/16/25 15:10
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 94.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.10 g	5.0 mL	835844	02/26/25 09:29	KTH	EET SAC
Total/NA	Analysis	1633		1			836105	02/26/25 23:23	K1D	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118375-2
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-2

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Job ID: 320-118375-2
Project/Site: Spokane International Airport

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118375-3	JTA-003-N-S000-01162025	Solid	01/16/25 09:30	01/18/25 09:00
320-118375-6	JTA-003-N-S006-01162025	Solid	01/16/25 09:45	01/18/25 09:00
320-118375-11	JTA-004-N-S000-01162025	Solid	01/16/25 10:40	01/18/25 09:00
320-118375-15	JTA-004-N-S006-01162025	Solid	01/16/25 11:00	01/18/25 09:00
320-118375-20	JTA-005-N-S000-01162025	Solid	01/16/25 13:25	01/18/25 09:00
320-118375-24	JTA-005-N-S006-01162025	Solid	01/16/25 13:40	01/18/25 09:00
320-118375-29	JTA-006-N-S000-01162025	Solid	01/16/25 14:55	01/18/25 09:00
320-118375-33	JTA-006-N-S006-01162025	Solid	01/16/25 15:10	01/18/25 09:00

HALEY & ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave. Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
		DELIVERY DATE	
		TURNAROUND TIME	
		PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	HOLD	Number of Containers
JTA-002-N-S040-01162025	1/16/2025	8.30	Soil		X	1
JTA-002-N-S042-01162025	1/16/2025	8.35	Soil		X	1
JTA-003-N-S000-01162025	1/16/2025	9.30	Soil			1
JTA-003-N-S001-01162025	1/16/2025	9.35	Soil	X		1
JTA-003-N-S003-01162025	1/16/2025	9 40	Soil	X		1
JTA-003-N-S006-01162025	1/16/2025	9 45	Soil		X	1
JTA-003-N-S010-01162025	1/16/2025	9 50	Soil		X	1
JTA-003-N-S015-01162025	1/16/2025	9:55	Soil		X	1
JTA-003-N-S020-01162025	1/16/2025	10 00	Soil		X	1
JTA-003-N-S030-01162025	1/16/2025	10·05	Soil		X	1

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118375 Chain of Custody

0.8 corr WGGL

Sampled and Relinquished by	Received by
Sign	Sign
Print Bonnie Govero	Print Macky Morris
Firm H&A	Firm EETSPO
Date 1/17/25 Time 1148	Date 1/17/25 1148
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Ryan Medeiros
Firm EETSPO	Firm EETSPO
Date 1/17/25 Time 1527	Date 1/17/25 0900
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Form 3003

33

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450.
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-001
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 11922 E 1st Ave, Spokane Valley WA 99206
CONTACT Randee Arrington

DELIVERY DATE
TURNAROUND TIME
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	HOLD	Number of Containers
JTA-004-N-S000-01162025	1/16/2025	10 40	Soil		X	1
JTA-004-N-S001-01162025	1/16/2025	10 45	Soil	X		1
JTA-004-N-S003-01162025	1/16/2025	10:50	Soil	X		1
JTA-004-FD-S003-01162025	1/16/2025	10.55	Soil	X		1
JTA-004-N-S006-01162025	1/16/2025	11·00	Soil		X	1
JTA-004-N-S010-01162025	1/16/2025	11 05	Soil		X	1
JTA-004-N-S015-01162025	1/16/2025	11 10	Soil		X	1
JTA-004-N-S020-01162025	1/16/2025	11 15	Soil		X	1
JTA-004-N-S030-01162025	1/16/2025	11:20	Soil		X	1
JTA-005-N-S000-01162025	1/16/2025	13.25	Soil		X	1

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.
– TOC: Total Organic Carbon

0.8, @or 1 P004

Sampled and Relinquished by	Received by
Sign	Sign
Print Bonnie Govan	Print Macky Morris
Firm H&A	Firm EET SPO
Date 1/17/25 Time 1148	Date 1/17/25 1148
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Logan Nelson
Firm EETSPO	Firm EETSAC
Date 1/17/25 Time 1527	Date 1/18/25 0900
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
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_____
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE Laboratory CANARY Project Manager PINK - Haley & Aldrich Laboratory

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-001
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 11922 E 1st Ave, Spokane Valley WA 99206
CONTACT Randee Arrington

DELIVERY DATE
TURNAROUND TIME
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	HOLD	Number of Containers
JTA-005-N-S001-01162025	1/16/2025	13.30	Soil	X		1
JTA-005-N-S003-01162025	1/16/2025	13.35	Soil	X		1
JTA-005-FD-S003-01162025	1/16/2025	14 05	Soil	X		1
JTA-005-N-S006-01162025	1/16/2025	13 40	Soil		X	1
JTA-005-N-S010-01162025	1/16/2025	13 45	Soil		X	1
JTA-005-N-S015-01162025	1/16/2025	13.50	Soil		X	1
JTA-005-N-S017-01162025	1/16/2025	14.25	Soil		X	1
JTA-005-N-S025-01162025	1/16/2025	14.30	Soil		X	1
JTA-006-N-S000-01162025	1/16/2025	14.55	Soil		X	1
JTA-006-N-S001-01162025	1/16/2025	15 00	Soil	X		1

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

0.8cor 1R006

Sampled and Relinquished by	Received by
Sign	Sign
Print Bonnie Govern	Print Macky Morris
Firm H&A	Firm EEL SPK
Date 1/17/25 Time 1148	Date 1/17/25 1148
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Nathan Mehaffey
Firm EEL SPK	Firm EETSM
Date 1/17/25 Time 1529	Date 1/18/25 0900
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

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Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Form 3003

3.3

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
		DELIVERY DATE	
		TURNAROUND TIME	
		PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	HOLD	Number of Containers
JTA-006-FD-S001-01162025	1/16/2025	15.30	Soil	X		1
JTA-006-N-S003-01162025	1/16/2025	15 05	Soil	X		1
JTA-006-N-S006-01162025	1/16/2025	15 10	Soil		X	1
JTA-006-N-S010-01162025	1/16/2025	15 15	Soil		X	1
JTA-006-N-S013-01162025	1/16/2025	15.20	Soil		X	1
JTA-006-N-S021-01162025	1/16/2025	15:25	Soil		X	1
JTA-006-N-S028-01162025	1/16/2025	15.30	Soil		X	1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

0.8 cool Ice

Sampled and Relinquished by	Received by
Sign	Sign
Print Bonnie Gavin	Print Macky Morris
Firm H&A	Firm ELES&O
Date 1/17/25 Time 1148	Date 1/17/25 1148
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Ryan Nichols
Firm ELES&O	Firm Eurofins
Date 1/17/25 Time 1527	Date 1/16/25 0910
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

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_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Form 3003

3.3

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450.
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-001
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 11922 E 1st Ave. Spokane Valley WA 99206
CONTACT Randee Arrington

DELIVERY DATE
TURNAROUND TIME
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	HOLD	Number of Containers
EB-0116-2025	1/16/2025	8.40	Water	X		3
FB-01162025	1/16/2025	0·00	Water	X		2

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

0.4, 0.8 cor Hold

Sampled and Relinquished by	Received by
Sign	Sign
Print Bonnie Gavoni	Print Macky Morris
Firm H&A	Firm EEL SPO
Date 1/17/25 Time 1148	Date 1/17/25 1148
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Lacey Anderson
Firm EEL SPO	Firm Eurofins
Date 1/17/25 Time 1527	Date 1/18/25 0900
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
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_____
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Form 3003

3-3

eurofins | Environment Testing

Loc: 320
118375

Sacramento Sample Receiving Notes (SSRN)

Tracking # 9242 5693 0048

Job: _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID UI2 Corr Factor (+ / -) _____ °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal 2287491

Cooler ID 1 of 2

Temp Observed: 2 °C Corrected: 3 °C

From. Temp Blank ☐ Sandwich ☐ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: DM Date 1/18/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials DM Date 01/18/25

Notes: _____

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials DM Date 01/18/25

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 2/20/2025 8:36:18 AM Revision 1

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118375-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

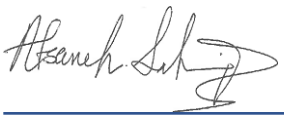
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Revision 1

Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118375-1
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
*3	ISTD response or retention time outside acceptable limits.
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-118375-1

Revised report on 2-20-2025 for sample id.

Receipt

The samples were received on 1/18/2025 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.3º C.

LCMS

Method 1633: The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: JTA-004-N-S001-01162025 (320-118375-12), JTA-005-FD-S003-01162025 (320-118375-23) and JTA-006-N-S001-01162025 (320-118375-30). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the samples.

Method 1633: Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: (MB 320-828651/1-A). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 1633: The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. The associated analyte has been flagged: JTA-006-N-S001-01162025 (320-118375-30).

Method 1633: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-828462 and analytical batch 320-829454 recovered outside control limits for the following analytes: 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) and 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS).

Method 1633: The continuing calibration verification (CCV) associated with batch 320-829454 recovered above the upper control limit for isotope dilution analyte (IDA) 13C2 6:2 FTS. The associated target analytes, 1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS), were within control limits in the CCV; therefore, the data is reported: EB-01162025 (320-118375-38), FB-01162025 (320-118375-39) and (CCV 320-829454/18).

Method 1633: The low level continuing calibration verification (CCVL) associated with batch 320-829454 recovered above the upper control limit for isotope dilution analyte (IDA) 13C2 PFDoA. The associated target analytes, Perfluorododecanoic acid (PFDoA) and Perfluorotridecanoic acid (PFTrDA), were within control limits in the CCV; therefore, the data is reported: EB-01162025 (320-118375-38), FB-01162025 (320-118375-39) and (CCVL 320-829454/4).

Method 1633: Results for samples JTA-005-N-S001-01162025 (320-118375-21) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

Method 1633 Shake: The following samples in preparation batch 320-828651 was colored yellow following extraction: JTA-005-N-S001-01162025 (320-118375-21)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-1

Client Sample ID: JTA-003-N-S001-01162025 — Lab Sample ID: 320-118375-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS) - RA	0.27		0.19	0.047	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-003-N-S003-01162025 — Lab Sample ID: 320-118375-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS) - RA	0.077	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RA	0.13	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-004-N-S001-01162025 — Lab Sample ID: 320-118375-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.10	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanoic acid (PFBA) - RA	0.20	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA) - RA	0.071	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA) - RA	0.25		0.20	0.063	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - RA	0.18	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RA	5.0		0.20	0.051	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-004-N-S003-01162025 — Lab Sample ID: 320-118375-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.056	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - RA	0.28		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RA	0.066	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-004-FD-S003-01162025 — Lab Sample ID: 320-118375-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS) - RA	0.15	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - RA	0.16	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-005-N-S001-01162025 — Lab Sample ID: 320-118375-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.27		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	27		1.9	0.49	ug/Kg	10	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA) - RA	0.10	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA) - RA	0.27		0.19	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - RA	1.1		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS) - RA	0.12	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS) - RA	0.46		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS) - RA	0.38		0.19	0.049	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: JTA-005-N-S001-01162025 (Continued) — Lab Sample ID: 320-118375-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorododecanesulfonic acid (PFDoS) - RA	0.13	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA) - RA	0.51		0.19	0.061	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-005-N-S003-01162025 — Lab Sample ID: 320-118375-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS) - RA	0.20		0.19	0.047	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RA	3.3		0.19	0.047	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA) - RA	0.10	J	0.19	0.060	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-005-FD-S003-01162025 — Lab Sample ID: 320-118375-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS) - RA	1.2		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - RA	0.14	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RA	2.5		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA) - RA	0.078	J	0.19	0.061	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-006-N-S001-01162025 — Lab Sample ID: 320-118375-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.077	J I	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA) - RA	0.18	J	0.19	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - RA	0.22		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RA	6.9		0.19	0.048	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-006-FD-S001-01162025 — Lab Sample ID: 320-118375-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.086	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA) - RA	0.18	J	0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - RA	0.47		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RA	4.8		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA) - RA	0.086	J	0.20	0.062	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: JTA-006-N-S003-01162025 — Lab Sample ID: 320-118375-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA) - RA	0.066	J	0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - RA	0.31		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RA	1.1		0.20	0.049	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GSI Environmental Inc
Job ID: 320-118375-1
Project/Site: Spokane International Airport

Client Sample ID: EB-01162025
Lab Sample ID: 320-118375-38

No Detections.

Client Sample ID: FB-01162025
Lab Sample ID: 320-118375-39

No Detections.

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-1

Client Sample ID: JTA-003-N-S001-01162025
Date Collected: 01/16/25 09:35
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-4
Matrix: Solid
Percent Solids: 92.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/22/25 17:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFHxA	*98.5*		*40 - 130*	*01/21/25 12:26*	*01/22/25 17:51*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.38	0.095	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.059	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.055	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
Perfluorooctanesulfonic acid (PFOS)	**0.27**		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.38	0.095	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.38	0.095	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.38	0.095	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.060	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.95	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.95	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-1

Client Sample ID: JTA-003-N-S001-01162025
Date Collected: 01/16/25 09:35
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-4
Matrix: Solid
Percent Solids: 92.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.059	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.071	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.38	0.095	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.95	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.95	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 18:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*90.8*		*8 - 130*	*01/21/25 12:26*	*01/23/25 18:28*	*1*
13C5 PFPeA	*100*		*35 - 130*	*01/21/25 12:26*	*01/23/25 18:28*	*1*
13C5 PFHxA	*100*		*40 - 130*	*01/21/25 12:26*	*01/23/25 18:28*	*1*
13C4 PFHpA	*98.4*		*40 - 130*	*01/21/25 12:26*	*01/23/25 18:28*	*1*
13C8 PFOA	*88.9*		*40 - 130*	*01/21/25 12:26*	*01/23/25 18:28*	*1*
13C9 PFNA	*81.7*		*40 - 130*	*01/21/25 12:26*	*01/23/25 18:28*	*1*
13C6 PFDA	*78.2*		*40 - 130*	*01/21/25 12:26*	*01/23/25 18:28*	*1*
13C7 PFUnA	*67.6*		*40 - 130*	*01/21/25 12:26*	*01/23/25 18:28*	*1*
13C2 PFDoA	*54.9*		*40 - 130*	*01/21/25 12:26*	*01/23/25 18:28*	*1*
13C2 PFTeDA	*70.0*		*20 - 130*	*01/21/25 12:26*	*01/23/25 18:28*	*1*
13C3 PFBS	*91.0*		*40 - 135*	*01/21/25 12:26*	*01/23/25 18:28*	*1*
13C3 PFHxS	*84.3*		*40 - 130*	*01/21/25 12:26*	*01/23/25 18:28*	*1*
13C8 PFOS	*84.0*		*40 - 130*	*01/21/25 12:26*	*01/23/25 18:28*	*1*
13C8 FOSA	*66.1*		*40 - 130*	*01/21/25 12:26*	*01/23/25 18:28*	*1*
d3-NMeFOSAA	*76.1*		*40 - 135*	*01/21/25 12:26*	*01/23/25 18:28*	*1*
d5-NEtFOSAA	*72.0*		*40 - 150*	*01/21/25 12:26*	*01/23/25 18:28*	*1*
13C2 4:2 FTS	*99.6*		*40 - 165*	*01/21/25 12:26*	*01/23/25 18:28*	*1*
13C2 6:2 FTS	*90.7*		*40 - 215*	*01/21/25 12:26*	*01/23/25 18:28*	*1*
13C2 8:2 FTS	*74.4*		*40 - 275*	*01/21/25 12:26*	*01/23/25 18:28*	*1*
13C3 HFPO-DA	*101*		*40 - 130*	*01/21/25 12:26*	*01/23/25 18:28*	*1*
d7-N-MeFOSE-M	*55.6*		*20 - 130*	*01/21/25 12:26*	*01/23/25 18:28*	*1*
d9-N-EtFOSE-M	*54.5*		*15 - 130*	*01/21/25 12:26*	*01/23/25 18:28*	*1*
d5-NEtPFOSA	*61.6*		*10 - 130*	*01/21/25 12:26*	*01/23/25 18:28*	*1*
d3-NMePFOSA	*57.0*		*10 - 130*	*01/21/25 12:26*	*01/23/25 18:28*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**7.2**		0.10	0.10	%			01/20/25 11:24	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-1

Client Sample ID: JTA-003-N-S003-01162025
Date Collected: 01/16/25 09:40
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-5
Matrix: Solid
Percent Solids: 84.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/22/25 18:07	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFHxA	*85.0*		*40 - 130*	*01/21/25 12:26*	*01/22/25 18:07*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.38	0.096	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.059	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.055	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
Perfluorohexanesulfonic acid (PFHxS)	**0.077**	**J**	0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
Perfluorooctanesulfonic acid (PFOS)	**0.13**	**J**	0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.38	0.096	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.38	0.096	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.38	0.096	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.060	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.96	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.96	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1

Client Sample ID: JTA-003-N-S003-01162025
Date Collected: 01/16/25 09:40
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-5
Matrix: Solid
Percent Solids: 84.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.059	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.072	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.38	0.096	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 18:44	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*87.5*		*8 - 130*	*01/21/25 12:26*	*01/23/25 18:44*	*1*
13C5 PFPeA	*90.5*		*35 - 130*	*01/21/25 12:26*	*01/23/25 18:44*	*1*
13C5 PFHxA	*90.5*		*40 - 130*	*01/21/25 12:26*	*01/23/25 18:44*	*1*
13C4 PFHpA	*93.8*		*40 - 130*	*01/21/25 12:26*	*01/23/25 18:44*	*1*
13C8 PFOA	*88.5*		*40 - 130*	*01/21/25 12:26*	*01/23/25 18:44*	*1*
13C9 PFNA	*81.8*		*40 - 130*	*01/21/25 12:26*	*01/23/25 18:44*	*1*
13C6 PFDA	*82.1*		*40 - 130*	*01/21/25 12:26*	*01/23/25 18:44*	*1*
13C7 PFUnA	*83.3*		*40 - 130*	*01/21/25 12:26*	*01/23/25 18:44*	*1*
13C2 PFDoA	*72.1*		*40 - 130*	*01/21/25 12:26*	*01/23/25 18:44*	*1*
13C2 PFTeDA	*72.4*		*20 - 130*	*01/21/25 12:26*	*01/23/25 18:44*	*1*
13C3 PFBS	*90.2*		*40 - 135*	*01/21/25 12:26*	*01/23/25 18:44*	*1*
13C3 PFHxS	*88.4*		*40 - 130*	*01/21/25 12:26*	*01/23/25 18:44*	*1*
13C8 PFOS	*91.4*		*40 - 130*	*01/21/25 12:26*	*01/23/25 18:44*	*1*
13C8 FOSA	*90.9*		*40 - 130*	*01/21/25 12:26*	*01/23/25 18:44*	*1*
d3-NMeFOSAA	*88.9*		*40 - 135*	*01/21/25 12:26*	*01/23/25 18:44*	*1*
d5-NEtFOSAA	*90.5*		*40 - 150*	*01/21/25 12:26*	*01/23/25 18:44*	*1*
13C2 4:2 FTS	*99.1*		*40 - 165*	*01/21/25 12:26*	*01/23/25 18:44*	*1*
13C2 6:2 FTS	*91.3*		*40 - 215*	*01/21/25 12:26*	*01/23/25 18:44*	*1*
13C2 8:2 FTS	*80.7*		*40 - 275*	*01/21/25 12:26*	*01/23/25 18:44*	*1*
13C3 HFPO-DA	*94.1*		*40 - 130*	*01/21/25 12:26*	*01/23/25 18:44*	*1*
d7-N-MeFOSE-M	*62.6*		*20 - 130*	*01/21/25 12:26*	*01/23/25 18:44*	*1*
d9-N-EtFOSE-M	*65.1*		*15 - 130*	*01/21/25 12:26*	*01/23/25 18:44*	*1*
d5-NEtPFOSA	*89.4*		*10 - 130*	*01/21/25 12:26*	*01/23/25 18:44*	*1*
d3-NMePFOSA	*88.0*		*10 - 130*	*01/21/25 12:26*	*01/23/25 18:44*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**15**		0.10	0.10	%			01/20/25 11:24	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-1

Client Sample ID: JTA-004-N-S001-01162025
Date Collected: 01/16/25 10:45
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-12
Matrix: Solid
Percent Solids: 82.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.10**	**J**	0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/22/25 18:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFHxA	*94.3*		*40 - 130*	*01/21/25 12:26*	*01/22/25 18:24*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.20**	**J**	0.40	0.10	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
Perfluoropentanoic acid (PFPeA)	**0.071**	**J**	0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
Perfluorooctanoic acid (PFOA)	**0.25**		0.20	0.063	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
Perfluorohexanesulfonic acid (PFHxS)	**0.18**	**J**	0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
Perfluorooctanesulfonic acid (PFOS)	**5.0**		0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.064	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1

Client Sample ID: JTA-004-N-S001-01162025
Lab Sample ID: 320-118375-12

Date Collected: 01/16/25 10:45
Matrix: Solid

Date Received: 01/18/25 09:00
Percent Solids: 82.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/21/25 12:26	01/23/25 19:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*89.2*		*8 - 130*	*01/21/25 12:26*	*01/23/25 19:00*	*1*
13C5 PFPeA	*93.5*		*35 - 130*	*01/21/25 12:26*	*01/23/25 19:00*	*1*
13C5 PFHxA	*91.9*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:00*	*1*
13C4 PFHpA	*91.8*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:00*	*1*
13C8 PFOA	*85.1*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:00*	*1*
13C9 PFNA	*75.4*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:00*	*1*
13C6 PFDA	*69.4*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:00*	*1*
13C7 PFUnA	*52.2*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:00*	*1*
13C2 PFDoA	*39.6*	**5-*	*40 - 130*	*01/21/25 12:26*	*01/23/25 19:00*	*1*
13C2 PFTeDA	*59.8*		*20 - 130*	*01/21/25 12:26*	*01/23/25 19:00*	*1*
13C3 PFBS	*85.4*		*40 - 135*	*01/21/25 12:26*	*01/23/25 19:00*	*1*
13C3 PFHxS	*85.0*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:00*	*1*
13C8 PFOS	*78.4*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:00*	*1*
13C8 FOSA	*64.8*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:00*	*1*
d3-NMeFOSAA	*60.3*		*40 - 135*	*01/21/25 12:26*	*01/23/25 19:00*	*1*
d5-NEtFOSAA	*52.7*		*40 - 150*	*01/21/25 12:26*	*01/23/25 19:00*	*1*
13C2 4:2 FTS	*94.8*		*40 - 165*	*01/21/25 12:26*	*01/23/25 19:00*	*1*
13C2 6:2 FTS	*85.9*		*40 - 215*	*01/21/25 12:26*	*01/23/25 19:00*	*1*
13C2 8:2 FTS	*65.1*		*40 - 275*	*01/21/25 12:26*	*01/23/25 19:00*	*1*
13C3 HFPO-DA	*94.3*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:00*	*1*
d7-N-MeFOSE-M	*50.6*		*20 - 130*	*01/21/25 12:26*	*01/23/25 19:00*	*1*
d9-N-EtFOSE-M	*49.5*		*15 - 130*	*01/21/25 12:26*	*01/23/25 19:00*	*1*
d5-NEtPFOSA	*54.9*		*10 - 130*	*01/21/25 12:26*	*01/23/25 19:00*	*1*
d3-NMePFOSA	*52.1*		*10 - 130*	*01/21/25 12:26*	*01/23/25 19:00*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**18**		0.10	0.10	%			01/20/25 11:24	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-1

Client Sample ID: JTA-004-N-S003-01162025
Date Collected: 01/16/25 10:50
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-13
Matrix: Solid
Percent Solids: 86.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.056**	**J**	0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/22/25 18:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFHxA	*92.9*		*40 - 130*	*01/21/25 12:26*	*01/22/25 18:40*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
Perfluorohexanesulfonic acid (PFHxS)	**0.28**		0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
Perfluorooctanesulfonic acid (PFOS)	**0.066**	**J**	0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-1

Client Sample ID: JTA-004-N-S003-01162025
Date Collected: 01/16/25 10:50
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-13
Matrix: Solid
Percent Solids: 86.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/21/25 12:26	01/23/25 19:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91.3*		*8 - 130*	*01/21/25 12:26*	*01/23/25 19:17*	*1*
13C5 PFPeA	*89.6*		*35 - 130*	*01/21/25 12:26*	*01/23/25 19:17*	*1*
13C5 PFHxA	*85.6*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:17*	*1*
13C4 PFHpA	*87.1*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:17*	*1*
13C8 PFOA	*83.2*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:17*	*1*
13C9 PFNA	*75.0*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:17*	*1*
13C6 PFDA	*69.7*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:17*	*1*
13C7 PFUnA	*56.0*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:17*	*1*
13C2 PFDoA	*43.0*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:17*	*1*
13C2 PFTeDA	*56.0*		*20 - 130*	*01/21/25 12:26*	*01/23/25 19:17*	*1*
13C3 PFBS	*86.3*		*40 - 135*	*01/21/25 12:26*	*01/23/25 19:17*	*1*
13C3 PFHxS	*80.4*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:17*	*1*
13C8 PFOS	*75.1*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:17*	*1*
13C8 FOSA	*65.4*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:17*	*1*
d3-NMeFOSAA	*56.6*		*40 - 135*	*01/21/25 12:26*	*01/23/25 19:17*	*1*
d5-NEtFOSAA	*51.9*		*40 - 150*	*01/21/25 12:26*	*01/23/25 19:17*	*1*
13C2 4:2 FTS	*80.6*		*40 - 165*	*01/21/25 12:26*	*01/23/25 19:17*	*1*
13C2 6:2 FTS	*77.7*		*40 - 215*	*01/21/25 12:26*	*01/23/25 19:17*	*1*
13C2 8:2 FTS	*60.2*		*40 - 275*	*01/21/25 12:26*	*01/23/25 19:17*	*1*
13C3 HFPO-DA	*90.1*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:17*	*1*
d7-N-MeFOSE-M	*59.4*		*20 - 130*	*01/21/25 12:26*	*01/23/25 19:17*	*1*
d9-N-EtFOSE-M	*59.0*		*15 - 130*	*01/21/25 12:26*	*01/23/25 19:17*	*1*
d5-NEtPFOSA	*51.7*		*10 - 130*	*01/21/25 12:26*	*01/23/25 19:17*	*1*
d3-NMePFOSA	*50.7*		*10 - 130*	*01/21/25 12:26*	*01/23/25 19:17*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**14**		0.10	0.10	%			01/20/25 11:24	1

Client Sample ID: JTA-004-FD-S003-01162025

Date Collected: 01/16/25 10:55
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-14

Matrix: Solid
Percent Solids: 87.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/22/25 18:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFHxA	*87.2*		*40 - 130*	*01/21/25 12:26*	*01/22/25 18:57*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.38	0.095	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.059	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.055	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
Perfluorobutanesulfonic acid (PFBS)	**0.15**	**J**	0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
Perfluorohexanesulfonic acid (PFHxS)	**0.16**	**J**	0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.38	0.095	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.38	0.095	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.38	0.095	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.060	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.95	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.95	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1

Client Sample ID: JTA-004-FD-S003-01162025
Date Collected: 01/16/25 10:55
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-14
Matrix: Solid
Percent Solids: 87.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.059	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.072	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.38	0.095	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.95	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.95	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 19:33	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91.9*		*8 - 130*	*01/21/25 12:26*	*01/23/25 19:33*	*1*
13C5 PFPeA	*88.3*		*35 - 130*	*01/21/25 12:26*	*01/23/25 19:33*	*1*
13C5 PFHxA	*90.7*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:33*	*1*
13C4 PFHpA	*89.8*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:33*	*1*
13C8 PFOA	*87.7*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:33*	*1*
13C9 PFNA	*77.6*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:33*	*1*
13C6 PFDA	*70.8*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:33*	*1*
13C7 PFUnA	*56.0*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:33*	*1*
13C2 PFDoA	*41.4*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:33*	*1*
13C2 PFTeDA	*50.1*		*20 - 130*	*01/21/25 12:26*	*01/23/25 19:33*	*1*
13C3 PFBS	*85.5*		*40 - 135*	*01/21/25 12:26*	*01/23/25 19:33*	*1*
13C3 PFHxS	*78.6*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:33*	*1*
13C8 PFOS	*74.0*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:33*	*1*
13C8 FOSA	*63.6*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:33*	*1*
d3-NMeFOSAA	*60.1*		*40 - 135*	*01/21/25 12:26*	*01/23/25 19:33*	*1*
d5-NEtFOSAA	*55.6*		*40 - 150*	*01/21/25 12:26*	*01/23/25 19:33*	*1*
13C2 4:2 FTS	*81.0*		*40 - 165*	*01/21/25 12:26*	*01/23/25 19:33*	*1*
13C2 6:2 FTS	*76.7*		*40 - 215*	*01/21/25 12:26*	*01/23/25 19:33*	*1*
13C2 8:2 FTS	*59.6*		*40 - 275*	*01/21/25 12:26*	*01/23/25 19:33*	*1*
13C3 HFPO-DA	*94.5*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:33*	*1*
d7-N-MeFOSE-M	*48.0*		*20 - 130*	*01/21/25 12:26*	*01/23/25 19:33*	*1*
d9-N-EtFOSE-M	*46.8*		*15 - 130*	*01/21/25 12:26*	*01/23/25 19:33*	*1*
d5-NEtPFOSA	*49.2*		*10 - 130*	*01/21/25 12:26*	*01/23/25 19:33*	*1*
d3-NMePFOSA	*48.8*		*10 - 130*	*01/21/25 12:26*	*01/23/25 19:33*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**12**		0.10	0.10	%			01/20/25 11:24	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-1

Client Sample ID: JTA-005-N-S001-01162025
Date Collected: 01/16/25 13:30
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-21
Matrix: Solid
Percent Solids: 89.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.27**		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/22/25 19:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFHxA	*77.4*		*40 - 130*	*01/21/25 12:26*	*01/22/25 19:14*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**27**		1.9	0.49	ug/Kg	☼	01/21/25 12:26	01/28/25 18:09	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*67.5*	**3*	*40 - 130*	*01/21/25 12:26*	*01/28/25 18:09*	*10*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.097	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
Perfluoropentanoic acid (PFPeA)	**0.10**	**J**	0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
Perfluorooctanoic acid (PFOA)	**0.27**		0.19	0.060	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
Perfluorohexanesulfonic acid (PFHxS)	**1.1**		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.12**	**J**	0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
Perfluorononanesulfonic acid (PFNS)	**0.46**		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
Perfluorodecanesulfonic acid (PFDS)	**0.38**		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
Perfluorododecanesulfonic acid (PFDoS)	**0.13**	**J**	0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
Perfluorooctanesulfonamide (PFOSA)	**0.51**		0.19	0.061	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-1

Client Sample ID: JTA-005-N-S001-01162025
Date Collected: 01/16/25 13:30
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-21
Matrix: Solid
Percent Solids: 89.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.073	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 19:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*87.9*		*8 - 130*	*01/21/25 12:26*	*01/23/25 19:50*	*1*
13C5 PFPeA	*95.4*		*35 - 130*	*01/21/25 12:26*	*01/23/25 19:50*	*1*
13C5 PFHxA	*91.0*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:50*	*1*
13C4 PFHpA	*95.0*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:50*	*1*
13C8 PFOA	*83.5*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:50*	*1*
13C9 PFNA	*72.8*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:50*	*1*
13C6 PFDA	*71.0*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:50*	*1*
13C7 PFUnA	*63.5*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:50*	*1*
13C2 PFDoA	*52.1*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:50*	*1*
13C2 PFTeDA	*64.9*		*20 - 130*	*01/21/25 12:26*	*01/23/25 19:50*	*1*
13C3 PFBS	*80.4*		*40 - 135*	*01/21/25 12:26*	*01/23/25 19:50*	*1*
13C3 PFHxS	*77.2*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:50*	*1*
13C8 PFOS	*70.2*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:50*	*1*
13C8 FOSA	*62.5*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:50*	*1*
d3-NMeFOSAA	*67.3*		*40 - 135*	*01/21/25 12:26*	*01/23/25 19:50*	*1*
d5-NEtFOSAA	*69.7*		*40 - 150*	*01/21/25 12:26*	*01/23/25 19:50*	*1*
13C2 4:2 FTS	*98.6*		*40 - 165*	*01/21/25 12:26*	*01/23/25 19:50*	*1*
13C2 6:2 FTS	*102*		*40 - 215*	*01/21/25 12:26*	*01/23/25 19:50*	*1*
13C2 8:2 FTS	*86.8*		*40 - 275*	*01/21/25 12:26*	*01/23/25 19:50*	*1*
13C3 HFPO-DA	*99.5*		*40 - 130*	*01/21/25 12:26*	*01/23/25 19:50*	*1*
d7-N-MeFOSE-M	*55.5*		*20 - 130*	*01/21/25 12:26*	*01/23/25 19:50*	*1*
d9-N-EtFOSE-M	*59.2*		*15 - 130*	*01/21/25 12:26*	*01/23/25 19:50*	*1*
d5-NEtPFOSA	*57.2*		*10 - 130*	*01/21/25 12:26*	*01/23/25 19:50*	*1*
d3-NMePFOSA	*54.1*		*10 - 130*	*01/21/25 12:26*	*01/23/25 19:50*	*1*

Client Sample ID: JTA-005-N-S001-01162025
Lab Sample ID: 320-118375-21
Date Collected: 01/16/25 13:30
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 89.8

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**10**		0.10	0.10	%			01/20/25 11:24	1

Client Sample ID: JTA-005-N-S003-01162025
Lab Sample ID: 320-118375-22
Date Collected: 01/16/25 13:35
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 94.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/22/25 20:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFHxA	*80.9*		*40 - 130*	*01/21/25 12:26*	*01/22/25 20:03*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.38	0.095	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.059	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.055	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
Perfluorohexanesulfonic acid (PFHxS)	**0.20**		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
Perfluorooctanesulfonic acid (PFOS)	**3.3**		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.38	0.095	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.38	0.095	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.38	0.095	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
Perfluorooctanesulfonamide (PFOSA)	**0.10**	**J**	0.19	0.060	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-1

Client Sample ID: JTA-005-N-S003-01162025
Date Collected: 01/16/25 13:35
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-22
Matrix: Solid
Percent Solids: 94.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.95	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.95	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.059	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.071	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.047	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.38	0.095	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.95	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.95	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 20:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*90.3*		*8 - 130*	*01/21/25 12:26*	*01/23/25 20:39*	*1*
13C5 PFPeA	*86.7*		*35 - 130*	*01/21/25 12:26*	*01/23/25 20:39*	*1*
13C5 PFHxA	*92.5*		*40 - 130*	*01/21/25 12:26*	*01/23/25 20:39*	*1*
13C4 PFHpA	*90.2*		*40 - 130*	*01/21/25 12:26*	*01/23/25 20:39*	*1*
13C8 PFOA	*85.0*		*40 - 130*	*01/21/25 12:26*	*01/23/25 20:39*	*1*
13C9 PFNA	*73.0*		*40 - 130*	*01/21/25 12:26*	*01/23/25 20:39*	*1*
13C6 PFDA	*72.5*		*40 - 130*	*01/21/25 12:26*	*01/23/25 20:39*	*1*
13C7 PFUnA	*65.4*		*40 - 130*	*01/21/25 12:26*	*01/23/25 20:39*	*1*
13C2 PFDoA	*53.5*		*40 - 130*	*01/21/25 12:26*	*01/23/25 20:39*	*1*
13C2 PFTeDA	*55.5*		*20 - 130*	*01/21/25 12:26*	*01/23/25 20:39*	*1*
13C3 PFBS	*82.1*		*40 - 135*	*01/21/25 12:26*	*01/23/25 20:39*	*1*
13C3 PFHxS	*76.2*		*40 - 130*	*01/21/25 12:26*	*01/23/25 20:39*	*1*
13C8 PFOS	*73.6*		*40 - 130*	*01/21/25 12:26*	*01/23/25 20:39*	*1*
13C8 FOSA	*70.2*		*40 - 130*	*01/21/25 12:26*	*01/23/25 20:39*	*1*
d3-NMeFOSAA	*66.5*		*40 - 135*	*01/21/25 12:26*	*01/23/25 20:39*	*1*
d5-NEtFOSAA	*63.1*		*40 - 150*	*01/21/25 12:26*	*01/23/25 20:39*	*1*
13C2 4:2 FTS	*83.0*		*40 - 165*	*01/21/25 12:26*	*01/23/25 20:39*	*1*
13C2 6:2 FTS	*74.0*		*40 - 215*	*01/21/25 12:26*	*01/23/25 20:39*	*1*
13C2 8:2 FTS	*58.2*		*40 - 275*	*01/21/25 12:26*	*01/23/25 20:39*	*1*
13C3 HFPO-DA	*90.9*		*40 - 130*	*01/21/25 12:26*	*01/23/25 20:39*	*1*
d7-N-MeFOSE-M	*57.3*		*20 - 130*	*01/21/25 12:26*	*01/23/25 20:39*	*1*
d9-N-EtFOSE-M	*54.7*		*15 - 130*	*01/21/25 12:26*	*01/23/25 20:39*	*1*
d5-NEtPFOSA	*53.3*		*10 - 130*	*01/21/25 12:26*	*01/23/25 20:39*	*1*
d3-NMePFOSA	*53.2*		*10 - 130*	*01/21/25 12:26*	*01/23/25 20:39*	*1*

Client Sample ID: JTA-005-N-S003-01162025

Lab Sample ID: 320-118375-22
Date Collected: 01/16/25 13:35
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 94.0

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**6.0**		0.10	0.10	%			01/20/25 11:24	1

Client Sample ID: JTA-005-FD-S003-01162025

Lab Sample ID: 320-118375-23
Date Collected: 01/16/25 14:05
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 94.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/22/25 20:20	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFHxA	*84.3*		*40 - 130*	*01/21/25 12:26*	*01/22/25 20:20*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.097	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.060	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
Perfluorobutanesulfonic acid (PFBS)	**1.2**		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
Perfluorohexanesulfonic acid (PFHxS)	**0.14**	**J**	0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
Perfluorooctanesulfonic acid (PFOS)	**2.5**		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
Perfluorooctanesulfonamide (PFOSA)	**0.078**	**J**	0.19	0.061	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-1

Client Sample ID: JTA-005-FD-S003-01162025
Date Collected: 01/16/25 14:05
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-23
Matrix: Solid
Percent Solids: 94.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.073	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 20:55	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*89.2*		*8 - 130*	*01/21/25 12:26*	*01/23/25 20:55*	*1*
13C5 PFPeA	*90.4*		*35 - 130*	*01/21/25 12:26*	*01/23/25 20:55*	*1*
13C5 PFHxA	*88.4*		*40 - 130*	*01/21/25 12:26*	*01/23/25 20:55*	*1*
13C4 PFHpA	*87.4*		*40 - 130*	*01/21/25 12:26*	*01/23/25 20:55*	*1*
13C8 PFOA	*87.2*		*40 - 130*	*01/21/25 12:26*	*01/23/25 20:55*	*1*
13C9 PFNA	*73.2*		*40 - 130*	*01/21/25 12:26*	*01/23/25 20:55*	*1*
13C6 PFDA	*63.1*		*40 - 130*	*01/21/25 12:26*	*01/23/25 20:55*	*1*
13C7 PFUnA	*45.4*		*40 - 130*	*01/21/25 12:26*	*01/23/25 20:55*	*1*
13C2 PFDoA	*35.5*	*5-	*40 - 130*	*01/21/25 12:26*	*01/23/25 20:55*	*1*
13C2 PFTeDA	*50.6*		*20 - 130*	*01/21/25 12:26*	*01/23/25 20:55*	*1*
13C3 PFBS	*85.7*		*40 - 135*	*01/21/25 12:26*	*01/23/25 20:55*	*1*
13C3 PFHxS	*78.0*		*40 - 130*	*01/21/25 12:26*	*01/23/25 20:55*	*1*
13C8 PFOS	*69.9*		*40 - 130*	*01/21/25 12:26*	*01/23/25 20:55*	*1*
13C8 FOSA	*64.1*		*40 - 130*	*01/21/25 12:26*	*01/23/25 20:55*	*1*
d3-NMeFOSAA	*51.5*		*40 - 135*	*01/21/25 12:26*	*01/23/25 20:55*	*1*
d5-NEtFOSAA	*45.7*		*40 - 150*	*01/21/25 12:26*	*01/23/25 20:55*	*1*
13C2 4:2 FTS	*81.8*		*40 - 165*	*01/21/25 12:26*	*01/23/25 20:55*	*1*
13C2 6:2 FTS	*74.3*		*40 - 215*	*01/21/25 12:26*	*01/23/25 20:55*	*1*
13C2 8:2 FTS	*54.3*		*40 - 275*	*01/21/25 12:26*	*01/23/25 20:55*	*1*
13C3 HFPO-DA	*92.1*		*40 - 130*	*01/21/25 12:26*	*01/23/25 20:55*	*1*
d7-N-MeFOSE-M	*41.6*		*20 - 130*	*01/21/25 12:26*	*01/23/25 20:55*	*1*
d9-N-EtFOSE-M	*38.5*		*15 - 130*	*01/21/25 12:26*	*01/23/25 20:55*	*1*
d5-NEtPFOSA	*39.2*		*10 - 130*	*01/21/25 12:26*	*01/23/25 20:55*	*1*
d3-NMePFOSA	*40.7*		*10 - 130*	*01/21/25 12:26*	*01/23/25 20:55*	*1*

Client Sample ID: JTA-005-FD-S003-01162025

Lab Sample ID: 320-118375-23
Date Collected: 01/16/25 14:05
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 94.3

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**5.7**		0.10	0.10	%			01/20/25 11:24	1

Client Sample ID: JTA-006-N-S001-01162025

Lab Sample ID: 320-118375-30
Date Collected: 01/16/25 15:00
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 86.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.077**	**J I**	0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/22/25 20:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFHxA	*95.0*		*40 - 130*	*01/21/25 12:26*	*01/22/25 20:37*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.097	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
Perfluorooctanoic acid (PFOA)	**0.18**	**J**	0.19	0.060	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
Perfluorohexanesulfonic acid (PFHxS)	**0.22**		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
Perfluorooctanesulfonic acid (PFOS)	**6.9**		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-1

Client Sample ID: JTA-006-N-S001-01162025
Date Collected: 01/16/25 15:00
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-30
Matrix: Solid
Percent Solids: 86.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.072	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 21:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*93.1*		*8 - 130*	*01/21/25 12:26*	*01/23/25 21:12*	*1*
13C5 PFPeA	*92.7*		*35 - 130*	*01/21/25 12:26*	*01/23/25 21:12*	*1*
13C5 PFHxA	*93.1*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:12*	*1*
13C4 PFHpA	*91.9*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:12*	*1*
13C8 PFOA	*90.4*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:12*	*1*
13C9 PFNA	*78.2*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:12*	*1*
13C6 PFDA	*73.5*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:12*	*1*
13C7 PFUnA	*56.2*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:12*	*1*
13C2 PFDoA	*38.0*	**5-*	*40 - 130*	*01/21/25 12:26*	*01/23/25 21:12*	*1*
13C2 PFTeDA	*45.7*		*20 - 130*	*01/21/25 12:26*	*01/23/25 21:12*	*1*
13C3 PFBS	*83.3*		*40 - 135*	*01/21/25 12:26*	*01/23/25 21:12*	*1*
13C3 PFHxS	*79.8*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:12*	*1*
13C8 PFOS	*74.8*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:12*	*1*
13C8 FOSA	*59.7*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:12*	*1*
d3-NMeFOSAA	*59.7*		*40 - 135*	*01/21/25 12:26*	*01/23/25 21:12*	*1*
d5-NEtFOSAA	*52.8*		*40 - 150*	*01/21/25 12:26*	*01/23/25 21:12*	*1*
13C2 4:2 FTS	*75.4*		*40 - 165*	*01/21/25 12:26*	*01/23/25 21:12*	*1*
13C2 6:2 FTS	*74.7*		*40 - 215*	*01/21/25 12:26*	*01/23/25 21:12*	*1*
13C2 8:2 FTS	*58.4*		*40 - 275*	*01/21/25 12:26*	*01/23/25 21:12*	*1*
13C3 HFPO-DA	*93.5*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:12*	*1*
d7-N-MeFOSE-M	*41.7*		*20 - 130*	*01/21/25 12:26*	*01/23/25 21:12*	*1*
d9-N-EtFOSE-M	*39.6*		*15 - 130*	*01/21/25 12:26*	*01/23/25 21:12*	*1*
d5-NEtPFOSA	*42.0*		*10 - 130*	*01/21/25 12:26*	*01/23/25 21:12*	*1*
d3-NMePFOSA	*41.0*		*10 - 130*	*01/21/25 12:26*	*01/23/25 21:12*	*1*

Client Sample ID: JTA-006-N-S001-01162025
Lab Sample ID: 320-118375-30
Date Collected: 01/16/25 15:00
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 86.6

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	13		0.10	0.10	%			01/20/25 11:24	1

Client Sample ID: JTA-006-FD-S001-01162025
Lab Sample ID: 320-118375-31
Date Collected: 01/16/25 15:30
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 89.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	0.086	J	0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/22/25 20:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFHxA	*88.9*		*40 - 130*	*01/21/25 12:26*	*01/22/25 20:53*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
Perfluorooctanoic acid (PFOA)	0.18	J	0.20	0.061	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
Perfluorohexanesulfonic acid (PFHxS)	0.47		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
Perfluorooctanesulfonic acid (PFOS)	4.8		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
Perfluorooctanesulfonamide (PFOSA)	0.086	J	0.20	0.062	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-1

Client Sample ID: JTA-006-FD-S001-01162025
Date Collected: 01/16/25 15:30
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-31
Matrix: Solid
Percent Solids: 89.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.073	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	01/21/25 12:26	01/23/25 21:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*87.4*		*8 - 130*	*01/21/25 12:26*	*01/23/25 21:28*	*1*
13C5 PFPeA	*93.3*		*35 - 130*	*01/21/25 12:26*	*01/23/25 21:28*	*1*
13C5 PFHxA	*95.1*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:28*	*1*
13C4 PFHpA	*92.3*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:28*	*1*
13C8 PFOA	*87.6*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:28*	*1*
13C9 PFNA	*81.8*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:28*	*1*
13C6 PFDA	*77.5*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:28*	*1*
13C7 PFUnA	*71.5*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:28*	*1*
13C2 PFDoA	*55.4*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:28*	*1*
13C2 PFTeDA	*52.4*		*20 - 130*	*01/21/25 12:26*	*01/23/25 21:28*	*1*
13C3 PFBS	*85.5*		*40 - 135*	*01/21/25 12:26*	*01/23/25 21:28*	*1*
13C3 PFHxS	*82.0*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:28*	*1*
13C8 PFOS	*77.4*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:28*	*1*
13C8 FOSA	*82.9*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:28*	*1*
d3-NMeFOSAA	*66.0*		*40 - 135*	*01/21/25 12:26*	*01/23/25 21:28*	*1*
d5-NEtFOSAA	*61.1*		*40 - 150*	*01/21/25 12:26*	*01/23/25 21:28*	*1*
13C2 4:2 FTS	*75.7*		*40 - 165*	*01/21/25 12:26*	*01/23/25 21:28*	*1*
13C2 6:2 FTS	*71.9*		*40 - 215*	*01/21/25 12:26*	*01/23/25 21:28*	*1*
13C2 8:2 FTS	*61.9*		*40 - 275*	*01/21/25 12:26*	*01/23/25 21:28*	*1*
13C3 HFPO-DA	*92.4*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:28*	*1*
d7-N-MeFOSE-M	*64.0*		*20 - 130*	*01/21/25 12:26*	*01/23/25 21:28*	*1*
d9-N-EtFOSE-M	*61.8*		*15 - 130*	*01/21/25 12:26*	*01/23/25 21:28*	*1*
d5-NEtPFOSA	*56.5*		*10 - 130*	*01/21/25 12:26*	*01/23/25 21:28*	*1*
d3-NMePFOSA	*63.9*		*10 - 130*	*01/21/25 12:26*	*01/23/25 21:28*	*1*

Client Sample ID: JTA-006-FD-S001-01162025

Lab Sample ID: 320-118375-31
Date Collected: 01/16/25 15:30
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 89.4

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**11**		0.10	0.10	%			01/20/25 12:34	1

Client Sample ID: JTA-006-N-S003-01162025

Lab Sample ID: 320-118375-32
Date Collected: 01/16/25 15:05
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 95.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/22/25 21:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFHxA	*94.5*		*40 - 130*	*01/21/25 12:26*	*01/22/25 21:10*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
Perfluorooctanoic acid (PFOA)	**0.066**	**J**	0.20	0.061	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
Perfluorohexanesulfonic acid (PFHxS)	**0.31**		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
Perfluorooctanesulfonic acid (PFOS)	**1.1**		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-1

Client Sample ID: JTA-006-N-S003-01162025
Date Collected: 01/16/25 15:05
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-32
Matrix: Solid
Percent Solids: 95.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.25	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.25	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	01/21/25 12:26	01/23/25 21:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*92.6*		*8 - 130*	*01/21/25 12:26*	*01/23/25 21:45*	*1*
13C5 PFPeA	*92.7*		*35 - 130*	*01/21/25 12:26*	*01/23/25 21:45*	*1*
13C5 PFHxA	*95.8*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:45*	*1*
13C4 PFHpA	*94.2*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:45*	*1*
13C8 PFOA	*89.6*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:45*	*1*
13C9 PFNA	*83.6*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:45*	*1*
13C6 PFDA	*79.5*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:45*	*1*
13C7 PFUnA	*76.8*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:45*	*1*
13C2 PFDoA	*64.9*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:45*	*1*
13C2 PFTeDA	*65.5*		*20 - 130*	*01/21/25 12:26*	*01/23/25 21:45*	*1*
13C3 PFBS	*87.2*		*40 - 135*	*01/21/25 12:26*	*01/23/25 21:45*	*1*
13C3 PFHxS	*80.8*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:45*	*1*
13C8 PFOS	*82.9*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:45*	*1*
13C8 FOSA	*79.7*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:45*	*1*
d3-NMeFOSAA	*79.7*		*40 - 135*	*01/21/25 12:26*	*01/23/25 21:45*	*1*
d5-NEtFOSAA	*78.0*		*40 - 150*	*01/21/25 12:26*	*01/23/25 21:45*	*1*
13C2 4:2 FTS	*80.6*		*40 - 165*	*01/21/25 12:26*	*01/23/25 21:45*	*1*
13C2 6:2 FTS	*71.0*		*40 - 215*	*01/21/25 12:26*	*01/23/25 21:45*	*1*
13C2 8:2 FTS	*67.1*		*40 - 275*	*01/21/25 12:26*	*01/23/25 21:45*	*1*
13C3 HFPO-DA	*98.9*		*40 - 130*	*01/21/25 12:26*	*01/23/25 21:45*	*1*
d7-N-MeFOSE-M	*71.7*		*20 - 130*	*01/21/25 12:26*	*01/23/25 21:45*	*1*
d9-N-EtFOSE-M	*71.7*		*15 - 130*	*01/21/25 12:26*	*01/23/25 21:45*	*1*
d5-NEtPFOSA	*61.5*		*10 - 130*	*01/21/25 12:26*	*01/23/25 21:45*	*1*
d3-NMePFOSA	*60.1*		*10 - 130*	*01/21/25 12:26*	*01/23/25 21:45*	*1*

Client Sample ID: JTA-006-N-S003-01162025
Lab Sample ID: 320-118375-32

Date Collected: 01/16/25 15:05
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 95.8

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	4.2		0.10	0.10	%			01/20/25 12:34	1

Client Sample ID: EB-01162025
Lab Sample ID: 320-118375-38

Date Collected: 01/16/25 08:40
Matrix: Water
Date Received: 01/18/25 09:00

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.3	0.83	ng/L		01/21/25 04:13	01/25/25 06:15	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 06:15	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 06:15	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 06:15	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 06:15	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 06:15	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 06:15	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 06:15	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		01/21/25 04:13	01/25/25 06:15	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.48	ng/L		01/21/25 04:13	01/25/25 06:15	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 06:15	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 06:15	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 06:15	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 06:15	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 06:15	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 06:15	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 06:15	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.44	ng/L		01/21/25 04:13	01/25/25 06:15	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.3	0.83	ng/L		01/21/25 04:13	01/25/25 06:15	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.3	0.83	ng/L		01/21/25 04:13	01/25/25 06:15	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.3	0.83	ng/L		01/21/25 04:13	01/25/25 06:15	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 06:15	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 06:15	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 06:15	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 06:15	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 06:15	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.3	2.1	ng/L		01/21/25 04:13	01/25/25 06:15	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.3	2.1	ng/L		01/21/25 04:13	01/25/25 06:15	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.2	0.32	ng/L		01/21/25 04:13	01/25/25 06:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 06:15	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 06:15	1

Client Sample ID: EB-01162025
Date Collected: 01/16/25 08:40
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-38
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 06:15	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.60	ng/L		01/21/25 04:13	01/25/25 06:15	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	*1	1.7	0.48	ng/L		01/21/25 04:13	01/25/25 06:15	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	*1	1.7	0.42	ng/L		01/21/25 04:13	01/25/25 06:15	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.42	ng/L		01/21/25 04:13	01/25/25 06:15	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.3	0.83	ng/L		01/21/25 04:13	01/25/25 06:15	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.3	2.1	ng/L		01/21/25 04:13	01/25/25 06:15	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.3	2.1	ng/L		01/21/25 04:13	01/25/25 06:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*114*		*5 - 130*	*01/21/25 04:13*	*01/25/25 06:15*	*1*
13C5 PFPeA	*110*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:15*	*1*
13C5 PFHxA	*120*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:15*	*1*
13C4 PFHpA	*112*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:15*	*1*
13C8 PFOA	*95.6*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:15*	*1*
13C9 PFNA	*85.0*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:15*	*1*
13C6 PFDA	*85.3*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:15*	*1*
13C7 PFUnA	*97.0*		*30 - 130*	*01/21/25 04:13*	*01/25/25 06:15*	*1*
13C2 PFDoA	*123*		*10 - 130*	*01/21/25 04:13*	*01/25/25 06:15*	*1*
13C2 PFTeDA	*104*		*10 - 130*	*01/21/25 04:13*	*01/25/25 06:15*	*1*
13C3 PFBS	*100*		*40 - 135*	*01/21/25 04:13*	*01/25/25 06:15*	*1*
13C3 PFHxS	*103*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:15*	*1*
13C8 PFOS	*90.5*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:15*	*1*
13C8 FOSA	*98.2*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:15*	*1*
d3-NMeFOSAA	*106*		*40 - 170*	*01/21/25 04:13*	*01/25/25 06:15*	*1*
d5-NEtFOSAA	*105*		*25 - 135*	*01/21/25 04:13*	*01/25/25 06:15*	*1*
13C2 4:2 FTS	*97.0*		*40 - 200*	*01/21/25 04:13*	*01/25/25 06:15*	*1*
13C2 6:2 FTS	*93.7*		*40 - 200*	*01/21/25 04:13*	*01/25/25 06:15*	*1*
13C2 8:2 FTS	*107*		*40 - 300*	*01/21/25 04:13*	*01/25/25 06:15*	*1*
13C3 HFPO-DA	*94.7*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:15*	*1*
d7-N-MeFOSE-M	*98.8*		*10 - 130*	*01/21/25 04:13*	*01/25/25 06:15*	*1*
d9-N-EtFOSE-M	*98.1*		*10 - 130*	*01/21/25 04:13*	*01/25/25 06:15*	*1*
d5-NEtPFOSA	*83.7*		*10 - 130*	*01/21/25 04:13*	*01/25/25 06:15*	*1*
d3-NMePFOSA	*91.8*		*10 - 130*	*01/21/25 04:13*	*01/25/25 06:15*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.67	ng/L		01/21/25 04:13	01/27/25 16:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFTeDA	*64.2*		*10 - 130*	*01/21/25 04:13*	*01/27/25 16:03*	*1*

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-1

Client Sample ID: FB-01162025
Date Collected: 01/16/25 00:00
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-39
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.0	0.76	ng/L		01/21/25 04:13	01/25/25 06:32	1
Perfluoropentanoic acid (PFPeA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:32	1
Perfluorohexanoic acid (PFHxA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:32	1
Perfluoroheptanoic acid (PFHpA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:32	1
Perfluorooctanoic acid (PFOA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:32	1
Perfluorononanoic acid (PFNA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:32	1
Perfluorodecanoic acid (PFDA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:32	1
Perfluoroundecanoic acid (PFUnA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:32	1
Perfluorododecanoic acid (PFDoA)	ND		1.5	0.42	ng/L		01/21/25 04:13	01/25/25 06:32	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.5	0.44	ng/L		01/21/25 04:13	01/25/25 06:32	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:32	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:32	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:32	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:32	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:32	1
Perfluorononanesulfonic acid (PFNS)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:32	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:32	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.5	0.40	ng/L		01/21/25 04:13	01/25/25 06:32	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.0	0.76	ng/L		01/21/25 04:13	01/25/25 06:32	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.0	0.76	ng/L		01/21/25 04:13	01/25/25 06:32	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.0	0.76	ng/L		01/21/25 04:13	01/25/25 06:32	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:32	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:32	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:32	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		7.6	1.9	ng/L		01/21/25 04:13	01/25/25 06:32	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		7.6	1.9	ng/L		01/21/25 04:13	01/25/25 06:32	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.1	0.30	ng/L		01/21/25 04:13	01/25/25 06:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:32	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:32	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:32	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.5	0.55	ng/L		01/21/25 04:13	01/25/25 06:32	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	*1	1.5	0.44	ng/L		01/21/25 04:13	01/25/25 06:32	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	*1	1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:32	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-1

Client Sample ID: FB-01162025
Date Collected: 01/16/25 00:00
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-39
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.5	0.38	ng/L		01/21/25 04:13	01/25/25 06:32	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.0	0.76	ng/L		01/21/25 04:13	01/25/25 06:32	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		7.6	1.9	ng/L		01/21/25 04:13	01/25/25 06:32	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		7.6	1.9	ng/L		01/21/25 04:13	01/25/25 06:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*112*		*5 - 130*	*01/21/25 04:13*	*01/25/25 06:32*	*1*
13C5 PFPeA	*106*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:32*	*1*
13C5 PFHxA	*102*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:32*	*1*
13C4 PFHpA	*92.2*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:32*	*1*
13C8 PFOA	*89.8*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:32*	*1*
13C9 PFNA	*89.4*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:32*	*1*
13C6 PFDA	*78.4*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:32*	*1*
13C7 PFUnA	*78.0*		*30 - 130*	*01/21/25 04:13*	*01/25/25 06:32*	*1*
13C2 PFDoA	*97.4*		*10 - 130*	*01/21/25 04:13*	*01/25/25 06:32*	*1*
13C2 PFTeDA	*73.9*		*10 - 130*	*01/21/25 04:13*	*01/25/25 06:32*	*1*
13C3 PFBS	*101*		*40 - 135*	*01/21/25 04:13*	*01/25/25 06:32*	*1*
13C3 PFHxS	*95.3*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:32*	*1*
13C8 PFOS	*90.0*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:32*	*1*
13C8 FOSA	*91.0*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:32*	*1*
d3-NMeFOSAA	*96.9*		*40 - 170*	*01/21/25 04:13*	*01/25/25 06:32*	*1*
d5-NEtFOSAA	*101*		*25 - 135*	*01/21/25 04:13*	*01/25/25 06:32*	*1*
13C2 4:2 FTS	*90.0*		*40 - 200*	*01/21/25 04:13*	*01/25/25 06:32*	*1*
13C2 6:2 FTS	*118*		*40 - 200*	*01/21/25 04:13*	*01/25/25 06:32*	*1*
13C2 8:2 FTS	*89.1*		*40 - 300*	*01/21/25 04:13*	*01/25/25 06:32*	*1*
13C3 HFPO-DA	*88.3*		*40 - 130*	*01/21/25 04:13*	*01/25/25 06:32*	*1*
d7-N-MeFOSE-M	*91.6*		*10 - 130*	*01/21/25 04:13*	*01/25/25 06:32*	*1*
d9-N-EtFOSE-M	*90.5*		*10 - 130*	*01/21/25 04:13*	*01/25/25 06:32*	*1*
d5-NEtPFOSA	*82.1*		*10 - 130*	*01/21/25 04:13*	*01/25/25 06:32*	*1*
d3-NMePFOSA	*88.1*		*10 - 130*	*01/21/25 04:13*	*01/25/25 06:32*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA)	ND		1.5	0.62	ng/L		01/21/25 04:13	01/27/25 16:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFTeDA	*64.3*		*10 - 130*	*01/21/25 04:13*	*01/27/25 16:19*	*1*

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(8-130)	(35-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)
320-118375-4	JTA-003-N-S001-01162025			98.5					
320-118375-4 - RA	JTA-003-N-S001-01162025	90.8	100	100	98.4	88.9	81.7	78.2	67.6
320-118375-5	JTA-003-N-S003-01162025			85.0					
320-118375-5 - RA	JTA-003-N-S003-01162025	87.5	90.5	90.5	93.8	88.5	81.8	82.1	83.3
320-118375-12	JTA-004-N-S001-01162025			94.3					
320-118375-12 - RA	JTA-004-N-S001-01162025	89.2	93.5	91.9	91.8	85.1	75.4	69.4	52.2
320-118375-13	JTA-004-N-S003-01162025			92.9					
320-118375-13 - RA	JTA-004-N-S003-01162025	91.3	89.6	85.6	87.1	83.2	75.0	69.7	56.0
320-118375-14	JTA-004-FD-S003-01162025			87.2					
320-118375-14 - RA	JTA-004-FD-S003-01162025	91.9	88.3	90.7	89.8	87.7	77.6	70.8	56.0
320-118375-21	JTA-005-N-S001-01162025			77.4					
320-118375-21 - RA	JTA-005-N-S001-01162025	87.9	95.4	91.0	95.0	83.5	72.8	71.0	63.5
320-118375-21 - DL	JTA-005-N-S001-01162025								
320-118375-22	JTA-005-N-S003-01162025			80.9					
320-118375-22 - RA	JTA-005-N-S003-01162025	90.3	86.7	92.5	90.2	85.0	73.0	72.5	65.4
320-118375-23	JTA-005-FD-S003-01162025			84.3					
320-118375-23 - RA	JTA-005-FD-S003-01162025	89.2	90.4	88.4	87.4	87.2	73.2	63.1	45.4
320-118375-30	JTA-006-N-S001-01162025			95.0					
320-118375-30 - RA	JTA-006-N-S001-01162025	93.1	92.7	93.1	91.9	90.4	78.2	73.5	56.2
320-118375-31	JTA-006-FD-S001-01162025			88.9					
320-118375-31 - RA	JTA-006-FD-S001-01162025	87.4	93.3	95.1	92.3	87.6	81.8	77.5	71.5
320-118375-32	JTA-006-N-S003-01162025			94.5					
320-118375-32 - RA	JTA-006-N-S003-01162025	92.6	92.7	95.8	94.2	89.6	83.6	79.5	76.8
LCS 320-828651/3-A	Lab Control Sample			84.4					
LCS 320-828651/3-A - RA	Lab Control Sample	91.2	94.8	91.4	97.0	91.0	80.8	76.6	70.0
LCSD 320-828651/4-A	Lab Control Sample Dup			94.9					
LCSD 320-828651/4-A - RA	Lab Control Sample Dup	95.3	95.7	93.6	98.6	90.9	79.6	78.9	71.2
LLCS 320-828651/2-A	Lab Control Sample			95.4					
LLCS 320-828651/2-A - RA	Lab Control Sample	94.8	96.4	93.7	93.8	93.5	81.6	77.6	69.6
MB 320-828651/1-A	Method Blank			93.1					
MB 320-828651/1-A - RA	Method Blank	96.3	93.2	94.4	96.6	90.9	80.2	81.2	71.4

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(40-130)	(20-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-135)	(40-150)
320-118375-4	JTA-003-N-S001-01162025								
320-118375-4 - RA	JTA-003-N-S001-01162025	54.9	70.0	91.0	84.3	84.0	66.1	76.1	72.0
320-118375-5	JTA-003-N-S003-01162025								
320-118375-5 - RA	JTA-003-N-S003-01162025	72.1	72.4	90.2	88.4	91.4	90.9	88.9	90.5
320-118375-12	JTA-004-N-S001-01162025								
320-118375-12 - RA	JTA-004-N-S001-01162025	39.6 *5-	59.8	85.4	85.0	78.4	64.8	60.3	52.7
320-118375-13	JTA-004-N-S003-01162025								
320-118375-13 - RA	JTA-004-N-S003-01162025	43.0	56.0	86.3	80.4	75.1	65.4	56.6	51.9
320-118375-14	JTA-004-FD-S003-01162025								
320-118375-14 - RA	JTA-004-FD-S003-01162025	41.4	50.1	85.5	78.6	74.0	63.6	60.1	55.6
320-118375-21	JTA-005-N-S001-01162025								
320-118375-21 - RA	JTA-005-N-S001-01162025	52.1	64.9	80.4	77.2	70.2	62.5	67.3	69.7
320-118375-21 - DL	JTA-005-N-S001-01162025					67.5 *3			
320-118375-22	JTA-005-N-S003-01162025								
320-118375-22 - RA	JTA-005-N-S003-01162025	53.5	55.5	82.1	76.2	73.6	70.2	66.5	63.1

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118375-1
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Solid
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (40-130)	PFTDA (20-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-135)	d5NEFOS (40-150)
320-118375-23	JTA-005-FD-S003-01162025								
320-118375-23 - RA	JTA-005-FD-S003-01162025	35.5 *5-	50.6	85.7	78.0	69.9	64.1	51.5	45.7
320-118375-30	JTA-006-N-S001-01162025								
320-118375-30 - RA	JTA-006-N-S001-01162025	38.0 *5-	45.7	83.3	79.8	74.8	59.7	59.7	52.8
320-118375-31	JTA-006-FD-S001-01162025								
320-118375-31 - RA	JTA-006-FD-S001-01162025	55.4	52.4	85.5	82.0	77.4	82.9	66.0	61.1
320-118375-32	JTA-006-N-S003-01162025								
320-118375-32 - RA	JTA-006-N-S003-01162025	64.9	65.5	87.2	80.8	82.9	79.7	79.7	78.0
LCS 320-828651/3-A	Lab Control Sample								
LCS 320-828651/3-A - RA	Lab Control Sample	58.0	51.7	93.3	86.1	81.7	79.6	81.0	79.6
LCSD 320-828651/4-A	Lab Control Sample Dup								
LCSD 320-828651/4-A - RA	Lab Control Sample Dup	55.2	50.5	93.8	88.1	88.1	75.6	82.6	77.0
LLCS 320-828651/2-A	Lab Control Sample								
LLCS 320-828651/2-A - RA	Lab Control Sample	54.6	61.1	95.3	89.6	85.9	74.7	81.6	76.1
MB 320-828651/1-A	Method Blank								
MB 320-828651/1-A - RA	Method Blank	57.9	51.4	90.4	89.0	87.3	79.6	85.6	81.2

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118375-4	JTA-003-N-S001-01162025								
320-118375-4 - RA	JTA-003-N-S001-01162025	99.6	90.7	74.4	101	55.6	54.5	61.6	57.0
320-118375-5	JTA-003-N-S003-01162025								
320-118375-5 - RA	JTA-003-N-S003-01162025	99.1	91.3	80.7	94.1	62.6	65.1	89.4	88.0
320-118375-12	JTA-004-N-S001-01162025								
320-118375-12 - RA	JTA-004-N-S001-01162025	94.8	85.9	65.1	94.3	50.6	49.5	54.9	52.1
320-118375-13	JTA-004-N-S003-01162025								
320-118375-13 - RA	JTA-004-N-S003-01162025	80.6	77.7	60.2	90.1	59.4	59.0	51.7	50.7
320-118375-14	JTA-004-FD-S003-01162025								
320-118375-14 - RA	JTA-004-FD-S003-01162025	81.0	76.7	59.6	94.5	48.0	46.8	49.2	48.8
320-118375-21	JTA-005-N-S001-01162025								
320-118375-21 - RA	JTA-005-N-S001-01162025	98.6	102	86.8	99.5	55.5	59.2	57.2	54.1
320-118375-21 - DL	JTA-005-N-S001-01162025								
320-118375-22	JTA-005-N-S003-01162025								
320-118375-22 - RA	JTA-005-N-S003-01162025	83.0	74.0	58.2	90.9	57.3	54.7	53.3	53.2
320-118375-23	JTA-005-FD-S003-01162025								
320-118375-23 - RA	JTA-005-FD-S003-01162025	81.8	74.3	54.3	92.1	41.6	38.5	39.2	40.7
320-118375-30	JTA-006-N-S001-01162025								
320-118375-30 - RA	JTA-006-N-S001-01162025	75.4	74.7	58.4	93.5	41.7	39.6	42.0	41.0
320-118375-31	JTA-006-FD-S001-01162025								
320-118375-31 - RA	JTA-006-FD-S001-01162025	75.7	71.9	61.9	92.4	64.0	61.8	56.5	63.9
320-118375-32	JTA-006-N-S003-01162025								
320-118375-32 - RA	JTA-006-N-S003-01162025	80.6	71.0	67.1	98.9	71.7	71.7	61.5	60.1
LCS 320-828651/3-A	Lab Control Sample								
LCS 320-828651/3-A - RA	Lab Control Sample	90.7	81.7	72.4	93.3	47.8	43.7	46.5	50.3
LCSD 320-828651/4-A	Lab Control Sample Dup								
LCSD 320-828651/4-A - RA	Lab Control Sample Dup	89.2	87.3	71.8	95.5	44.2	41.9	43.2	43.7
LLCS 320-828651/2-A	Lab Control Sample								
LLCS 320-828651/2-A - RA	Lab Control Sample	99.8	84.6	78.5	94.1	50.6	48.1	50.6	51.3
MB 320-828651/1-A	Method Blank								
MB 320-828651/1-A - RA	Method Blank	182 *5+	84.6	84.6	92.5	53.5	49.3	47.4	49.0

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-1

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (5-130)	PFPeA (40-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (30-130)
320-118375-38	EB-01162025	114	110	120	112	95.6	85.0	85.3	97.0
320-118375-38 - RA	EB-01162025								
320-118375-39	FB-01162025	112	106	102	92.2	89.8	89.4	78.4	78.0
320-118375-39 - RA	FB-01162025								
LCS 320-828462/3-A	Lab Control Sample	107	108	93.1	94.4	76.7	82.9	73.6	76.6
LCS 320-828462/3-A - RA	Lab Control Sample								
LCSD 320-828462/4-A	Lab Control Sample Dup	107	85.0	91.1	66.7	74.2	75.0	72.9	70.2
LCSD 320-828462/4-A - RA	Lab Control Sample Dup								
LLCS 320-828462/2-A	Lab Control Sample	103	109	93.6	85.6	88.2	83.3	75.6	87.3
LLCS 320-828462/2-A - RA	Lab Control Sample								
MB 320-828462/1-A	Method Blank	103	103	99.8	88.6	68.5	69.0	71.6	65.1
MB 320-828462/1-A - RA	Method Blank								

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (10-130)	PFTDA (10-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-170)	d5NEFOS (25-135)
320-118375-38	EB-01162025	123	104	100	103	90.5	98.2	106	105
320-118375-38 - RA	EB-01162025		64.2						
320-118375-39	FB-01162025	97.4	73.9	101	95.3	90.0	91.0	96.9	101
320-118375-39 - RA	FB-01162025		64.3						
LCS 320-828462/3-A	Lab Control Sample	86.1	80.9	85.8	95.9	77.1	77.1	79.5	76.7
LCS 320-828462/3-A - RA	Lab Control Sample		84.5						
LCSD 320-828462/4-A	Lab Control Sample Dup	84.9	75.3	83.7	85.6	77.5	71.4	71.1	80.2
LCSD 320-828462/4-A - RA	Lab Control Sample Dup		58.6						
LLCS 320-828462/2-A	Lab Control Sample	88.5	79.1	99.2	87.4	89.2	81.0	82.6	74.7

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118375-1
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (10-130)	PFTDA (10-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-170)	d5NEFOS (25-135)
LLCS 320-828462/2-A - RA	Lab Control Sample		73.0						
MB 320-828462/1-A	Method Blank	78.4	59.3	92.1	86.6	75.3	74.6	78.4	73.0
MB 320-828462/1-A - RA	Method Blank		56.5						

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-200)	M262FTS (40-200)	M282FTS (40-300)	HFPODA (40-130)	NMFM (10-130)	NEFM (10-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118375-38	EB-01162025	97.0	93.7	107	94.7	98.8	98.1	83.7	91.8
320-118375-38 - RA	EB-01162025								
320-118375-39	FB-01162025	90.0	118	89.1	88.3	91.6	90.5	82.1	88.1
320-118375-39 - RA	FB-01162025								
LCS 320-828462/3-A	Lab Control Sample	71.1	76.2	71.5	74.9	82.4	79.8	73.2	77.4
LCS 320-828462/3-A - RA	Lab Control Sample								
LCSD 320-828462/4-A	Lab Control Sample Dup	102	101	66.5	78.7	72.6	71.8	66.5	66.7
LCSD 320-828462/4-A - RA	Lab Control Sample Dup								
LLCS 320-828462/2-A	Lab Control Sample	91.8	128	91.3	85.4	85.5	82.3	78.4	80.5
LLCS 320-828462/2-A - RA	Lab Control Sample								
MB 320-828462/1-A	Method Blank	95.9	85.3	86.5	95.8	77.0	77.7	67.8	65.4
MB 320-828462/1-A - RA	Method Blank								

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-828462/1-A
Matrix: Water
Analysis Batch: 829454

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 828462

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.0	1.0	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.58	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.53	ng/L		01/21/25 04:13	01/25/25 04:53	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		4.0	1.0	ng/L		01/21/25 04:13	01/25/25 04:53	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		4.0	1.0	ng/L		01/21/25 04:13	01/25/25 04:53	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		4.0	1.0	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		10	2.5	ng/L		01/21/25 04:13	01/25/25 04:53	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		10	2.5	ng/L		01/21/25 04:13	01/25/25 04:53	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.5	0.39	ng/L		01/21/25 04:13	01/25/25 04:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	0.72	ng/L		01/21/25 04:13	01/25/25 04:53	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		2.0	0.58	ng/L		01/21/25 04:13	01/25/25 04:53	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-828462/1-A
Matrix: Water
Analysis Batch: 829454

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 828462

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	0.50	ng/L		01/21/25 04:13	01/25/25 04:53	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		4.0	1.0	ng/L		01/21/25 04:13	01/25/25 04:53	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		10	2.5	ng/L		01/21/25 04:13	01/25/25 04:53	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		10	2.5	ng/L		01/21/25 04:13	01/25/25 04:53	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*103*		*5 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C5 PFPeA	*103*		*40 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C5 PFHxA	*99.8*		*40 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C4 PFHpA	*88.6*		*40 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C8 PFOA	*68.5*		*40 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C9 PFNA	*69.0*		*40 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C6 PFDA	*71.6*		*40 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C7 PFUnA	*65.1*		*30 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C2 PFDoA	*78.4*		*10 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C2 PFTeDA	*59.3*		*10 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C3 PFBS	*92.1*		*40 - 135*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C3 PFHxS	*86.6*		*40 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C8 PFOS	*75.3*		*40 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C8 FOSA	*74.6*		*40 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
d3-NMeFOSAA	*78.4*		*40 - 170*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
d5-NEtFOSAA	*73.0*		*25 - 135*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C2 4:2 FTS	*95.9*		*40 - 200*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C2 6:2 FTS	*85.3*		*40 - 200*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C2 8:2 FTS	*86.5*		*40 - 300*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
13C3 HFPO-DA	*95.8*		*40 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
d7-N-MeFOSE-M	*77.0*		*10 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
d9-N-EtFOSE-M	*77.7*		*10 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
d5-NEtPFOSA	*67.8*		*10 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*
d3-NMePFOSA	*65.4*		*10 - 130*	*01/21/25 04:13*	*01/25/25 04:53*	*1*

Lab Sample ID: LCS 320-828462/3-A
Matrix: Water
Analysis Batch: 829454

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828462

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	69.8		ng/L		87	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	37.1		ng/L		93	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	41.0		ng/L		103	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	35.9		ng/L		90	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	51.9		ng/L		130	70 - 150
Perfluorononanoic acid (PFNA)	40.0	41.8		ng/L		104	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	43.9		ng/L		110	70 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-828462/3-A
Matrix: Water
Analysis Batch: 829454

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828462

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	40.0	45.6		ng/L		114	70 - 145
Perfluorododecanoic acid (PFDoA)	40.0	40.1		ng/L		100	70 - 140
Perfluorotridecanoic acid (PFTrDA)	40.0	36.2		ng/L		90	65 - 140
Perfluorobutanesulfonic acid (PFBS)	35.5	44.0		ng/L		124	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	31.4		ng/L		83	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	35.0		ng/L		96	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	38.0		ng/L		100	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	36.9		ng/L		99	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	40.3		ng/L		105	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	37.3		ng/L		97	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	28.6		ng/L		74	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	78.3		ng/L		104	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	84.0		ng/L		110	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	64.6		ng/L		84	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	37.8		ng/L		94	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	38.5		ng/L		96	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	41.4		ng/L		103	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	40.9		ng/L		102	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	38.5		ng/L		96	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	192		ng/L		96	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	185		ng/L		92	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	32.0		ng/L		107	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	40.1		ng/L		106	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	40.0		ng/L		100	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	35.5		ng/L		89	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	40.4		ng/L		101	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	37.4	41.7		ng/L		112	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-828462/3-A
Matrix: Water
Analysis Batch: 829454

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828462

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	37.8	44.5		ng/L		118	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	35.7	37.9		ng/L		106	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	80.0	63.5		ng/L		79	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	200	199		ng/L		99	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	200	156		ng/L		78	50 - 145

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*107*		*5 - 130*
13C5 PFPeA	*108*		*40 - 130*
13C5 PFHxA	*93.1*		*40 - 130*
13C4 PFHpA	*94.4*		*40 - 130*
13C8 PFOA	*76.7*		*40 - 130*
13C9 PFNA	*82.9*		*40 - 130*
13C6 PFDA	*73.6*		*40 - 130*
13C7 PFUnA	*76.6*		*30 - 130*
13C2 PFDoA	*86.1*		*10 - 130*
13C2 PFTeDA	*80.9*		*10 - 130*
13C3 PFBS	*85.8*		*40 - 135*
13C3 PFHxS	*95.9*		*40 - 130*
13C8 PFOS	*77.1*		*40 - 130*
13C8 FOSA	*77.1*		*40 - 130*
d3-NMeFOSAA	*79.5*		*40 - 170*
d5-NEtFOSAA	*76.7*		*25 - 135*
13C2 4:2 FTS	*71.1*		*40 - 200*
13C2 6:2 FTS	*76.2*		*40 - 200*
13C2 8:2 FTS	*71.5*		*40 - 300*
13C3 HFPO-DA	*74.9*		*40 - 130*
d7-N-MeFOSE-M	*82.4*		*10 - 130*
d9-N-EtFOSE-M	*79.8*		*10 - 130*
d5-NEtPFOSA	*73.2*		*10 - 130*
d3-NMePFOSA	*77.4*		*10 - 130*

Lab Sample ID: LCSD 320-828462/4-A
Matrix: Water
Analysis Batch: 829454

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 828462

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	80.0	67.9		ng/L		85	70 - 140	3	30
Perfluoropentanoic acid (PFPeA)	40.0	34.7		ng/L		87	65 - 135	7	30
Perfluorohexanoic acid (PFHxA)	40.0	31.7		ng/L		79	70 - 145	26	30
Perfluoroheptanoic acid (PFHpA)	40.0	34.9		ng/L		87	70 - 150	3	30
Perfluorooctanoic acid (PFOA)	40.0	43.6		ng/L		109	70 - 150	17	30
Perfluorononanoic acid (PFNA)	40.0	38.7		ng/L		97	70 - 150	8	30
Perfluorodecanoic acid (PFDA)	40.0	42.3		ng/L		106	70 - 140	4	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-828462/4-A
Matrix: Water
Analysis Batch: 829454

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 828462

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoroundecanoic acid (PFUnA)	40.0	42.0		ng/L		105	70 - 145	8	30
Perfluorododecanoic acid (PFDoA)	40.0	34.0		ng/L		85	70 - 140	17	30
Perfluorotridecanoic acid (PFTrDA)	40.0	33.2		ng/L		83	65 - 140	9	30
Perfluorobutanesulfonic acid (PFBS)	35.5	39.9		ng/L		112	60 - 145	10	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	35.4		ng/L		94	65 - 140	12	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	36.8		ng/L		101	65 - 145	5	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	34.9		ng/L		91	70 - 150	8	30
Perfluorooctanesulfonic acid (PFOS)	37.2	33.8		ng/L		91	55 - 150	9	30
Perfluorononanesulfonic acid (PFNS)	38.5	32.8		ng/L		85	65 - 145	21	30
Perfluorodecanesulfonic acid (PFDS)	38.6	35.3		ng/L		92	60 - 145	5	30
Perfluorododecanesulfonic acid (PFDoS)	38.8	30.8		ng/L		79	50 - 145	7	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	78.8		ng/L		105	70 - 145	1	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	65.7		ng/L		86	65 - 155	24	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	71.3		ng/L		93	60 - 150	10	30
Perfluorooctanesulfonamide (PFOSA)	40.0	38.2		ng/L		95	70 - 145	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	40.3		ng/L		101	60 - 150	4	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	41.7		ng/L		104	65 - 145	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	44.0		ng/L		110	50 - 140	7	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	33.3		ng/L		83	70 - 145	14	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	195		ng/L		98	70 - 145	2	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	193		ng/L		97	70 - 135	4	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	29.2		ng/L		97	70 - 140	9	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	35.3		ng/L		93	65 - 145	13	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	39.6		ng/L		99	55 - 140	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	34.3		ng/L		86	60 - 150	3	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	37.7		ng/L		94	50 - 150	7	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	37.4	27.0	*1	ng/L		72	70 - 155	43	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-828462/4-A
Matrix: Water
Analysis Batch: 829454

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 828462

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	37.8	32.6	*1	ng/L		86	55 - 160	31	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	35.7	32.1		ng/L		90	70 - 140	17	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)	80.0	80.2		ng/L		100	65 - 130	23	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)	200	160		ng/L		80	70 - 135	22	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	200	123		ng/L		61	50 - 145	24	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*107*		*5 - 130*
13C5 PFPeA	*85.0*		*40 - 130*
13C5 PFHxA	*91.1*		*40 - 130*
13C4 PFHpA	*66.7*		*40 - 130*
13C8 PFOA	*74.2*		*40 - 130*
13C9 PFNA	*75.0*		*40 - 130*
13C6 PFDA	*72.9*		*40 - 130*
13C7 PFUnA	*70.2*		*30 - 130*
13C2 PFDoA	*84.9*		*10 - 130*
13C2 PFTeDA	*75.3*		*10 - 130*
13C3 PFBS	*83.7*		*40 - 135*
13C3 PFHxS	*85.6*		*40 - 130*
13C8 PFOS	*77.5*		*40 - 130*
13C8 FOSA	*71.4*		*40 - 130*
d3-NMeFOSAA	*71.1*		*40 - 170*
d5-NEtFOSAA	*80.2*		*25 - 135*
13C2 4:2 FTS	*102*		*40 - 200*
13C2 6:2 FTS	*101*		*40 - 200*
13C2 8:2 FTS	*66.5*		*40 - 300*
13C3 HFPO-DA	*78.7*		*40 - 130*
d7-N-MeFOSE-M	*72.6*		*10 - 130*
d9-N-EtFOSE-M	*71.8*		*10 - 130*
d5-NEtPFOSA	*66.5*		*10 - 130*
d3-NMePFOSA	*66.7*		*10 - 130*

Lab Sample ID: LLCS 320-828462/2-A
Matrix: Water
Analysis Batch: 829454

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828462

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	7.53		ng/L		94	70 - 140
Perfluoropentanoic acid (PFPeA)	4.00	3.13		ng/L		78	65 - 135
Perfluorohexanoic acid (PFHxA)	4.00	3.98		ng/L		100	70 - 145
Perfluoroheptanoic acid (PFHpA)	4.00	3.84		ng/L		96	70 - 150
Perfluorooctanoic acid (PFOA)	4.00	4.22		ng/L		105	70 - 150
Perfluorononanoic acid (PFNA)	4.00	4.64		ng/L		116	70 - 150
Perfluorodecanoic acid (PFDA)	4.00	3.91		ng/L		98	70 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-828462/2-A
Matrix: Water
Analysis Batch: 829454

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828462

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	4.00	3.19		ng/L		80	70 - 145
Perfluorododecanoic acid (PFDoA)	4.00	3.55		ng/L		89	70 - 140
Perfluorotridecanoic acid (PFTrDA)	4.00	3.79		ng/L		95	65 - 140
Perfluorobutanesulfonic acid (PFBS)	3.55	4.21		ng/L		118	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.76	4.48		ng/L		119	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	3.65	4.40		ng/L		121	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.82	3.69		ng/L		97	70 - 150
Perfluorooctanesulfonic acid (PFOS)	3.72	3.50		ng/L		94	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.85	3.66		ng/L		95	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.86	4.01		ng/L		104	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.88	3.56		ng/L		92	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	7.50	7.27		ng/L		97	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.62	6.06		ng/L		80	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.68	6.42		ng/L		84	60 - 150
Perfluorooctanesulfonamide (PFOSA)	4.00	3.73		ng/L		93	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	4.00	3.44		ng/L		86	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	4.00	3.96		ng/L		99	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.00	4.16		ng/L		104	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.00	4.57		ng/L		114	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	20.0	18.8		ng/L		94	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	20.0	19.6		ng/L		98	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.00	2.93		ng/L		98	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	3.87		ng/L		102	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.00	3.44		ng/L		86	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.00	3.45		ng/L		86	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.00	3.76		ng/L		94	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	3.74	3.57		ng/L		95	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-828462/2-A
Matrix: Water
Analysis Batch: 829454

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828462

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	3.78	3.15		ng/L		83	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	3.57	3.38		ng/L		95	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	8.00	6.11		ng/L		76	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	20.0	16.3		ng/L		81	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	20.0	13.2		ng/L		66	50 - 145

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*103*		*5 - 130*
13C5 PFPeA	*109*		*40 - 130*
13C5 PFHxA	*93.6*		*40 - 130*
13C4 PFHpA	*85.6*		*40 - 130*
13C8 PFOA	*88.2*		*40 - 130*
13C9 PFNA	*83.3*		*40 - 130*
13C6 PFDA	*75.6*		*40 - 130*
13C7 PFUnA	*87.3*		*30 - 130*
13C2 PFDoA	*88.5*		*10 - 130*
13C2 PFTeDA	*79.1*		*10 - 130*
13C3 PFBS	*99.2*		*40 - 135*
13C3 PFHxS	*87.4*		*40 - 130*
13C8 PFOS	*89.2*		*40 - 130*
13C8 FOSA	*81.0*		*40 - 130*
d3-NMeFOSAA	*82.6*		*40 - 170*
d5-NEtFOSAA	*74.7*		*25 - 135*
13C2 4:2 FTS	*91.8*		*40 - 200*
13C2 6:2 FTS	*128*		*40 - 200*
13C2 8:2 FTS	*91.3*		*40 - 300*
13C3 HFPO-DA	*85.4*		*40 - 130*
d7-N-MeFOSE-M	*85.5*		*10 - 130*
d9-N-EtFOSE-M	*82.3*		*10 - 130*
d5-NEtPFOSA	*78.4*		*10 - 130*
d3-NMePFOSA	*80.5*		*10 - 130*

Lab Sample ID: MB 320-828651/1-A
Matrix: Solid
Analysis Batch: 828938

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 828651

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/22/25 16:44	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFHxA	*93.1*		*40 - 130*	*01/21/25 12:26*	*01/22/25 16:44*	*1*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-828651/3-A
Matrix: Solid
Analysis Batch: 828938

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828651

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluorohexanoic acid (PFHxA)			2.50	2.53		ug/Kg		101	65 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C5 PFHxA	*84.4*		*40 - 130*

Lab Sample ID: LCSD 320-828651/4-A
Matrix: Solid
Analysis Batch: 828938

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 828651

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)			2.50	2.24		ug/Kg		89	65 - 140	12	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C5 PFHxA	*94.9*		*40 - 130*

Lab Sample ID: LLCS 320-828651/2-A
Matrix: Solid
Analysis Batch: 828938

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828651

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluorohexanoic acid (PFHxA)			0.400	0.365		ug/Kg		91	65 - 140		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C5 PFHxA	*95.4*		*40 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Lab Sample ID: MB 320-828462/1-A
Matrix: Water
Analysis Batch: 829752

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 828462

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA) - RA	ND		2.0	0.81	ng/L		01/21/25 04:13	01/27/25 14:57	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFTeDA - RA	*56.5*		*10 - 130*	*01/21/25 04:13*	*01/27/25 14:57*	*1*

Lab Sample ID: LCS 320-828462/3-A
Matrix: Water
Analysis Batch: 829752

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828462

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluorotetradecanoic acid (PFTeDA) - RA			40.0	32.0		ng/L		80	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFTeDA - RA	*84.5*		*10 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Lab Sample ID: LCSD 320-828462/4-A
Matrix: Water
Analysis Batch: 829752

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 828462

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorotetradecanoic acid (PFTeDA) - RA			40.0	32.9		ng/L		82	60 - 140	3	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C2 PFTeDA - RA	*58.6*		*10 - 130*

Lab Sample ID: LLCS 320-828462/2-A
Matrix: Water
Analysis Batch: 829752

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828462

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluorotetradecanoic acid (PFTeDA) - RA			4.00	3.42		ng/L		85	60 - 140		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C2 PFTeDA - RA	*73.0*		*10 - 130*

Lab Sample ID: MB 320-828651/1-A
Matrix: Solid
Analysis Batch: 829226

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 828651

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA) - RA	ND		0.40	0.10	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
Perfluoropentanoic acid (PFPeA) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
Perfluoroheptanoic acid (PFHpA) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
Perfluorooctanoic acid (PFOA) - RA	ND		0.20	0.062	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
Perfluorononanoic acid (PFNA) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
Perfluorodecanoic acid (PFDA) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
Perfluoroundecanoic acid (PFUnA) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
Perfluorododecanoic acid (PFDoA) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
Perfluorotridecanoic acid (PFTrDA) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
Perfluorotetradecanoic acid (PFTeDA) - RA	ND		0.20	0.058	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
Perfluorobutanesulfonic acid (PFBS) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
Perfluoropentanesulfonic acid (PFPeS) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
Perfluorohexanesulfonic acid (PFHxS) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
Perfluoroheptanesulfonic acid (PFHpS) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
Perfluorooctanesulfonic acid (PFOS) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
Perfluorononanesulfonic acid (PFNS) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
Perfluorodecanesulfonic acid (PFDS) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
Perfluorododecanesulfonic acid (PFDoS) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Lab Sample ID: MB 320-828651/1-A
Matrix: Solid
Analysis Batch: 829226

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 828651

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) - RA	ND		0.40	0.10	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA	ND		0.40	0.10	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA	ND		0.40	0.10	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
Perfluorooctanesulfonamide (PFOSA) - RA	ND		0.20	0.063	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
N-methylperfluorooctane sulfonamide (NMeFOSA) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
N-ethylperfluorooctane sulfonamide (NEtFOSA) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE) - RA	ND		1.0	0.25	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE) - RA	ND		1.0	0.25	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
Perfluoro-3-methoxypropanoic acid (PFMPA) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
Perfluoro-4-methoxybutanoic acid (PFMBA) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) - RA	ND		0.20	0.062	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) - RA	ND		0.20	0.075	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) - RA	ND		0.20	0.050	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
3-Perfluoropropylpropanoic acid (3:3 FTCA) - RA	ND		0.40	0.10	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
3-Perfluoropentylpropanoic acid (5:3 FTCA) - RA	ND		1.0	0.25	ug/Kg		01/21/25 12:26	01/23/25 17:22	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA) - RA	ND		1.0	0.25	ug/Kg		01/21/25 12:26	01/23/25 17:22	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA - RA	*96.3*		*8 - 130*	*01/21/25 12:26*	*01/23/25 17:22*	*1*
13C5 PFPeA - RA	*93.2*		*35 - 130*	*01/21/25 12:26*	*01/23/25 17:22*	*1*
13C5 PFHxA - RA	*94.4*		*40 - 130*	*01/21/25 12:26*	*01/23/25 17:22*	*1*
13C4 PFHpA - RA	*96.6*		*40 - 130*	*01/21/25 12:26*	*01/23/25 17:22*	*1*
13C8 PFOA - RA	*90.9*		*40 - 130*	*01/21/25 12:26*	*01/23/25 17:22*	*1*
13C9 PFNA - RA	*80.2*		*40 - 130*	*01/21/25 12:26*	*01/23/25 17:22*	*1*
13C6 PFDA - RA	*81.2*		*40 - 130*	*01/21/25 12:26*	*01/23/25 17:22*	*1*
13C7 PFUnA - RA	*71.4*		*40 - 130*	*01/21/25 12:26*	*01/23/25 17:22*	*1*
13C2 PFDoA - RA	*57.9*		*40 - 130*	*01/21/25 12:26*	*01/23/25 17:22*	*1*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Lab Sample ID: MB 320-828651/1-A
Matrix: Solid
Analysis Batch: 829226

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 828651

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFTeDA - RA	51.4		20 - 130	01/21/25 12:26	01/23/25 17:22	1
13C3 PFBS - RA	90.4		40 - 135	01/21/25 12:26	01/23/25 17:22	1
13C3 PFHxS - RA	89.0		40 - 130	01/21/25 12:26	01/23/25 17:22	1
13C8 PFOS - RA	87.3		40 - 130	01/21/25 12:26	01/23/25 17:22	1
13C8 FOSA - RA	79.6		40 - 130	01/21/25 12:26	01/23/25 17:22	1
d3-NMeFOSAA - RA	85.6		40 - 135	01/21/25 12:26	01/23/25 17:22	1
d5-NEtFOSAA - RA	81.2		40 - 150	01/21/25 12:26	01/23/25 17:22	1
13C2 4:2 FTS - RA	182	*5+	40 - 165	01/21/25 12:26	01/23/25 17:22	1
13C2 6:2 FTS - RA	84.6		40 - 215	01/21/25 12:26	01/23/25 17:22	1
13C2 8:2 FTS - RA	84.6		40 - 275	01/21/25 12:26	01/23/25 17:22	1
13C3 HFPO-DA - RA	92.5		40 - 130	01/21/25 12:26	01/23/25 17:22	1
d7-N-MeFOSE-M - RA	53.5		20 - 130	01/21/25 12:26	01/23/25 17:22	1
d9-N-EtFOSE-M - RA	49.3		15 - 130	01/21/25 12:26	01/23/25 17:22	1
d5-NEtPFOSA - RA	47.4		10 - 130	01/21/25 12:26	01/23/25 17:22	1
d3-NMePFOSA - RA	49.0		10 - 130	01/21/25 12:26	01/23/25 17:22	1

Lab Sample ID: LCS 320-828651/3-A
Matrix: Solid
Analysis Batch: 829226

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828651

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA) - RA	5.00	4.54		ug/Kg		91	70 - 140
Perfluoropentanoic acid (PFPeA) - RA	2.50	2.24		ug/Kg		90	60 - 150
Perfluoroheptanoic acid (PFHpA) - RA	2.50	2.39		ug/Kg		95	65 - 145
Perfluorooctanoic acid (PFOA) - RA	2.50	2.61		ug/Kg		104	70 - 150
Perfluorononanoic acid (PFNA) - RA	2.50	2.36		ug/Kg		95	70 - 155
Perfluorodecanoic acid (PFDA) - RA	2.50	2.42		ug/Kg		97	70 - 155
Perfluoroundecanoic acid (PFUnA) - RA	2.50	2.65		ug/Kg		106	70 - 155
Perfluorododecanoic acid (PFDoA) - RA	2.50	2.85		ug/Kg		114	70 - 150
Perfluorotridecanoic acid (PFTrDA) - RA	2.50	1.93		ug/Kg		77	65 - 150
Perfluorotetradecanoic acid (PFTeDA) - RA	2.50	2.22		ug/Kg		89	65 - 150
Perfluorobutanesulfonic acid (PFBS) - RA	2.22	2.10		ug/Kg		94	65 - 145
Perfluoropentanesulfonic acid (PFPeS) - RA	2.35	2.45		ug/Kg		104	55 - 160
Perfluorohexanesulfonic acid (PFHxS) - RA	2.28	2.24		ug/Kg		98	60 - 150
Perfluoroheptanesulfonic acid (PFHpS) - RA	2.39	2.55		ug/Kg		107	65 - 155
Perfluorooctanesulfonic acid (PFOS) - RA	2.33	2.29		ug/Kg		99	65 - 160
Perfluorononanesulfonic acid (PFNS) - RA	2.41	2.29		ug/Kg		95	55 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Lab Sample ID: LCS 320-828651/3-A
Matrix: Solid
Analysis Batch: 829226

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828651

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorodecanesulfonic acid (PFDS) - RA	2.41	2.11		ug/Kg		88	40 - 155
Perfluorododecanesulfonic acid (PFDoS) - RA	2.43	1.47		ug/Kg		61	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) - RA	4.69	4.80		ug/Kg		102	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA	4.76	4.88		ug/Kg		103	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA	4.80	4.90		ug/Kg		102	70 - 150
Perfluorooctanesulfonamide (PFOSA) - RA	2.50	2.49		ug/Kg		99	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA) - RA	2.50	2.53		ug/Kg		101	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA) - RA	2.50	2.38		ug/Kg		95	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) - RA	2.50	2.66		ug/Kg		106	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) - RA	2.50	2.58		ug/Kg		103	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE) - RA	12.5	12.3		ug/Kg		98	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE) - RA	12.5	12.3		ug/Kg		98	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) - RA	1.88	1.93		ug/Kg		103	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA	2.37	2.20		ug/Kg		93	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA) - RA	2.50	2.57		ug/Kg		103	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA) - RA	2.50	2.32		ug/Kg		93	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) - RA	2.50	2.27		ug/Kg		91	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) - RA	2.34	2.17		ug/Kg		93	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) - RA	2.36	1.56		ug/Kg		66	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) - RA	2.23	2.23		ug/Kg		100	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA) - RA	5.00	4.55		ug/Kg		91	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA) - RA	12.5	10.9		ug/Kg		87	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA) - RA	12.5	10.7		ug/Kg		86	60 - 150

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA - RA	*91.2*		*8 - 130*
13C5 PFPeA - RA	*94.8*		*35 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Lab Sample ID: LCS 320-828651/3-A
Matrix: Solid
Analysis Batch: 829226

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828651

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C5 PFHxA - RA	*91.4*		*40 - 130*
13C4 PFHpA - RA	*97.0*		*40 - 130*
13C8 PFOA - RA	*91.0*		*40 - 130*
13C9 PFNA - RA	*80.8*		*40 - 130*
13C6 PFDA - RA	*76.6*		*40 - 130*
13C7 PFUnA - RA	*70.0*		*40 - 130*
13C2 PFDoA - RA	*58.0*		*40 - 130*
13C2 PFTeDA - RA	*51.7*		*20 - 130*
13C3 PFBS - RA	*93.3*		*40 - 135*
13C3 PFHxS - RA	*86.1*		*40 - 130*
13C8 PFOS - RA	*81.7*		*40 - 130*
13C8 FOSA - RA	*79.6*		*40 - 130*
d3-NMeFOSAA - RA	*81.0*		*40 - 135*
d5-NEtFOSAA - RA	*79.6*		*40 - 150*
13C2 4:2 FTS - RA	*90.7*		*40 - 165*
13C2 6:2 FTS - RA	*81.7*		*40 - 215*
13C2 8:2 FTS - RA	*72.4*		*40 - 275*
13C3 HFPO-DA - RA	*93.3*		*40 - 130*
d7-N-MeFOSE-M - RA	*47.8*		*20 - 130*
d9-N-EtFOSE-M - RA	*43.7*		*15 - 130*
d5-NEtPFOSA - RA	*46.5*		*10 - 130*
d3-NMePFOSA - RA	*50.3*		*10 - 130*

Lab Sample ID: LCSD 320-828651/4-A
Matrix: Solid
Analysis Batch: 829226

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 828651

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA) - RA			5.00	4.55		ug/Kg		91	70 - 140	0	30
Perfluoropentanoic acid (PFPeA) - RA			2.50	2.38		ug/Kg		95	60 - 150	6	30
Perfluoroheptanoic acid (PFHpA) - RA			2.50	2.44		ug/Kg		98	65 - 145	2	30
Perfluorooctanoic acid (PFOA) - RA			2.50	2.54		ug/Kg		102	70 - 150	3	30
Perfluorononanoic acid (PFNA) - RA			2.50	2.42		ug/Kg		97	70 - 155	2	30
Perfluorodecanoic acid (PFDA) - RA			2.50	2.26		ug/Kg		90	70 - 155	7	30
Perfluoroundecanoic acid (PFUnA) - RA			2.50	2.56		ug/Kg		103	70 - 155	3	30
Perfluorododecanoic acid (PFDoA) - RA			2.50	2.88		ug/Kg		115	70 - 150	1	30
Perfluorotridecanoic acid (PFTrDA) - RA			2.50	2.05		ug/Kg		82	65 - 150	6	30
Perfluorotetradecanoic acid (PFTeDA) - RA			2.50	2.15		ug/Kg		86	65 - 150	3	30
Perfluorobutanesulfonic acid (PFBS) - RA			2.22	2.18		ug/Kg		98	65 - 145	4	30
Perfluoropentanesulfonic acid (PFPeS) - RA			2.35	2.47		ug/Kg		105	55 - 160	1	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Lab Sample ID: LCSD 320-828651/4-A
Matrix: Solid
Analysis Batch: 829226

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 828651

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS) - RA			2.28	2.26		ug/Kg		99	60 - 150	1	30
Perfluoroheptanesulfonic acid (PFHpS) - RA			2.39	2.38		ug/Kg		100	65 - 155	7	30
Perfluorooctanesulfonic acid (PFOS) - RA			2.33	2.20		ug/Kg		95	65 - 160	4	30
Perfluorononanesulfonic acid (PFNS) - RA			2.41	2.17		ug/Kg		90	55 - 140	5	30
Perfluorodecanesulfonic acid (PFDS) - RA			2.41	1.94		ug/Kg		80	40 - 155	9	30
Perfluorododecanesulfonic acid (PFDoS) - RA			2.43	1.32		ug/Kg		55	25 - 160	10	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) - RA			4.69	4.70		ug/Kg		100	60 - 150	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA			4.76	4.73		ug/Kg		99	55 - 200	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA			4.80	4.88		ug/Kg		102	70 - 150	0	30
Perfluorooctanesulfonamide (PFOSA) - RA			2.50	2.41		ug/Kg		97	70 - 140	3	30
N-methylperfluorooctane sulfonamide (NMeFOSA) - RA			2.50	2.47		ug/Kg		99	70 - 155	2	30
N-ethylperfluorooctane sulfonamide (NEtFOSA) - RA			2.50	2.42		ug/Kg		97	70 - 140	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) - RA			2.50	2.53		ug/Kg		101	65 - 155	5	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) - RA			2.50	2.56		ug/Kg		103	65 - 165	1	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE) - RA			12.5	12.2		ug/Kg		98	70 - 140	1	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE) - RA			12.5	11.9		ug/Kg		95	70 - 135	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) - RA			1.88	1.99		ug/Kg		106	70 - 145	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA			2.37	2.18		ug/Kg		92	70 - 160	1	30
Perfluoro-3-methoxypropanoic acid (PFMPA) - RA			2.50	2.69		ug/Kg		107	30 - 140	4	30
Perfluoro-4-methoxybutanoic acid (PFMBA) - RA			2.50	2.46		ug/Kg		98	60 - 150	6	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) - RA			2.50	2.28		ug/Kg		91	60 - 155	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) - RA			2.34	2.18		ug/Kg		93	70 - 150	1	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) - RA			2.36	1.49		ug/Kg		63	45 - 160	5	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) - RA			2.23	2.21		ug/Kg		99	70 - 140	1	30
3-Perfluoropropylpropanoic acid (3:3 FTCA) - RA			5.00	4.61		ug/Kg		92	45 - 130	1	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Lab Sample ID: LCSD 320-828651/4-A
Matrix: Solid
Analysis Batch: 829226

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 828651

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
3-Perfluoropentylpropanoic acid (5:3 FTCA) - RA			12.5	10.6		ug/Kg		85	60 - 130	2	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA) - RA			12.5	11.1		ug/Kg		89	60 - 150	3	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA - RA	*95.3*		*8 - 130*
13C5 PFPeA - RA	*95.7*		*35 - 130*
13C5 PFHxA - RA	*93.6*		*40 - 130*
13C4 PFHpA - RA	*98.6*		*40 - 130*
13C8 PFOA - RA	*90.9*		*40 - 130*
13C9 PFNA - RA	*79.6*		*40 - 130*
13C6 PFDA - RA	*78.9*		*40 - 130*
13C7 PFUnA - RA	*71.2*		*40 - 130*
13C2 PFDoA - RA	*55.2*		*40 - 130*
13C2 PFTeDA - RA	*50.5*		*20 - 130*
13C3 PFBS - RA	*93.8*		*40 - 135*
13C3 PFHxS - RA	*88.1*		*40 - 130*
13C8 PFOS - RA	*88.1*		*40 - 130*
13C8 FOSA - RA	*75.6*		*40 - 130*
d3-NMeFOSAA - RA	*82.6*		*40 - 135*
d5-NEtFOSAA - RA	*77.0*		*40 - 150*
13C2 4:2 FTS - RA	*89.2*		*40 - 165*
13C2 6:2 FTS - RA	*87.3*		*40 - 215*
13C2 8:2 FTS - RA	*71.8*		*40 - 275*
13C3 HFPO-DA - RA	*95.5*		*40 - 130*
d7-N-MeFOSE-M - RA	*44.2*		*20 - 130*
d9-N-EtFOSE-M - RA	*41.9*		*15 - 130*
d5-NEtPFOSA - RA	*43.2*		*10 - 130*
d3-NMePFOSA - RA	*43.7*		*10 - 130*

Lab Sample ID: LLCS 320-828651/2-A
Matrix: Solid
Analysis Batch: 829226

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828651

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA) - RA			0.800	0.822		ug/Kg		103	70 - 140
Perfluoropentanoic acid (PFPeA) - RA			0.400	0.419		ug/Kg		105	60 - 150
Perfluoroheptanoic acid (PFHpA) - RA			0.400	0.442		ug/Kg		111	65 - 145
Perfluorooctanoic acid (PFOA) - RA			0.400	0.467		ug/Kg		117	70 - 150
Perfluorononanoic acid (PFNA) - RA			0.400	0.420		ug/Kg		105	70 - 155
Perfluorodecanoic acid (PFDA) - RA			0.400	0.407		ug/Kg		102	70 - 155
Perfluoroundecanoic acid (PFUnA) - RA			0.400	0.441		ug/Kg		110	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Lab Sample ID: LLCS 320-828651/2-A
Matrix: Solid
Analysis Batch: 829226

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828651

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorododecanoic acid (PFDoA) - RA	0.400	0.477		ug/Kg		119	70 - 150
Perfluorotridecanoic acid (PFTrDA) - RA	0.400	0.367		ug/Kg		92	65 - 150
Perfluorotetradecanoic acid (PFTeDA) - RA	0.400	0.375		ug/Kg		94	65 - 150
Perfluorobutanesulfonic acid (PFBS) - RA	0.355	0.358		ug/Kg		101	65 - 145
Perfluoropentanesulfonic acid (PFPeS) - RA	0.376	0.414		ug/Kg		110	55 - 160
Perfluorohexanesulfonic acid (PFHxS) - RA	0.365	0.371		ug/Kg		102	60 - 150
Perfluoroheptanesulfonic acid (PFHpS) - RA	0.382	0.377		ug/Kg		99	65 - 155
Perfluorooctanesulfonic acid (PFOS) - RA	0.372	0.370		ug/Kg		99	65 - 160
Perfluorononanesulfonic acid (PFNS) - RA	0.385	0.345		ug/Kg		90	55 - 140
Perfluorodecanesulfonic acid (PFDS) - RA	0.386	0.319		ug/Kg		83	40 - 155
Perfluorododecanesulfonic acid (PFDoS) - RA	0.388	0.259		ug/Kg		67	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) - RA	0.750	0.741		ug/Kg		99	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA	0.762	0.789		ug/Kg		104	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA	0.768	0.771		ug/Kg		100	70 - 150
Perfluorooctanesulfonamide (PFOSA) - RA	0.400	0.379		ug/Kg		95	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA) - RA	0.400	0.369		ug/Kg		92	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA) - RA	0.400	0.370		ug/Kg		93	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) - RA	0.400	0.440		ug/Kg		110	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) - RA	0.400	0.429		ug/Kg		107	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE) - RA	2.00	2.06		ug/Kg		103	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE) - RA	2.00	2.01		ug/Kg		101	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) - RA	0.300	0.317		ug/Kg		106	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA	0.378	0.395		ug/Kg		104	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA) - RA	0.400	0.427		ug/Kg		107	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA) - RA	0.400	0.415		ug/Kg		104	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) - RA	0.400	0.358		ug/Kg		89	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Lab Sample ID: LLCS 320-828651/2-A
Matrix: Solid
Analysis Batch: 829226

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828651

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) - RA			0.374	0.343		ug/Kg		92	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) - RA			0.378	0.261		ug/Kg		69	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) - RA			0.357	0.376		ug/Kg		105	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA) - RA			0.800	0.732		ug/Kg		91	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA) - RA			2.00	1.87		ug/Kg		93	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA) - RA			2.00	1.72		ug/Kg		86	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA - RA	*94.8*		*8 - 130*
13C5 PFPeA - RA	*96.4*		*35 - 130*
13C5 PFHxA - RA	*93.7*		*40 - 130*
13C4 PFHpA - RA	*93.8*		*40 - 130*
13C8 PFOA - RA	*93.5*		*40 - 130*
13C9 PFNA - RA	*81.6*		*40 - 130*
13C6 PFDA - RA	*77.6*		*40 - 130*
13C7 PFUnA - RA	*69.6*		*40 - 130*
13C2 PFDoA - RA	*54.6*		*40 - 130*
13C2 PFTeDA - RA	*61.1*		*20 - 130*
13C3 PFBS - RA	*95.3*		*40 - 135*
13C3 PFHxS - RA	*89.6*		*40 - 130*
13C8 PFOS - RA	*85.9*		*40 - 130*
13C8 FOSA - RA	*74.7*		*40 - 130*
d3-NMeFOSAA - RA	*81.6*		*40 - 135*
d5-NEtFOSAA - RA	*76.1*		*40 - 150*
13C2 4:2 FTS - RA	*99.8*		*40 - 165*
13C2 6:2 FTS - RA	*84.6*		*40 - 215*
13C2 8:2 FTS - RA	*78.5*		*40 - 275*
13C3 HFPO-DA - RA	*94.1*		*40 - 130*
d7-N-MeFOSE-M - RA	*50.6*		*20 - 130*
d9-N-EtFOSE-M - RA	*48.1*		*15 - 130*
d5-NEtPFOSA - RA	*50.6*		*10 - 130*
d3-NMePFOSA - RA	*51.3*		*10 - 130*

LCMS

Prep Batch: 828462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-38	EB-01162025	Total/NA	Water	1633	
320-118375-38 - RA	EB-01162025	Total/NA	Water	1633	
320-118375-39	FB-01162025	Total/NA	Water	1633	
320-118375-39 - RA	FB-01162025	Total/NA	Water	1633	
MB 320-828462/1-A	Method Blank	Total/NA	Water	1633	
MB 320-828462/1-A - RA	Method Blank	Total/NA	Water	1633	
LCS 320-828462/3-A	Lab Control Sample	Total/NA	Water	1633	
LCS 320-828462/3-A - RA	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-828462/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LCSD 320-828462/4-A - RA	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-828462/2-A	Lab Control Sample	Total/NA	Water	1633	
LLCS 320-828462/2-A - RA	Lab Control Sample	Total/NA	Water	1633	

Prep Batch: 828651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-4	JTA-003-N-S001-01162025	Total/NA	Solid	1633 Shake	
320-118375-4 - RA	JTA-003-N-S001-01162025	Total/NA	Solid	1633 Shake	
320-118375-5	JTA-003-N-S003-01162025	Total/NA	Solid	1633 Shake	
320-118375-5 - RA	JTA-003-N-S003-01162025	Total/NA	Solid	1633 Shake	
320-118375-12	JTA-004-N-S001-01162025	Total/NA	Solid	1633 Shake	
320-118375-12 - RA	JTA-004-N-S001-01162025	Total/NA	Solid	1633 Shake	
320-118375-13	JTA-004-N-S003-01162025	Total/NA	Solid	1633 Shake	
320-118375-13 - RA	JTA-004-N-S003-01162025	Total/NA	Solid	1633 Shake	
320-118375-14	JTA-004-FD-S003-01162025	Total/NA	Solid	1633 Shake	
320-118375-14 - RA	JTA-004-FD-S003-01162025	Total/NA	Solid	1633 Shake	
320-118375-21	JTA-005-N-S001-01162025	Total/NA	Solid	1633 Shake	
320-118375-21 - DL	JTA-005-N-S001-01162025	Total/NA	Solid	1633 Shake	
320-118375-21 - RA	JTA-005-N-S001-01162025	Total/NA	Solid	1633 Shake	
320-118375-22	JTA-005-N-S003-01162025	Total/NA	Solid	1633 Shake	
320-118375-22 - RA	JTA-005-N-S003-01162025	Total/NA	Solid	1633 Shake	
320-118375-23	JTA-005-FD-S003-01162025	Total/NA	Solid	1633 Shake	
320-118375-23 - RA	JTA-005-FD-S003-01162025	Total/NA	Solid	1633 Shake	
320-118375-30	JTA-006-N-S001-01162025	Total/NA	Solid	1633 Shake	
320-118375-30 - RA	JTA-006-N-S001-01162025	Total/NA	Solid	1633 Shake	
320-118375-31	JTA-006-FD-S001-01162025	Total/NA	Solid	1633 Shake	
320-118375-31 - RA	JTA-006-FD-S001-01162025	Total/NA	Solid	1633 Shake	
320-118375-32	JTA-006-N-S003-01162025	Total/NA	Solid	1633 Shake	
320-118375-32 - RA	JTA-006-N-S003-01162025	Total/NA	Solid	1633 Shake	
MB 320-828651/1-A	Method Blank	Total/NA	Solid	1633 Shake	
MB 320-828651/1-A - RA	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-828651/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCS 320-828651/3-A - RA	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-828651/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LCSD 320-828651/4-A - RA	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-828651/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LLCS 320-828651/2-A - RA	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 828938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-4	JTA-003-N-S001-01162025	Total/NA	Solid	1633	828651
320-118375-5	JTA-003-N-S003-01162025	Total/NA	Solid	1633	828651

LCMS (Continued)

Analysis Batch: 828938 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-12	JTA-004-N-S001-01162025	Total/NA	Solid	1633	828651
320-118375-13	JTA-004-N-S003-01162025	Total/NA	Solid	1633	828651
320-118375-14	JTA-004-FD-S003-01162025	Total/NA	Solid	1633	828651
320-118375-21	JTA-005-N-S001-01162025	Total/NA	Solid	1633	828651
320-118375-22	JTA-005-N-S003-01162025	Total/NA	Solid	1633	828651
320-118375-23	JTA-005-FD-S003-01162025	Total/NA	Solid	1633	828651
320-118375-30	JTA-006-N-S001-01162025	Total/NA	Solid	1633	828651
320-118375-31	JTA-006-FD-S001-01162025	Total/NA	Solid	1633	828651
320-118375-32	JTA-006-N-S003-01162025	Total/NA	Solid	1633	828651
MB 320-828651/1-A	Method Blank	Total/NA	Solid	1633	828651
LCS 320-828651/3-A	Lab Control Sample	Total/NA	Solid	1633	828651
LCSD 320-828651/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	828651
LLCS 320-828651/2-A	Lab Control Sample	Total/NA	Solid	1633	828651

Analysis Batch: 829226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-4 - RA	JTA-003-N-S001-01162025	Total/NA	Solid	1633	828651
320-118375-5 - RA	JTA-003-N-S003-01162025	Total/NA	Solid	1633	828651
320-118375-12 - RA	JTA-004-N-S001-01162025	Total/NA	Solid	1633	828651
320-118375-13 - RA	JTA-004-N-S003-01162025	Total/NA	Solid	1633	828651
320-118375-14 - RA	JTA-004-FD-S003-01162025	Total/NA	Solid	1633	828651
320-118375-21 - RA	JTA-005-N-S001-01162025	Total/NA	Solid	1633	828651
320-118375-22 - RA	JTA-005-N-S003-01162025	Total/NA	Solid	1633	828651
320-118375-23 - RA	JTA-005-FD-S003-01162025	Total/NA	Solid	1633	828651
320-118375-30 - RA	JTA-006-N-S001-01162025	Total/NA	Solid	1633	828651
320-118375-31 - RA	JTA-006-FD-S001-01162025	Total/NA	Solid	1633	828651
320-118375-32 - RA	JTA-006-N-S003-01162025	Total/NA	Solid	1633	828651
MB 320-828651/1-A - RA	Method Blank	Total/NA	Solid	1633	828651
LCS 320-828651/3-A - RA	Lab Control Sample	Total/NA	Solid	1633	828651
LCSD 320-828651/4-A - RA	Lab Control Sample Dup	Total/NA	Solid	1633	828651
LLCS 320-828651/2-A - RA	Lab Control Sample	Total/NA	Solid	1633	828651

Analysis Batch: 829454

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-38	EB-01162025	Total/NA	Water	1633	828462
320-118375-39	FB-01162025	Total/NA	Water	1633	828462
MB 320-828462/1-A	Method Blank	Total/NA	Water	1633	828462
LCS 320-828462/3-A	Lab Control Sample	Total/NA	Water	1633	828462
LCSD 320-828462/4-A	Lab Control Sample Dup	Total/NA	Water	1633	828462
LLCS 320-828462/2-A	Lab Control Sample	Total/NA	Water	1633	828462

Analysis Batch: 829752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-38 - RA	EB-01162025	Total/NA	Water	1633	828462
320-118375-39 - RA	FB-01162025	Total/NA	Water	1633	828462
MB 320-828462/1-A - RA	Method Blank	Total/NA	Water	1633	828462
LCS 320-828462/3-A - RA	Lab Control Sample	Total/NA	Water	1633	828462
LCSD 320-828462/4-A - RA	Lab Control Sample Dup	Total/NA	Water	1633	828462
LLCS 320-828462/2-A - RA	Lab Control Sample	Total/NA	Water	1633	828462

QC Association Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-1

LCMS

Analysis Batch: 830052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-21 - DL	JTA-005-N-S001-01162025	Total/NA	Solid	1633	828651

General Chemistry

Analysis Batch: 828335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-4	JTA-003-N-S001-01162025	Total/NA	Solid	1633	
320-118375-5	JTA-003-N-S003-01162025	Total/NA	Solid	1633	
320-118375-12	JTA-004-N-S001-01162025	Total/NA	Solid	1633	
320-118375-13	JTA-004-N-S003-01162025	Total/NA	Solid	1633	
320-118375-14	JTA-004-FD-S003-01162025	Total/NA	Solid	1633	
320-118375-21	JTA-005-N-S001-01162025	Total/NA	Solid	1633	
320-118375-22	JTA-005-N-S003-01162025	Total/NA	Solid	1633	
320-118375-23	JTA-005-FD-S003-01162025	Total/NA	Solid	1633	
320-118375-30	JTA-006-N-S001-01162025	Total/NA	Solid	1633	

Analysis Batch: 828347

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118375-31	JTA-006-FD-S001-01162025	Total/NA	Solid	1633	
320-118375-32	JTA-006-N-S003-01162025	Total/NA	Solid	1633	

Client Sample ID: JTA-003-N-S001-01162025
Lab Sample ID: 320-118375-4
Date Collected: 01/16/25 09:35
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828335	01/20/25 11:24	CFR	EET SAC

Client Sample ID: JTA-003-N-S001-01162025
Lab Sample ID: 320-118375-4
Date Collected: 01/16/25 09:35
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 92.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.28 g	5.00 mL	828651	01/21/25 12:26	F1D	EET SAC
Total/NA	Analysis	1633		1			828938	01/22/25 17:51	K1D	EET SAC
Total/NA	Prep	1633 Shake	RA		2.28 g	5.00 mL	828651	01/21/25 12:26	F1D	EET SAC
Total/NA	Analysis	1633	RA	1			829226	01/23/25 18:28	C1P	EET SAC

Client Sample ID: JTA-003-N-S003-01162025
Lab Sample ID: 320-118375-5
Date Collected: 01/16/25 09:40
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828335	01/20/25 11:24	CFR	EET SAC

Client Sample ID: JTA-003-N-S003-01162025
Lab Sample ID: 320-118375-5
Date Collected: 01/16/25 09:40
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 84.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.47 g	5.00 mL	828651	01/21/25 12:26	F1D	EET SAC
Total/NA	Analysis	1633		1			828938	01/22/25 18:07	K1D	EET SAC
Total/NA	Prep	1633 Shake	RA		2.47 g	5.00 mL	828651	01/21/25 12:26	F1D	EET SAC
Total/NA	Analysis	1633	RA	1			829226	01/23/25 18:44	C1P	EET SAC

Client Sample ID: JTA-004-N-S001-01162025
Lab Sample ID: 320-118375-12
Date Collected: 01/16/25 10:45
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828335	01/20/25 11:24	CFR	EET SAC

Client Sample ID: JTA-004-N-S001-01162025
Lab Sample ID: 320-118375-12
Date Collected: 01/16/25 10:45
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 82.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.41 g	5.00 mL	828651	01/21/25 12:26	F1D	EET SAC
Total/NA	Analysis	1633		1			828938	01/22/25 18:24	K1D	EET SAC
Total/NA	Prep	1633 Shake	RA		2.41 g	5.00 mL	828651	01/21/25 12:26	F1D	EET SAC
Total/NA	Analysis	1633	RA	1			829226	01/23/25 19:00	C1P	EET SAC

Client Sample ID: JTA-004-N-S003-01162025
Lab Sample ID: 320-118375-13
Date Collected: 01/16/25 10:50
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828335	01/20/25 11:24	CFR	EET SAC

Client Sample ID: JTA-004-N-S003-01162025
Lab Sample ID: 320-118375-13
Date Collected: 01/16/25 10:50
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 86.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.32 g	5.00 mL	828651	01/21/25 12:26	F1D	EET SAC
Total/NA	Analysis	1633		1			828938	01/22/25 18:40	K1D	EET SAC
Total/NA	Prep	1633 Shake	RA		2.32 g	5.00 mL	828651	01/21/25 12:26	F1D	EET SAC
Total/NA	Analysis	1633	RA	1			829226	01/23/25 19:17	C1P	EET SAC

Client Sample ID: JTA-004-FD-S003-01162025
Lab Sample ID: 320-118375-14
Date Collected: 01/16/25 10:55
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828335	01/20/25 11:24	CFR	EET SAC

Client Sample ID: JTA-004-FD-S003-01162025
Lab Sample ID: 320-118375-14
Date Collected: 01/16/25 10:55
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 87.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.39 g	5.00 mL	828651	01/21/25 12:26	F1D	EET SAC
Total/NA	Analysis	1633		1			828938	01/22/25 18:57	K1D	EET SAC
Total/NA	Prep	1633 Shake	RA		2.39 g	5.00 mL	828651	01/21/25 12:26	F1D	EET SAC
Total/NA	Analysis	1633	RA	1			829226	01/23/25 19:33	C1P	EET SAC

Client Sample ID: JTA-005-N-S001-01162025
Lab Sample ID: 320-118375-21
Date Collected: 01/16/25 13:30
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828335	01/20/25 11:24	CFR	EET SAC

Client Sample ID: JTA-005-N-S001-01162025
Lab Sample ID: 320-118375-21
Date Collected: 01/16/25 13:30
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 89.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.29 g	5.00 mL	828651	01/21/25 12:26	F1D	EET SAC
Total/NA	Analysis	1633		1			828938	01/22/25 19:14	K1D	EET SAC
Total/NA	Prep	1633 Shake	DL		2.29 g	5.00 mL	828651	01/21/25 12:26	F1D	EET SAC
Total/NA	Analysis	1633	DL	10			830052	01/28/25 18:09	SS	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-1

Client Sample ID: JTA-005-N-S001-01162025
Lab Sample ID: 320-118375-21
Date Collected: 01/16/25 13:30
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 89.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	RA		2.29 g	5.00 mL	828651	01/21/25 12:26	F1D	EET SAC
Total/NA	Analysis	1633	RA	1			829226	01/23/25 19:50	C1P	EET SAC

Client Sample ID: JTA-005-N-S003-01162025
Lab Sample ID: 320-118375-22
Date Collected: 01/16/25 13:35
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828335	01/20/25 11:24	CFR	EET SAC

Client Sample ID: JTA-005-N-S003-01162025
Lab Sample ID: 320-118375-22
Date Collected: 01/16/25 13:35
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 94.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.25 g	5.00 mL	828651	01/21/25 12:26	F1D	EET SAC
Total/NA	Analysis	1633		1			828938	01/22/25 20:03	K1D	EET SAC
Total/NA	Prep	1633 Shake	RA		2.25 g	5.00 mL	828651	01/21/25 12:26	F1D	EET SAC
Total/NA	Analysis	1633	RA	1			829226	01/23/25 20:39	C1P	EET SAC

Client Sample ID: JTA-005-FD-S003-01162025
Lab Sample ID: 320-118375-23
Date Collected: 01/16/25 14:05
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828335	01/20/25 11:24	CFR	EET SAC

Client Sample ID: JTA-005-FD-S003-01162025
Lab Sample ID: 320-118375-23
Date Collected: 01/16/25 14:05
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 94.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.18 g	5.00 mL	828651	01/21/25 12:26	F1D	EET SAC
Total/NA	Analysis	1633		1			828938	01/22/25 20:20	K1D	EET SAC
Total/NA	Prep	1633 Shake	RA		2.18 g	5.00 mL	828651	01/21/25 12:26	F1D	EET SAC
Total/NA	Analysis	1633	RA	1			829226	01/23/25 20:55	C1P	EET SAC

Client Sample ID: JTA-006-N-S001-01162025
Lab Sample ID: 320-118375-30
Date Collected: 01/16/25 15:00
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828335	01/20/25 11:24	CFR	EET SAC

Client Sample ID: JTA-006-N-S001-01162025
Lab Sample ID: 320-118375-30

Date Collected: 01/16/25 15:00
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 86.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.39 g	5.00 mL	828651	01/21/25 12:26	F1D	EET SAC
Total/NA	Analysis	1633		1			828938	01/22/25 20:37	K1D	EET SAC
Total/NA	Prep	1633 Shake	RA		2.39 g	5.00 mL	828651	01/21/25 12:26	F1D	EET SAC
Total/NA	Analysis	1633	RA	1			829226	01/23/25 21:12	C1P	EET SAC

Client Sample ID: JTA-006-FD-S001-01162025
Lab Sample ID: 320-118375-31

Date Collected: 01/16/25 15:30
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828347	01/20/25 12:34	CFR	EET SAC

Client Sample ID: JTA-006-FD-S001-01162025
Lab Sample ID: 320-118375-31

Date Collected: 01/16/25 15:30
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 89.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.29 g	5.00 mL	828651	01/21/25 12:26	F1D	EET SAC
Total/NA	Analysis	1633		1			828938	01/22/25 20:53	K1D	EET SAC
Total/NA	Prep	1633 Shake	RA		2.29 g	5.00 mL	828651	01/21/25 12:26	F1D	EET SAC
Total/NA	Analysis	1633	RA	1			829226	01/23/25 21:28	C1P	EET SAC

Client Sample ID: JTA-006-N-S003-01162025
Lab Sample ID: 320-118375-32

Date Collected: 01/16/25 15:05
Matrix: Solid
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			828347	01/20/25 12:34	CFR	EET SAC

Client Sample ID: JTA-006-N-S003-01162025
Lab Sample ID: 320-118375-32

Date Collected: 01/16/25 15:05
Matrix: Solid
Date Received: 01/18/25 09:00
Percent Solids: 95.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.12 g	5.00 mL	828651	01/21/25 12:26	F1D	EET SAC
Total/NA	Analysis	1633		1			828938	01/22/25 21:10	K1D	EET SAC
Total/NA	Prep	1633 Shake	RA		2.12 g	5.00 mL	828651	01/21/25 12:26	F1D	EET SAC
Total/NA	Analysis	1633	RA	1			829226	01/23/25 21:45	C1P	EET SAC

Client Sample ID: EB-01162025
Lab Sample ID: 320-118375-38

Date Collected: 01/16/25 08:40
Matrix: Water
Date Received: 01/18/25 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			150.4 mL	5.0 mL	828462	01/21/25 04:13	RMF	EET SAC
Total/NA	Analysis	1633		1			829454	01/25/25 06:15	K1S	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-1

Client Sample ID: EB-01162025

Date Collected: 01/16/25 08:40
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-38

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633	RA		150.4 mL	5.0 mL	828462	01/21/25 04:13	RMF	EET SAC
Total/NA	Analysis	1633	RA	1			829752	01/27/25 16:03	RS1	EET SAC

Client Sample ID: FB-01162025

Date Collected: 01/16/25 00:00
Date Received: 01/18/25 09:00

Lab Sample ID: 320-118375-39

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			164.1 mL	5.0 mL	828462	01/21/25 04:13	RMF	EET SAC
Total/NA	Analysis	1633		1			829454	01/25/25 06:32	K1S	EET SAC
Total/NA	Prep	1633	RA		164.1 mL	5.0 mL	828462	01/21/25 04:13	RMF	EET SAC
Total/NA	Analysis	1633	RA	1			829752	01/27/25 16:19	RS1	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118375-1
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-1

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633	Solid-Phase Extraction (SPE)	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118375-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118375-4	JTA-003-N-S001-01162025	Solid	01/16/25 09:35	01/18/25 09:00
320-118375-5	JTA-003-N-S003-01162025	Solid	01/16/25 09:40	01/18/25 09:00
320-118375-12	JTA-004-N-S001-01162025	Solid	01/16/25 10:45	01/18/25 09:00
320-118375-13	JTA-004-N-S003-01162025	Solid	01/16/25 10:50	01/18/25 09:00
320-118375-14	JTA-004-FD-S003-01162025	Solid	01/16/25 10:55	01/18/25 09:00
320-118375-21	JTA-005-N-S001-01162025	Solid	01/16/25 13:30	01/18/25 09:00
320-118375-22	JTA-005-N-S003-01162025	Solid	01/16/25 13:35	01/18/25 09:00
320-118375-23	JTA-005-FD-S003-01162025	Solid	01/16/25 14:05	01/18/25 09:00
320-118375-30	JTA-006-N-S001-01162025	Solid	01/16/25 15:00	01/18/25 09:00
320-118375-31	JTA-006-FD-S001-01162025	Solid	01/16/25 15:30	01/18/25 09:00
320-118375-32	JTA-006-N-S003-01162025	Solid	01/16/25 15:05	01/18/25 09:00
320-118375-38	EB-01162025	Water	01/16/25 08:40	01/18/25 09:00
320-118375-39	FB-01162025	Water	01/16/25 00:00	01/18/25 09:00

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave. Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
		DELIVERY DATE	
		TURNAROUND TIME	
		PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	HOLD	Number of Containers
JTA-002-N-S040-01162025	1/16/2025	8.30	Soil		X	1
JTA-002-N-S042-01162025	1/16/2025	8.35	Soil		X	1
JTA-003-N-S000-01162025	1/16/2025	9.30	Soil			1
JTA-003-N-S001-01162025	1/16/2025	9.35	Soil	X		1
JTA-003-N-S003-01162025	1/16/2025	9 40	Soil	X		1
JTA-003-N-S006-01162025	1/16/2025	9 45	Soil		X	1
JTA-003-N-S010-01162025	1/16/2025	9 50	Soil		X	1
JTA-003-N-S015-01162025	1/16/2025	9:55	Soil		X	1
JTA-003-N-S020-01162025	1/16/2025	10 00	Soil		X	1
JTA-003-N-S030-01162025	1/16/2025	10·05	Soil		X	1

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118375 Chain of Custody

0.8 corr WCOC

Sampled and Relinquished by	Received by
Sign	Sign
Print Bonnie Govero	Print Macky Morris
Firm H&A	Firm EETSPO
Date 1/17/25 Time 1148	Date 1/17/25 1148
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Ryan Medeiros
Firm EETSPO	Firm EETSPO
Date 1/17/25 Time 1527	Date 1/17/25 0900
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY Project Manager PINK - Haley & Aldrich Laboratory

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450.
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-001
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 11922 E 1st Ave. Spokane Valley WA 99206
CONTACT Randee Arrington

DELIVERY DATE
TURNAROUND TIME
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	HOLD	Number of Containers
JTA-004-N-S000-01162025	1/16/2025	10 40	Soil		X	1
JTA-004-N-S001-01162025	1/16/2025	10 45	Soil	X		1
JTA-004-N-S003-01162025	1/16/2025	10:50	Soil	X		1
JTA-004-FD-S003-01162025	1/16/2025	10.55	Soil	X		1
JTA-004-N-S006-01162025	1/16/2025	11·00	Soil		X	1
JTA-004-N-S010-01162025	1/16/2025	11 05	Soil		X	1
JTA-004-N-S015-01162025	1/16/2025	11 10	Soil		X	1
JTA-004-N-S020-01162025	1/16/2025	11 15	Soil		X	1
JTA-004-N-S030-01162025	1/16/2025	11:20	Soil		X	1
JTA-005-N-S000-01162025	1/16/2025	13.25	Soil		X	1

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.
– TOC: Total Organic Carbon

0.8, @ or 1 P004

Sampled and Relinquished by	Received by
Sign	Sign
Print Bonnie Govan	Print Macky Morris
Firm H&A	Firm EET SPO
Date 1/17/25 Time 1148	Date 1/17/25 1148
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Logan Nelson
Firm EETSPO	Firm EHSW
Date 1/17/25 Time 1527	Date 1/18/25 0900
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

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_____
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE Laboratory CANARY Project Manager PINK - Haley & Aldrich Laboratory

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-001
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 11922 E 1st Ave, Spokane Valley WA 99206
CONTACT Randee Arrington

DELIVERY DATE
TURNAROUND TIME
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	HOLD	Number of Containers
JTA-005-N-S001-01162025	1/16/2025	13.30	Soil	X		1
JTA-005-N-S003-01162025	1/16/2025	13.35	Soil	X		1
JTA-005-FD-S003-01162025	1/16/2025	14 05	Soil	X		1
JTA-005-N-S006-01162025	1/16/2025	13 40	Soil		X	1
JTA-005-N-S010-01162025	1/16/2025	13 45	Soil		X	1
JTA-005-N-S015-01162025	1/16/2025	13.50	Soil		X	1
JTA-005-N-S017-01162025	1/16/2025	14.25	Soil		X	1
JTA-005-N-S025-01162025	1/16/2025	14.30	Soil		X	1
JTA-006-N-S000-01162025	1/16/2025	14.55	Soil		X	1
JTA-006-N-S001-01162025	1/16/2025	15 00	Soil	X		1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

0.8car 1Rook

Sampled and Relinquished by	Received by
Sign	Sign
Print Bonnie Govan	Print Macky Morris
Firm H&A	Firm EEL SPK
Date 1/17/25 Time 1148	Date 1/17/25 1148
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Nathan Mehaffey
Firm EEL SPK	Firm EETSM
Date 1/17/25 Time 1529	Date 1/18/25 0900
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

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_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Form 3003

3.3

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450.
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE			
TURNAROUND TIME			
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	PFAS EPA 1633	HOLD	Number of Containers
JTA-006-FD-S001-01162025	1/16/2025	15.30	Soil	X		1
JTA-006-N-S003-01162025	1/16/2025	15 05	Soil	X		1
JTA-006-N-S006-01162025	1/16/2025	15 10	Soil		X	1
JTA-006-N-S010-01162025	1/16/2025	15 15	Soil		X	1
JTA-006-N-S013-01162025	1/16/2025	15.20	Soil		X	1
JTA-006-N-S021-01162025	1/16/2025	15:25	Soil		X	1
JTA-006-N-S028-01162025	1/16/2025	15.30	Soil		X	1

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

0.8 cov Wreagle

Sampled and Relinquished by	Received by
Sign	Sign
Print Bonnie Gavin	Print Macky Morris
Firm H&A	Firm ELE SPO
Date 1/17/25 Time 1148	Date 1/17/25 1148
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print Ryan Nichols
Firm ELE SPO	Firm Eurofins
Date 1/17/25 Time 1527	Date 1/16/25 0910
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

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_____
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are re

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Form 3003

3.3

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450.
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-001
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 11922 E 1st Ave. Spokane Valley WA 99206
CONTACT Randee Arrington

DELIVERY DATE
TURNAROUND TIME
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	HOLD	Number of Containers
EB-0116-2025	1/16/2025	8.40	Water	X		3
FB-01162025	1/16/2025	0·00	Water	X		2

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

0.4, 0.8 cor 1Poole

Sampled and Relinquished by
Sign
Print Bonnie Gavoni
Firm H&A
Date 1/17/25 Time 1148

Received by
Sign
Print Macky Morris
Firm EEESPO
Date 1/17/25 1148

Relinquished by
Sign
Print Macky Morris
Firm EEESPO
Date 1/17/25 Time 1527

Received by
Sign
Print Lacey Anderson
Firm Eurofins
Date 1/18/25 0940

Relinquished by
Sign
Print
Firm
Date Time

Received by
Sign
Print
Firm
Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

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Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Form 3003

3-3

eurofins | Environment Testing

Loc: 320
118375

Sacramento Sample Receiving Notes (SSRN)

Tracking # 9242 5693 0048

Job: _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID UI2 Corr Factor (+ / -) _____ °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal 2287491

Cooler ID 1 of 2

Temp Observed: 2 °C Corrected: 3 °C

From. Temp Blank ☐ Sandwich ☐ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: DM Date 1/18/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials DM Date 01/18/25

Notes: _____

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials DM Date 01/18/25

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 1/28/2025 10:43:33 AM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118344-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

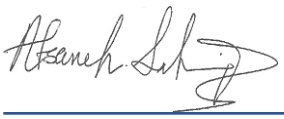
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



Generated
1/28/2025 10:43:33 AM

Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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QC Association Summary 59
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Chain of Custody 67

Qualifiers

LCMS

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-118344-1

Receipt
The samples were received on 1/17/2025 10:45 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.9º C.

LCMS
Method 1633: Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: (CCB 320-828767/3). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 1633: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-828457 and analytical batch 320-828767 recovered outside control limits for the following analyte: Nonafluoro-3,6-dioxaheptanoic acid (NFDHA).

Method 1633: The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. The associated analytes have been flagged: EA-MW-8B-N-01142025 (320-118344-1) and GDF-MW-10R-N-01142025 (320-118344-8).

Method 1633: The low level continuing calibration verification (CCVL) associated with batch 320-828767 recovered above the upper control limit for 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS). The samples and method blank (MB) associated with this CCV were non-detect, low level laboratory control sample, laboratory control sample, and laboratory control sample duplicate (LLCS/LCS/LCSD) were in control limit for the affected analyte; therefore, the data have been reported: GDF-GR-5-N-01142025 (320-118344-2), GCF-MW-11A-N-01142025 (320-118344-3), GCF-MW-12A-N-01142025 (320-118344-4), GCF-MW-12A-FD-01142025 (320-118344-5), GCF-MW-12B-N-01142025 (320-118344-6), GDF-MW-10A-N-01142025 (320-118344-7), GDF-MW-10R-N-01142025 (320-118344-8), EB-01142025 (320-118344-9), FB-01142025 (320-118344-10), GDF-GR-2-N-01152025 (320-118344-11), GDF-GR-2-FD-01152025 (320-118344-12), GDF-GR-3-N-01152025 (320-118344-13), GDF-GR-4-N-01152025 (320-118344-14), EB-01152025 (320-118344-15), FB-01152025 (320-118344-16) and (CCVL 320-828767/4).

Method 1633: The continuing calibration verification (CCV) associated with batch 320-828810 recovered above the upper control limit for isotope dilution analyte (IDA) 13C2 PFDoA. The associated target analytes, Perfluorododecanoic acid (PFDoA) and Perfluorotridecanoic acid (PFTrDA), are within control limits. The samples associated with this CCV were non-detects for the affected target analytes; therefore, the data have been reported. The associated samples are impacted: GDF-GR-5-N-01142025 (320-118344-2), GCF-MW-11A-N-01142025 (320-118344-3), GCF-MW-12A-N-01142025 (320-118344-4), GCF-MW-12A-FD-01142025 (320-118344-5), GCF-MW-12B-N-01142025 (320-118344-6), GDF-MW-10A-N-01142025 (320-118344-7), GDF-MW-10R-N-01142025 (320-118344-8), EB-01142025 (320-118344-9), FB-01142025 (320-118344-10), GDF-GR-2-N-01152025 (320-118344-11), GDF-GR-2-FD-01152025 (320-118344-12), GDF-GR-3-N-01152025 (320-118344-13), GDF-GR-4-N-01152025 (320-118344-14), EB-01152025 (320-118344-15), FB-01152025 (320-118344-16) and (CCV 320-828810/8)

Method 1633: The low level continuing calibration verification (CCVL) associated with batch 320-829593 recovered above the upper control limit for Nonafluoro-3,6-dioxaheptanoic acid (NFDHA). The samples and method blank associated with this CCV were non-detects, LLCS/LCS/LCSD in control for the affected analytes; therefore, the data have been reported. The associated samples are impacted: EA-MW-8B-N-01142025 (320-118344-1), (CCVL 320-829593/10), (LCS 320-829259/3-A), (LCSD 320-829259/4-A), (LLCS 320-829259/2-A) and (MB 320-829259/1-A).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 1633: The following samples in preparation batch 320-828457 were observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction: GCF-MW-11A-N-01142025 (320-118344-3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118344-1

Client Sample ID: EA-MW-8B-N-01142025 — Lab Sample ID: 320-118344-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	10		3.8	0.95	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	3.3		1.9	0.47	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	23		1.9	0.47	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.8		1.9	0.47	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	14		1.9	0.47	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.9		1.9	0.47	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	2.4		1.9	0.47	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	68		1.9	0.47	ng/L	1		1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.77	J I	1.9	0.47	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	8.8		1.9	0.47	ng/L	1		1633	Total/NA

Client Sample ID: GDF-GR-5-N-01142025 — Lab Sample ID: 320-118344-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.7	J	3.4	0.86	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.81	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.94	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	8.8		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.6	J	1.7	0.43	ng/L	1		1633	Total/NA

Client Sample ID: GCF-MW-11A-N-01142025 — Lab Sample ID: 320-118344-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.4	J	3.3	0.84	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	2.8		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	3.4		1.7	0.42	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.4	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	8.5		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	0.44	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.6		1.7	0.42	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	1.4	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	27		1.7	0.42	ng/L	1		1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.43	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	19		1.7	0.42	ng/L	1		1633	Total/NA

Client Sample ID: GCF-MW-12A-N-01142025 — Lab Sample ID: 320-118344-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	3.6		3.2	0.81	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	7.4		1.6	0.40	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	8.2		1.6	0.40	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.2		1.6	0.40	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	16		1.6	0.40	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	0.74	J	1.6	0.40	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.5		1.6	0.40	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	2.6		1.6	0.40	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	40		1.6	0.40	ng/L	1		1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.74	J	1.6	0.40	ng/L	1		1633	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample ID: GCF-MW-12A-N-01142025 (Continued) — Lab Sample ID: 320-118344-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	28		1.6	0.40	ng/L	1		1633	Total/NA

Client Sample ID: GCF-MW-12A-FD-01142025 — Lab Sample ID: 320-118344-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	3.5		3.2	0.81	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	7.6		1.6	0.40	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	9.3		1.6	0.40	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.5		1.6	0.40	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	14		1.6	0.40	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	0.88	J	1.6	0.40	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.5		1.6	0.40	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	3.0		1.6	0.40	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	44		1.6	0.40	ng/L	1		1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.82	J	1.6	0.40	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	28		1.6	0.40	ng/L	1		1633	Total/NA

Client Sample ID: GCF-MW-12B-N-01142025 — Lab Sample ID: 320-118344-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	4.4		3.3	0.83	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	14		1.7	0.41	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	5.8		1.7	0.41	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.5		1.7	0.41	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	5.3		1.7	0.41	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	1.0	J	1.7	0.41	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.9		1.7	0.41	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.73	J	1.7	0.41	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	7.2		1.7	0.41	ng/L	1		1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.49	J	1.7	0.41	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	57		1.7	0.41	ng/L	1		1633	Total/NA

Client Sample ID: GDF-MW-10A-N-01142025 — Lab Sample ID: 320-118344-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	3.7		3.4	0.84	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	3.7		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	2.5		1.7	0.42	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.5	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	3.3		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	0.47	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.4		1.7	0.42	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.42	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.8		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	8.2		1.7	0.42	ng/L	1		1633	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118344-1

Client Sample ID: GDF-MW-10R-N-01142025 — Lab Sample ID: 320-118344-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	6.8		3.4	0.86	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	11		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	6.4		1.7	0.43	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.2		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	3.9		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.5		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.0	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.5	I	1.7	0.43	ng/L	1		1633	Total/NA

Client Sample ID: EB-01142025 — Lab Sample ID: 320-118344-9

No Detections.

Client Sample ID: FB-01142025 — Lab Sample ID: 320-118344-10

No Detections.

Client Sample ID: GDF-GR-2-N-01152025 — Lab Sample ID: 320-118344-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	18		3.6	0.89	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	7.8		1.8	0.45	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	7.8		1.8	0.45	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.7		1.8	0.45	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	4.1		1.8	0.45	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.5		1.8	0.45	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.4	J	1.8	0.45	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.9		1.8	0.45	ng/L	1		1633	Total/NA

Client Sample ID: GDF-GR-2-FD-01152025 — Lab Sample ID: 320-118344-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	19		3.7	0.92	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	8.9		1.8	0.46	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	8.4		1.8	0.46	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.4		1.8	0.46	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	3.4		1.8	0.46	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	0.46	J	1.8	0.46	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.7		1.8	0.46	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.4	J	1.8	0.46	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.7		1.8	0.46	ng/L	1		1633	Total/NA

Client Sample ID: GDF-GR-3-N-01152025 — Lab Sample ID: 320-118344-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	3.5		3.5	0.87	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.79	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.64	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.43	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.55	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.97	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.4	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.1		1.7	0.43	ng/L	1		1633	Total/NA

This Detection Summary does not include radiochemical test results.

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Detection Summary

Client: GSI Environmental Inc
Job ID: 320-118344-1
Project/Site: Spokane International Airport

Client Sample ID: GDF-GR-4-N-01152025 — Lab Sample ID: 320-118344-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.1	J	3.3	0.84	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.63	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.4	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.84	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.9		1.7	0.42	ng/L	1		1633	Total/NA

Client Sample ID: EB-01152025 — Lab Sample ID: 320-118344-15

No Detections.

Client Sample ID: FB-01152025 — Lab Sample ID: 320-118344-16

No Detections.

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118344-1

Client Sample ID: EA-MW-8B-N-01142025
Date Collected: 01/14/25 11:50
Date Received: 01/17/25 10:45

Lab Sample ID: 320-118344-1
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**10**		3.8	0.95	ng/L		01/24/25 04:09	01/27/25 19:54	1
Perfluoropentanoic acid (PFPeA)	**3.3**		1.9	0.47	ng/L		01/24/25 04:09	01/27/25 19:54	1
Perfluorohexanoic acid (PFHxA)	**23**		1.9	0.47	ng/L		01/24/25 04:09	01/27/25 19:54	1
Perfluoroheptanoic acid (PFHpA)	**2.8**		1.9	0.47	ng/L		01/24/25 04:09	01/27/25 19:54	1
Perfluorooctanoic acid (PFOA)	**14**		1.9	0.47	ng/L		01/24/25 04:09	01/27/25 19:54	1
Perfluorononanoic acid (PFNA)	ND		1.9	0.47	ng/L		01/24/25 04:09	01/27/25 19:54	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.47	ng/L		01/24/25 04:09	01/27/25 19:54	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	0.47	ng/L		01/24/25 04:09	01/27/25 19:54	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		01/24/25 04:09	01/27/25 19:54	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	0.55	ng/L		01/24/25 04:09	01/27/25 19:54	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.9	0.77	ng/L		01/24/25 04:09	01/27/25 19:54	1
Perfluorobutanesulfonic acid (PFBS)	**3.9**		1.9	0.47	ng/L		01/24/25 04:09	01/27/25 19:54	1
Perfluoropentanesulfonic acid (PFPeS)	**2.4**		1.9	0.47	ng/L		01/24/25 04:09	01/27/25 19:54	1
Perfluorohexanesulfonic acid (PFHxS)	**68**		1.9	0.47	ng/L		01/24/25 04:09	01/27/25 19:54	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.77**	**J I**	1.9	0.47	ng/L		01/24/25 04:09	01/27/25 19:54	1
Perfluorooctanesulfonic acid (PFOS)	**8.8**		1.9	0.47	ng/L		01/24/25 04:09	01/27/25 19:54	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.47	ng/L		01/24/25 04:09	01/27/25 19:54	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.47	ng/L		01/24/25 04:09	01/27/25 19:54	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.50	ng/L		01/24/25 04:09	01/27/25 19:54	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.8	0.95	ng/L		01/24/25 04:09	01/27/25 19:54	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.8	0.95	ng/L		01/24/25 04:09	01/27/25 19:54	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.8	0.95	ng/L		01/24/25 04:09	01/27/25 19:54	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.9	0.47	ng/L		01/24/25 04:09	01/27/25 19:54	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.9	0.47	ng/L		01/24/25 04:09	01/27/25 19:54	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.9	0.47	ng/L		01/24/25 04:09	01/27/25 19:54	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.9	0.47	ng/L		01/24/25 04:09	01/27/25 19:54	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.9	0.47	ng/L		01/24/25 04:09	01/27/25 19:54	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		9.5	2.4	ng/L		01/24/25 04:09	01/27/25 19:54	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		9.5	2.4	ng/L		01/24/25 04:09	01/27/25 19:54	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.4	0.37	ng/L		01/24/25 04:09	01/27/25 19:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.47	ng/L		01/24/25 04:09	01/27/25 19:54	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.9	0.47	ng/L		01/24/25 04:09	01/27/25 19:54	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.9	0.47	ng/L		01/24/25 04:09	01/27/25 19:54	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	^+	1.9	0.68	ng/L		01/24/25 04:09	01/27/25 19:54	1

Client Sample ID: EA-MW-8B-N-01142025

Lab Sample ID: 320-118344-1

Date Collected: 01/14/25 11:50

Matrix: Water

Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.9	0.55	ng/L		01/24/25 04:09	01/27/25 19:54	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.9	0.47	ng/L		01/24/25 04:09	01/27/25 19:54	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.9	0.47	ng/L		01/24/25 04:09	01/27/25 19:54	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.8	0.95	ng/L		01/24/25 04:09	01/27/25 19:54	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		9.5	2.4	ng/L		01/24/25 04:09	01/27/25 19:54	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		9.5	2.4	ng/L		01/24/25 04:09	01/27/25 19:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*87.2*		*5 - 130*	*01/24/25 04:09*	*01/27/25 19:54*	*1*
13C5 PFPeA	*104*		*40 - 130*	*01/24/25 04:09*	*01/27/25 19:54*	*1*
13C5 PFHxA	*97.6*		*40 - 130*	*01/24/25 04:09*	*01/27/25 19:54*	*1*
13C4 PFHpA	*103*		*40 - 130*	*01/24/25 04:09*	*01/27/25 19:54*	*1*
13C8 PFOA	*98.2*		*40 - 130*	*01/24/25 04:09*	*01/27/25 19:54*	*1*
13C9 PFNA	*95.3*		*40 - 130*	*01/24/25 04:09*	*01/27/25 19:54*	*1*
13C6 PFDA	*88.5*		*40 - 130*	*01/24/25 04:09*	*01/27/25 19:54*	*1*
13C7 PFUnA	*86.6*		*30 - 130*	*01/24/25 04:09*	*01/27/25 19:54*	*1*
13C2 PFDoA	*90.2*		*10 - 130*	*01/24/25 04:09*	*01/27/25 19:54*	*1*
13C2 PFTeDA	*81.1*		*10 - 130*	*01/24/25 04:09*	*01/27/25 19:54*	*1*
13C3 PFBS	*100*		*40 - 135*	*01/24/25 04:09*	*01/27/25 19:54*	*1*
13C3 PFHxS	*98.8*		*40 - 130*	*01/24/25 04:09*	*01/27/25 19:54*	*1*
13C8 PFOS	*97.1*		*40 - 130*	*01/24/25 04:09*	*01/27/25 19:54*	*1*
13C8 FOSA	*88.1*		*40 - 130*	*01/24/25 04:09*	*01/27/25 19:54*	*1*
d3-NMeFOSAA	*80.5*		*40 - 170*	*01/24/25 04:09*	*01/27/25 19:54*	*1*
d5-NEtFOSAA	*77.3*		*25 - 135*	*01/24/25 04:09*	*01/27/25 19:54*	*1*
13C2 4:2 FTS	*109*		*40 - 200*	*01/24/25 04:09*	*01/27/25 19:54*	*1*
13C2 6:2 FTS	*77.9*		*40 - 200*	*01/24/25 04:09*	*01/27/25 19:54*	*1*
13C2 8:2 FTS	*66.8*		*40 - 300*	*01/24/25 04:09*	*01/27/25 19:54*	*1*
13C3 HFPO-DA	*115*		*40 - 130*	*01/24/25 04:09*	*01/27/25 19:54*	*1*
d7-N-MeFOSE-M	*80.2*		*10 - 130*	*01/24/25 04:09*	*01/27/25 19:54*	*1*
d9-N-EtFOSE-M	*75.4*		*10 - 130*	*01/24/25 04:09*	*01/27/25 19:54*	*1*
d5-NEtPFOSA	*77.2*		*10 - 130*	*01/24/25 04:09*	*01/27/25 19:54*	*1*
d3-NMePFOSA	*79.5*		*10 - 130*	*01/24/25 04:09*	*01/27/25 19:54*	*1*

Client Sample ID: GDF-GR-5-N-01142025

Lab Sample ID: 320-118344-2

Date Collected: 01/14/25 14:05

Matrix: Water

Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.7**	**J**	3.4	0.86	ng/L		01/21/25 03:46	01/22/25 15:17	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 15:17	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 15:17	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 15:17	1
Perfluorooctanoic acid (PFOA)	**0.81**	**J**	1.7	0.43	ng/L		01/21/25 03:46	01/22/25 15:17	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 15:17	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 15:17	1

Client Sample ID: GDF-GR-5-N-01142025
Date Collected: 01/14/25 14:05
Date Received: 01/17/25 10:45

Lab Sample ID: 320-118344-2
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 15:17	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		01/21/25 03:46	01/22/25 15:17	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.50	ng/L		01/21/25 03:46	01/22/25 15:17	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.69	ng/L		01/21/25 03:46	01/22/25 15:17	1
Perfluorobutanesulfonic acid (PFBS)	**0.94**	**J**	1.7	0.43	ng/L		01/21/25 03:46	01/22/25 15:17	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 15:17	1
Perfluorohexanesulfonic acid (PFHxS)	**8.8**		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 15:17	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 15:17	1
Perfluorooctanesulfonic acid (PFOS)	**1.6**	**J**	1.7	0.43	ng/L		01/21/25 03:46	01/22/25 15:17	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 15:17	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 15:17	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.45	ng/L		01/21/25 03:46	01/22/25 15:17	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.4	0.86	ng/L		01/21/25 03:46	01/22/25 15:17	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.4	0.86	ng/L		01/21/25 03:46	01/22/25 15:17	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.4	0.86	ng/L		01/21/25 03:46	01/22/25 15:17	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 15:17	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 15:17	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 15:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 15:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 15:17	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.6	2.1	ng/L		01/21/25 03:46	01/22/25 15:17	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.6	2.1	ng/L		01/21/25 03:46	01/22/25 15:17	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/21/25 03:46	01/22/25 15:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 15:17	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 15:17	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 15:17	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	1.7	0.62	ng/L		01/21/25 03:46	01/22/25 15:17	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.50	ng/L		01/21/25 03:46	01/22/25 15:17	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	1.7	0.43	ng/L		01/21/25 03:46	01/22/25 15:17	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 15:17	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.4	0.86	ng/L		01/21/25 03:46	01/22/25 15:17	1

Client Sample ID: GDF-GR-5-N-01142025

Lab Sample ID: 320-118344-2

Date Collected: 01/14/25 14:05
Matrix: Water
Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.6	2.1	ng/L		01/21/25 03:46	01/22/25 15:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*100*		*5 - 130*	*01/21/25 03:46*	*01/22/25 15:17*	*1*
13C5 PFPeA	*103*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:17*	*1*
13C5 PFHxA	*102*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:17*	*1*
13C4 PFHpA	*91.5*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:17*	*1*
13C8 PFOA	*98.0*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:17*	*1*
13C9 PFNA	*95.8*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:17*	*1*
13C6 PFDA	*78.7*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:17*	*1*
13C7 PFUnA	*75.7*		*30 - 130*	*01/21/25 03:46*	*01/22/25 15:17*	*1*
13C2 PFDoA	*79.2*		*10 - 130*	*01/21/25 03:46*	*01/22/25 15:17*	*1*
13C2 PFTeDA	*84.9*		*10 - 130*	*01/21/25 03:46*	*01/22/25 15:17*	*1*
13C3 PFBS	*87.2*		*40 - 135*	*01/21/25 03:46*	*01/22/25 15:17*	*1*
13C3 PFHxS	*100*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:17*	*1*
13C8 PFOS	*81.1*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:17*	*1*
13C8 FOSA	*82.8*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:17*	*1*
d3-NMeFOSAA	*78.9*		*40 - 170*	*01/21/25 03:46*	*01/22/25 15:17*	*1*
d5-NEtFOSAA	*73.0*		*25 - 135*	*01/21/25 03:46*	*01/22/25 15:17*	*1*
13C2 4:2 FTS	*104*		*40 - 200*	*01/21/25 03:46*	*01/22/25 15:17*	*1*
13C2 6:2 FTS	*107*		*40 - 200*	*01/21/25 03:46*	*01/22/25 15:17*	*1*
13C2 8:2 FTS	*94.1*		*40 - 300*	*01/21/25 03:46*	*01/22/25 15:17*	*1*
13C3 HFPO-DA	*83.6*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:17*	*1*
d7-N-MeFOSE-M	*80.0*		*10 - 130*	*01/21/25 03:46*	*01/22/25 15:17*	*1*
d9-N-EtFOSE-M	*80.1*		*10 - 130*	*01/21/25 03:46*	*01/22/25 15:17*	*1*
d5-NEtPFOSA	*72.1*		*10 - 130*	*01/21/25 03:46*	*01/22/25 15:17*	*1*
d3-NMePFOSA	*69.3*		*10 - 130*	*01/21/25 03:46*	*01/22/25 15:17*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.6	2.1	ng/L		01/21/25 03:46	01/23/25 16:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFHxA	*109*		*40 - 130*	*01/21/25 03:46*	*01/23/25 16:12*	*1*

Client Sample ID: GCF-MW-11A-N-01142025

Lab Sample ID: 320-118344-3

Date Collected: 01/14/25 10:35
Matrix: Water
Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.4**	**J**	3.3	0.84	ng/L		01/21/25 03:46	01/22/25 15:34	1
Perfluoropentanoic acid (PFPeA)	**2.8**		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 15:34	1
Perfluorohexanoic acid (PFHxA)	**3.4**		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 15:34	1
Perfluoroheptanoic acid (PFHpA)	**1.4**	**J**	1.7	0.42	ng/L		01/21/25 03:46	01/22/25 15:34	1
Perfluorooctanoic acid (PFOA)	**8.5**		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 15:34	1
Perfluorononanoic acid (PFNA)	**0.44**	**J**	1.7	0.42	ng/L		01/21/25 03:46	01/22/25 15:34	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 15:34	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 15:34	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		01/21/25 03:46	01/22/25 15:34	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118344-1

Client Sample ID: GCF-MW-11A-N-01142025
Date Collected: 01/14/25 10:35
Date Received: 01/17/25 10:45

Lab Sample ID: 320-118344-3
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.48	ng/L		01/21/25 03:46	01/22/25 15:34	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.68	ng/L		01/21/25 03:46	01/22/25 15:34	1
Perfluorobutanesulfonic acid (PFBS)	**2.6**		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 15:34	1
Perfluoropentanesulfonic acid (PFPeS)	**1.4**	**J**	1.7	0.42	ng/L		01/21/25 03:46	01/22/25 15:34	1
Perfluorohexanesulfonic acid (PFHxS)	**27**		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 15:34	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.43**	**J**	1.7	0.42	ng/L		01/21/25 03:46	01/22/25 15:34	1
Perfluorooctanesulfonic acid (PFOS)	**19**		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 15:34	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 15:34	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 15:34	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.44	ng/L		01/21/25 03:46	01/22/25 15:34	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.3	0.84	ng/L		01/21/25 03:46	01/22/25 15:34	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.3	0.84	ng/L		01/21/25 03:46	01/22/25 15:34	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.3	0.84	ng/L		01/21/25 03:46	01/22/25 15:34	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 15:34	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 15:34	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 15:34	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 15:34	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 15:34	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.4	2.1	ng/L		01/21/25 03:46	01/22/25 15:34	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.4	2.1	ng/L		01/21/25 03:46	01/22/25 15:34	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/21/25 03:46	01/22/25 15:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 15:34	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 15:34	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 15:34	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	1.7	0.60	ng/L		01/21/25 03:46	01/22/25 15:34	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.48	ng/L		01/21/25 03:46	01/22/25 15:34	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	1.7	0.42	ng/L		01/21/25 03:46	01/22/25 15:34	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 15:34	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.3	0.84	ng/L		01/21/25 03:46	01/22/25 15:34	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.4	2.1	ng/L		01/21/25 03:46	01/22/25 15:34	1

Client Sample ID: GCF-MW-11A-N-01142025

Lab Sample ID: 320-118344-3

Date Collected: 01/14/25 10:35
Matrix: Water
Date Received: 01/17/25 10:45

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*5 - 130*	*01/21/25 03:46*	*01/22/25 15:34*	*1*
13C5 PFPeA	*95.6*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:34*	*1*
13C5 PFHxA	*106*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:34*	*1*
13C4 PFHpA	*101*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:34*	*1*
13C8 PFOA	*107*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:34*	*1*
13C9 PFNA	*86.8*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:34*	*1*
13C6 PFDA	*83.4*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:34*	*1*
13C7 PFUnA	*91.3*		*30 - 130*	*01/21/25 03:46*	*01/22/25 15:34*	*1*
13C2 PFDoA	*100*		*10 - 130*	*01/21/25 03:46*	*01/22/25 15:34*	*1*
13C2 PFTeDA	*90.5*		*10 - 130*	*01/21/25 03:46*	*01/22/25 15:34*	*1*
13C3 PFBS	*98.5*		*40 - 135*	*01/21/25 03:46*	*01/22/25 15:34*	*1*
13C3 PFHxS	*105*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:34*	*1*
13C8 PFOS	*88.8*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:34*	*1*
13C8 FOSA	*84.7*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:34*	*1*
d3-NMeFOSAA	*75.5*		*40 - 170*	*01/21/25 03:46*	*01/22/25 15:34*	*1*
d5-NEtFOSAA	*85.9*		*25 - 135*	*01/21/25 03:46*	*01/22/25 15:34*	*1*
13C2 4:2 FTS	*129*		*40 - 200*	*01/21/25 03:46*	*01/22/25 15:34*	*1*
13C2 6:2 FTS	*107*		*40 - 200*	*01/21/25 03:46*	*01/22/25 15:34*	*1*
13C2 8:2 FTS	*89.6*		*40 - 300*	*01/21/25 03:46*	*01/22/25 15:34*	*1*
13C3 HFPO-DA	*86.8*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:34*	*1*
d7-N-MeFOSE-M	*83.0*		*10 - 130*	*01/21/25 03:46*	*01/22/25 15:34*	*1*
d9-N-EtFOSE-M	*80.9*		*10 - 130*	*01/21/25 03:46*	*01/22/25 15:34*	*1*
d5-NEtPFOSA	*74.4*		*10 - 130*	*01/21/25 03:46*	*01/22/25 15:34*	*1*
d3-NMePFOSA	*78.5*		*10 - 130*	*01/21/25 03:46*	*01/22/25 15:34*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.4	2.1	ng/L		01/21/25 03:46	01/23/25 16:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFHxA	*102*		*40 - 130*	*01/21/25 03:46*	*01/23/25 16:28*	*1*

Client Sample ID: GCF-MW-12A-N-01142025

Lab Sample ID: 320-118344-4

Date Collected: 01/14/25 11:55
Matrix: Water
Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.6**		3.2	0.81	ng/L		01/21/25 03:46	01/22/25 15:50	1
Perfluoropentanoic acid (PFPeA)	**7.4**		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 15:50	1
Perfluorohexanoic acid (PFHxA)	**8.2**		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 15:50	1
Perfluoroheptanoic acid (PFHpA)	**3.2**		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 15:50	1
Perfluorooctanoic acid (PFOA)	**16**		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 15:50	1
Perfluorononanoic acid (PFNA)	**0.74**	**J**	1.6	0.40	ng/L		01/21/25 03:46	01/22/25 15:50	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 15:50	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 15:50	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.44	ng/L		01/21/25 03:46	01/22/25 15:50	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.6	0.47	ng/L		01/21/25 03:46	01/22/25 15:50	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.6	0.65	ng/L		01/21/25 03:46	01/22/25 15:50	1
Perfluorobutanesulfonic acid (PFBS)	**4.5**		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 15:50	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118344-1

Client Sample ID: GCF-MW-12A-N-01142025
Date Collected: 01/14/25 11:55
Date Received: 01/17/25 10:45

Lab Sample ID: 320-118344-4
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	**2.6**		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 15:50	1
Perfluorohexanesulfonic acid (PFHxS)	**40**		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 15:50	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.74**	**J**	1.6	0.40	ng/L		01/21/25 03:46	01/22/25 15:50	1
Perfluorooctanesulfonic acid (PFOS)	**28**		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 15:50	1
Perfluorononanesulfonic acid (PFNS)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 15:50	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 15:50	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.6	0.43	ng/L		01/21/25 03:46	01/22/25 15:50	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.2	0.81	ng/L		01/21/25 03:46	01/22/25 15:50	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.2	0.81	ng/L		01/21/25 03:46	01/22/25 15:50	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.2	0.81	ng/L		01/21/25 03:46	01/22/25 15:50	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 15:50	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 15:50	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 15:50	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 15:50	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 15:50	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.1	2.0	ng/L		01/21/25 03:46	01/22/25 15:50	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.1	2.0	ng/L		01/21/25 03:46	01/22/25 15:50	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.2	0.31	ng/L		01/21/25 03:46	01/22/25 15:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 15:50	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 15:50	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 15:50	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	1.6	0.58	ng/L		01/21/25 03:46	01/22/25 15:50	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.6	0.47	ng/L		01/21/25 03:46	01/22/25 15:50	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	1.6	0.40	ng/L		01/21/25 03:46	01/22/25 15:50	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 15:50	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.2	0.81	ng/L		01/21/25 03:46	01/22/25 15:50	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.1	2.0	ng/L		01/21/25 03:46	01/22/25 15:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*98.0*		*5 - 130*	*01/21/25 03:46*	*01/22/25 15:50*	*1*
13C5 PFPeA	*121*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:50*	*1*
13C5 PFHxA	*104*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:50*	*1*

Client Sample ID: GCF-MW-12A-N-01142025

Lab Sample ID: 320-118344-4

Date Collected: 01/14/25 11:55
Matrix: Water
Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFHpA	*123*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:50*	*1*
13C8 PFOA	*84.2*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:50*	*1*
13C9 PFNA	*73.0*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:50*	*1*
13C6 PFDA	*74.9*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:50*	*1*
13C7 PFUnA	*81.5*		*30 - 130*	*01/21/25 03:46*	*01/22/25 15:50*	*1*
13C2 PFDoA	*87.4*		*10 - 130*	*01/21/25 03:46*	*01/22/25 15:50*	*1*
13C2 PFTeDA	*77.4*		*10 - 130*	*01/21/25 03:46*	*01/22/25 15:50*	*1*
13C3 PFBS	*80.1*		*40 - 135*	*01/21/25 03:46*	*01/22/25 15:50*	*1*
13C3 PFHxS	*98.4*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:50*	*1*
13C8 PFOS	*81.4*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:50*	*1*
13C8 FOSA	*82.0*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:50*	*1*
d3-NMeFOSAA	*80.3*		*40 - 170*	*01/21/25 03:46*	*01/22/25 15:50*	*1*
d5-NEtFOSAA	*73.1*		*25 - 135*	*01/21/25 03:46*	*01/22/25 15:50*	*1*
13C2 4:2 FTS	*99.5*		*40 - 200*	*01/21/25 03:46*	*01/22/25 15:50*	*1*
13C2 6:2 FTS	*86.7*		*40 - 200*	*01/21/25 03:46*	*01/22/25 15:50*	*1*
13C2 8:2 FTS	*93.0*		*40 - 300*	*01/21/25 03:46*	*01/22/25 15:50*	*1*
13C3 HFPO-DA	*111*		*40 - 130*	*01/21/25 03:46*	*01/22/25 15:50*	*1*
d7-N-MeFOSE-M	*76.7*		*10 - 130*	*01/21/25 03:46*	*01/22/25 15:50*	*1*
d9-N-EtFOSE-M	*77.2*		*10 - 130*	*01/21/25 03:46*	*01/22/25 15:50*	*1*
d5-NEtPFOSA	*64.2*		*10 - 130*	*01/21/25 03:46*	*01/22/25 15:50*	*1*
d3-NMePFOSA	*69.9*		*10 - 130*	*01/21/25 03:46*	*01/22/25 15:50*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.1	2.0	ng/L		01/21/25 03:46	01/23/25 16:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFHxA	*93.7*		*40 - 130*	*01/21/25 03:46*	*01/23/25 16:45*	*1*

Client Sample ID: GCF-MW-12A-FD-01142025

Lab Sample ID: 320-118344-5

Date Collected: 01/14/25 12:25
Matrix: Water
Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.5**		3.2	0.81	ng/L		01/21/25 03:46	01/22/25 16:07	1
Perfluoropentanoic acid (PFPeA)	**7.6**		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 16:07	1
Perfluorohexanoic acid (PFHxA)	**9.3**		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 16:07	1
Perfluoroheptanoic acid (PFHpA)	**3.5**		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 16:07	1
Perfluorooctanoic acid (PFOA)	**14**		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 16:07	1
Perfluorononanoic acid (PFNA)	**0.88**	**J**	1.6	0.40	ng/L		01/21/25 03:46	01/22/25 16:07	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 16:07	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 16:07	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.44	ng/L		01/21/25 03:46	01/22/25 16:07	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.6	0.47	ng/L		01/21/25 03:46	01/22/25 16:07	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.6	0.65	ng/L		01/21/25 03:46	01/22/25 16:07	1
Perfluorobutanesulfonic acid (PFBS)	**4.5**		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 16:07	1
Perfluoropentanesulfonic acid (PFPeS)	**3.0**		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 16:07	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118344-1

Client Sample ID: GCF-MW-12A-FD-01142025
Date Collected: 01/14/25 12:25
Date Received: 01/17/25 10:45

Lab Sample ID: 320-118344-5
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**44**		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 16:07	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.82**	**J**	1.6	0.40	ng/L		01/21/25 03:46	01/22/25 16:07	1
Perfluorooctanesulfonic acid (PFOS)	**28**		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 16:07	1
Perfluorononanesulfonic acid (PFNS)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 16:07	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 16:07	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.6	0.43	ng/L		01/21/25 03:46	01/22/25 16:07	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.2	0.81	ng/L		01/21/25 03:46	01/22/25 16:07	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.2	0.81	ng/L		01/21/25 03:46	01/22/25 16:07	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.2	0.81	ng/L		01/21/25 03:46	01/22/25 16:07	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 16:07	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 16:07	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 16:07	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 16:07	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 16:07	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.1	2.0	ng/L		01/21/25 03:46	01/22/25 16:07	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.1	2.0	ng/L		01/21/25 03:46	01/22/25 16:07	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.2	0.31	ng/L		01/21/25 03:46	01/22/25 16:07	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 16:07	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 16:07	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 16:07	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	1.6	0.58	ng/L		01/21/25 03:46	01/22/25 16:07	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.6	0.47	ng/L		01/21/25 03:46	01/22/25 16:07	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	1.6	0.40	ng/L		01/21/25 03:46	01/22/25 16:07	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 16:07	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.2	0.81	ng/L		01/21/25 03:46	01/22/25 16:07	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.1	2.0	ng/L		01/21/25 03:46	01/22/25 16:07	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*5 - 130*	*01/21/25 03:46*	*01/22/25 16:07*	*1*
13C5 PFPeA	*104*		*40 - 130*	*01/21/25 03:46*	*01/22/25 16:07*	*1*
13C5 PFHxA	*98.9*		*40 - 130*	*01/21/25 03:46*	*01/22/25 16:07*	*1*
13C4 PFHpA	*108*		*40 - 130*	*01/21/25 03:46*	*01/22/25 16:07*	*1*
13C8 PFOA	*98.3*		*40 - 130*	*01/21/25 03:46*	*01/22/25 16:07*	*1*

Client Sample ID: GCF-MW-12A-FD-01142025

Lab Sample ID: 320-118344-5

Date Collected: 01/14/25 12:25
Matrix: Water
Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C9 PFNA	*81.5*		*40 - 130*	*01/21/25 03:46*	*01/22/25 16:07*	*1*
13C6 PFDA	*75.3*		*40 - 130*	*01/21/25 03:46*	*01/22/25 16:07*	*1*
13C7 PFUnA	*90.2*		*30 - 130*	*01/21/25 03:46*	*01/22/25 16:07*	*1*
13C2 PFDoA	*97.0*		*10 - 130*	*01/21/25 03:46*	*01/22/25 16:07*	*1*
13C2 PFTeDA	*84.5*		*10 - 130*	*01/21/25 03:46*	*01/22/25 16:07*	*1*
13C3 PFBS	*94.0*		*40 - 135*	*01/21/25 03:46*	*01/22/25 16:07*	*1*
13C3 PFHxS	*91.3*		*40 - 130*	*01/21/25 03:46*	*01/22/25 16:07*	*1*
13C8 PFOS	*86.3*		*40 - 130*	*01/21/25 03:46*	*01/22/25 16:07*	*1*
13C8 FOSA	*83.2*		*40 - 130*	*01/21/25 03:46*	*01/22/25 16:07*	*1*
d3-NMeFOSAA	*74.0*		*40 - 170*	*01/21/25 03:46*	*01/22/25 16:07*	*1*
d5-NEtFOSAA	*68.9*		*25 - 135*	*01/21/25 03:46*	*01/22/25 16:07*	*1*
13C2 4:2 FTS	*90.4*		*40 - 200*	*01/21/25 03:46*	*01/22/25 16:07*	*1*
13C2 6:2 FTS	*120*		*40 - 200*	*01/21/25 03:46*	*01/22/25 16:07*	*1*
13C2 8:2 FTS	*82.3*		*40 - 300*	*01/21/25 03:46*	*01/22/25 16:07*	*1*
13C3 HFPO-DA	*107*		*40 - 130*	*01/21/25 03:46*	*01/22/25 16:07*	*1*
d7-N-MeFOSE-M	*74.6*		*10 - 130*	*01/21/25 03:46*	*01/22/25 16:07*	*1*
d9-N-EtFOSE-M	*75.2*		*10 - 130*	*01/21/25 03:46*	*01/22/25 16:07*	*1*
d5-NEtPFOSA	*74.1*		*10 - 130*	*01/21/25 03:46*	*01/22/25 16:07*	*1*
d3-NMePFOSA	*74.4*		*10 - 130*	*01/21/25 03:46*	*01/22/25 16:07*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.1	2.0	ng/L		01/21/25 03:46	01/23/25 17:01	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFHxA	*94.1*		*40 - 130*	*01/21/25 03:46*	*01/23/25 17:01*	*1*

Client Sample ID: GCF-MW-12B-N-01142025

Lab Sample ID: 320-118344-6

Date Collected: 01/14/25 13:15
Matrix: Water
Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**4.4**		3.3	0.83	ng/L		01/21/25 03:46	01/22/25 16:23	1
Perfluoropentanoic acid (PFPeA)	**14**		1.7	0.41	ng/L		01/21/25 03:46	01/22/25 16:23	1
Perfluorohexanoic acid (PFHxA)	**5.8**		1.7	0.41	ng/L		01/21/25 03:46	01/22/25 16:23	1
Perfluoroheptanoic acid (PFHpA)	**3.5**		1.7	0.41	ng/L		01/21/25 03:46	01/22/25 16:23	1
Perfluorooctanoic acid (PFOA)	**5.3**		1.7	0.41	ng/L		01/21/25 03:46	01/22/25 16:23	1
Perfluorononanoic acid (PFNA)	**1.0**	**J**	1.7	0.41	ng/L		01/21/25 03:46	01/22/25 16:23	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.41	ng/L		01/21/25 03:46	01/22/25 16:23	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.41	ng/L		01/21/25 03:46	01/22/25 16:23	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		01/21/25 03:46	01/22/25 16:23	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.48	ng/L		01/21/25 03:46	01/22/25 16:23	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.67	ng/L		01/21/25 03:46	01/22/25 16:23	1
Perfluorobutanesulfonic acid (PFBS)	**1.9**		1.7	0.41	ng/L		01/21/25 03:46	01/22/25 16:23	1
Perfluoropentanesulfonic acid (PFPeS)	**0.73**	**J**	1.7	0.41	ng/L		01/21/25 03:46	01/22/25 16:23	1
Perfluorohexanesulfonic acid (PFHxS)	**7.2**		1.7	0.41	ng/L		01/21/25 03:46	01/22/25 16:23	1

Client Sample ID: GCF-MW-12B-N-01142025
Date Collected: 01/14/25 13:15
Date Received: 01/17/25 10:45

Lab Sample ID: 320-118344-6
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic acid (PFHpS)	**0.49**	**J**	1.7	0.41	ng/L		01/21/25 03:46	01/22/25 16:23	1
Perfluorooctanesulfonic acid (PFOS)	**57**		1.7	0.41	ng/L		01/21/25 03:46	01/22/25 16:23	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.41	ng/L		01/21/25 03:46	01/22/25 16:23	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.41	ng/L		01/21/25 03:46	01/22/25 16:23	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.44	ng/L		01/21/25 03:46	01/22/25 16:23	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.3	0.83	ng/L		01/21/25 03:46	01/22/25 16:23	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.3	0.83	ng/L		01/21/25 03:46	01/22/25 16:23	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.3	0.83	ng/L		01/21/25 03:46	01/22/25 16:23	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.41	ng/L		01/21/25 03:46	01/22/25 16:23	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.41	ng/L		01/21/25 03:46	01/22/25 16:23	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.41	ng/L		01/21/25 03:46	01/22/25 16:23	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.41	ng/L		01/21/25 03:46	01/22/25 16:23	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.41	ng/L		01/21/25 03:46	01/22/25 16:23	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.3	2.1	ng/L		01/21/25 03:46	01/22/25 16:23	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.3	2.1	ng/L		01/21/25 03:46	01/22/25 16:23	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.2	0.32	ng/L		01/21/25 03:46	01/22/25 16:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.41	ng/L		01/21/25 03:46	01/22/25 16:23	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.41	ng/L		01/21/25 03:46	01/22/25 16:23	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.41	ng/L		01/21/25 03:46	01/22/25 16:23	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	1.7	0.60	ng/L		01/21/25 03:46	01/22/25 16:23	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.48	ng/L		01/21/25 03:46	01/22/25 16:23	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	1.7	0.41	ng/L		01/21/25 03:46	01/22/25 16:23	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.41	ng/L		01/21/25 03:46	01/22/25 16:23	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.3	0.83	ng/L		01/21/25 03:46	01/22/25 16:23	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.3	2.1	ng/L		01/21/25 03:46	01/22/25 16:23	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*104*		*5 - 130*	*01/21/25 03:46*	*01/22/25 16:23*	*1*
13C5 PFPeA	*92.3*		*40 - 130*	*01/21/25 03:46*	*01/22/25 16:23*	*1*
13C5 PFHxA	*103*		*40 - 130*	*01/21/25 03:46*	*01/22/25 16:23*	*1*
13C4 PFHpA	*113*		*40 - 130*	*01/21/25 03:46*	*01/22/25 16:23*	*1*
13C8 PFOA	*92.5*		*40 - 130*	*01/21/25 03:46*	*01/22/25 16:23*	*1*
13C9 PFNA	*86.4*		*40 - 130*	*01/21/25 03:46*	*01/22/25 16:23*	*1*
13C6 PFDA	*82.3*		*40 - 130*	*01/21/25 03:46*	*01/22/25 16:23*	*1*

Client Sample ID: GCF-MW-12B-N-01142025

Lab Sample ID: 320-118344-6

Date Collected: 01/14/25 13:15
Matrix: Water
Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C7 PFUnA	*89.7*		*30 - 130*	*01/21/25 03:46*	*01/22/25 16:23*	*1*
13C2 PFDoA	*96.9*		*10 - 130*	*01/21/25 03:46*	*01/22/25 16:23*	*1*
13C2 PFTeDA	*87.4*		*10 - 130*	*01/21/25 03:46*	*01/22/25 16:23*	*1*
13C3 PFBS	*95.5*		*40 - 135*	*01/21/25 03:46*	*01/22/25 16:23*	*1*
13C3 PFHxS	*95.7*		*40 - 130*	*01/21/25 03:46*	*01/22/25 16:23*	*1*
13C8 PFOS	*94.8*		*40 - 130*	*01/21/25 03:46*	*01/22/25 16:23*	*1*
13C8 FOSA	*91.5*		*40 - 130*	*01/21/25 03:46*	*01/22/25 16:23*	*1*
d3-NMeFOSAA	*83.2*		*40 - 170*	*01/21/25 03:46*	*01/22/25 16:23*	*1*
d5-NEtFOSAA	*78.9*		*25 - 135*	*01/21/25 03:46*	*01/22/25 16:23*	*1*
13C2 4:2 FTS	*90.8*		*40 - 200*	*01/21/25 03:46*	*01/22/25 16:23*	*1*
13C2 6:2 FTS	*108*		*40 - 200*	*01/21/25 03:46*	*01/22/25 16:23*	*1*
13C2 8:2 FTS	*90.4*		*40 - 300*	*01/21/25 03:46*	*01/22/25 16:23*	*1*
13C3 HFPO-DA	*93.9*		*40 - 130*	*01/21/25 03:46*	*01/22/25 16:23*	*1*
d7-N-MeFOSE-M	*79.3*		*10 - 130*	*01/21/25 03:46*	*01/22/25 16:23*	*1*
d9-N-EtFOSE-M	*77.4*		*10 - 130*	*01/21/25 03:46*	*01/22/25 16:23*	*1*
d5-NEtPFOSA	*74.2*		*10 - 130*	*01/21/25 03:46*	*01/22/25 16:23*	*1*
d3-NMePFOSA	*75.0*		*10 - 130*	*01/21/25 03:46*	*01/22/25 16:23*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.3	2.1	ng/L		01/21/25 03:46	01/23/25 17:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFHxA	*99.2*		*40 - 130*	*01/21/25 03:46*	*01/23/25 17:18*	*1*

Client Sample ID: GDF-MW-10A-N-01142025

Lab Sample ID: 320-118344-7

Date Collected: 01/14/25 14:30
Matrix: Water
Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.7**		3.4	0.84	ng/L		01/21/25 03:46	01/22/25 17:12	1
Perfluoropentanoic acid (PFPeA)	**3.7**		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:12	1
Perfluorohexanoic acid (PFHxA)	**2.5**		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:12	1
Perfluoroheptanoic acid (PFHpA)	**1.5**	**J**	1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:12	1
Perfluorooctanoic acid (PFOA)	**3.3**		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:12	1
Perfluorononanoic acid (PFNA)	**0.47**	**J**	1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:12	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:12	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:12	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		01/21/25 03:46	01/22/25 17:12	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.49	ng/L		01/21/25 03:46	01/22/25 17:12	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.68	ng/L		01/21/25 03:46	01/22/25 17:12	1
Perfluorobutanesulfonic acid (PFBS)	**2.4**		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:12	1
Perfluoropentanesulfonic acid (PFPeS)	**0.42**	**J**	1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:12	1
Perfluorohexanesulfonic acid (PFHxS)	**2.8**		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:12	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:12	1

Client Sample ID: GDF-MW-10A-N-01142025
Date Collected: 01/14/25 14:30
Date Received: 01/17/25 10:45

Lab Sample ID: 320-118344-7
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**8.2**		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:12	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:12	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:12	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.45	ng/L		01/21/25 03:46	01/22/25 17:12	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.4	0.84	ng/L		01/21/25 03:46	01/22/25 17:12	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.4	0.84	ng/L		01/21/25 03:46	01/22/25 17:12	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.4	0.84	ng/L		01/21/25 03:46	01/22/25 17:12	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:12	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:12	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:12	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:12	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:12	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.4	2.1	ng/L		01/21/25 03:46	01/22/25 17:12	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.4	2.1	ng/L		01/21/25 03:46	01/22/25 17:12	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/21/25 03:46	01/22/25 17:12	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:12	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:12	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:12	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	1.7	0.61	ng/L		01/21/25 03:46	01/22/25 17:12	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.49	ng/L		01/21/25 03:46	01/22/25 17:12	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:12	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:12	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.4	0.84	ng/L		01/21/25 03:46	01/22/25 17:12	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.4	2.1	ng/L		01/21/25 03:46	01/22/25 17:12	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.4	2.1	ng/L		01/21/25 03:46	01/22/25 17:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*105*		*5 - 130*	*01/21/25 03:46*	*01/22/25 17:12*	*1*
13C5 PFPeA	*91.9*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:12*	*1*
13C5 PFHxA	*100*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:12*	*1*
13C4 PFHpA	*87.5*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:12*	*1*
13C8 PFOA	*91.8*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:12*	*1*
13C9 PFNA	*90.7*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:12*	*1*
13C6 PFDA	*92.7*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:12*	*1*

Client Sample ID: GDF-MW-10A-N-01142025

Lab Sample ID: 320-118344-7

Date Collected: 01/14/25 14:30
Matrix: Water
Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C7 PFUnA	*92.6*		*30 - 130*	*01/21/25 03:46*	*01/22/25 17:12*	*1*
13C2 PFDoA	*85.3*		*10 - 130*	*01/21/25 03:46*	*01/22/25 17:12*	*1*
13C2 PFTeDA	*77.9*		*10 - 130*	*01/21/25 03:46*	*01/22/25 17:12*	*1*
13C3 PFBS	*98.6*		*40 - 135*	*01/21/25 03:46*	*01/22/25 17:12*	*1*
13C3 PFHxS	*99.7*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:12*	*1*
13C8 PFOS	*90.1*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:12*	*1*
13C8 FOSA	*90.5*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:12*	*1*
d3-NMeFOSAA	*89.9*		*40 - 170*	*01/21/25 03:46*	*01/22/25 17:12*	*1*
d5-NEtFOSAA	*74.2*		*25 - 135*	*01/21/25 03:46*	*01/22/25 17:12*	*1*
13C2 4:2 FTS	*101*		*40 - 200*	*01/21/25 03:46*	*01/22/25 17:12*	*1*
13C2 6:2 FTS	*105*		*40 - 200*	*01/21/25 03:46*	*01/22/25 17:12*	*1*
13C2 8:2 FTS	*104*		*40 - 300*	*01/21/25 03:46*	*01/22/25 17:12*	*1*
13C3 HFPO-DA	*83.9*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:12*	*1*
d7-N-MeFOSE-M	*84.3*		*10 - 130*	*01/21/25 03:46*	*01/22/25 17:12*	*1*
d9-N-EtFOSE-M	*83.4*		*10 - 130*	*01/21/25 03:46*	*01/22/25 17:12*	*1*
d5-NEtPFOSA	*80.6*		*10 - 130*	*01/21/25 03:46*	*01/22/25 17:12*	*1*
d3-NMePFOSA	*78.3*		*10 - 130*	*01/21/25 03:46*	*01/22/25 17:12*	*1*

Client Sample ID: GDF-MW-10R-N-01142025

Lab Sample ID: 320-118344-8

Date Collected: 01/14/25 15:15
Matrix: Water
Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.8**		3.4	0.86	ng/L		01/21/25 03:46	01/22/25 17:29	1
Perfluoropentanoic acid (PFPeA)	**11**		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 17:29	1
Perfluorohexanoic acid (PFHxA)	**6.4**		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 17:29	1
Perfluoroheptanoic acid (PFHpA)	**3.2**		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 17:29	1
Perfluorooctanoic acid (PFOA)	**3.9**		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 17:29	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 17:29	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 17:29	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 17:29	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		01/21/25 03:46	01/22/25 17:29	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.50	ng/L		01/21/25 03:46	01/22/25 17:29	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.69	ng/L		01/21/25 03:46	01/22/25 17:29	1
Perfluorobutanesulfonic acid (PFBS)	**2.5**		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 17:29	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 17:29	1
Perfluorohexanesulfonic acid (PFHxS)	**1.0**	**J**	1.7	0.43	ng/L		01/21/25 03:46	01/22/25 17:29	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 17:29	1
Perfluorooctanesulfonic acid (PFOS)	**2.5**	**I**	1.7	0.43	ng/L		01/21/25 03:46	01/22/25 17:29	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 17:29	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 17:29	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.45	ng/L		01/21/25 03:46	01/22/25 17:29	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.4	0.86	ng/L		01/21/25 03:46	01/22/25 17:29	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118344-1

Client Sample ID: GDF-MW-10R-N-01142025
Date Collected: 01/14/25 15:15
Date Received: 01/17/25 10:45

Lab Sample ID: 320-118344-8
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.4	0.86	ng/L		01/21/25 03:46	01/22/25 17:29	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.4	0.86	ng/L		01/21/25 03:46	01/22/25 17:29	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 17:29	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 17:29	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 17:29	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 17:29	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 17:29	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.6	2.1	ng/L		01/21/25 03:46	01/22/25 17:29	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.6	2.1	ng/L		01/21/25 03:46	01/22/25 17:29	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/21/25 03:46	01/22/25 17:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 17:29	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 17:29	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 17:29	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	1.7	0.62	ng/L		01/21/25 03:46	01/22/25 17:29	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.50	ng/L		01/21/25 03:46	01/22/25 17:29	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	1.7	0.43	ng/L		01/21/25 03:46	01/22/25 17:29	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 17:29	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.4	0.86	ng/L		01/21/25 03:46	01/22/25 17:29	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.6	2.1	ng/L		01/21/25 03:46	01/22/25 17:29	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.6	2.1	ng/L		01/21/25 03:46	01/22/25 17:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99.1*		*5 - 130*	*01/21/25 03:46*	*01/22/25 17:29*	*1*
13C5 PFPeA	*109*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:29*	*1*
13C5 PFHxA	*105*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:29*	*1*
13C4 PFHpA	*112*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:29*	*1*
13C8 PFOA	*77.7*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:29*	*1*
13C9 PFNA	*96.1*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:29*	*1*
13C6 PFDA	*85.5*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:29*	*1*
13C7 PFUnA	*73.9*		*30 - 130*	*01/21/25 03:46*	*01/22/25 17:29*	*1*
13C2 PFDoA	*80.2*		*10 - 130*	*01/21/25 03:46*	*01/22/25 17:29*	*1*
13C2 PFTeDA	*56.1*		*10 - 130*	*01/21/25 03:46*	*01/22/25 17:29*	*1*
13C3 PFBS	*91.5*		*40 - 135*	*01/21/25 03:46*	*01/22/25 17:29*	*1*
13C3 PFHxS	*101*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:29*	*1*
13C8 PFOS	*71.8*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:29*	*1*
13C8 FOSA	*71.3*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:29*	*1*

Client Sample ID: GDF-MW-10R-N-01142025

Lab Sample ID: 320-118344-8

Date Collected: 01/14/25 15:15
Matrix: Water
Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMeFOSAA	68.6		40 - 170	01/21/25 03:46	01/22/25 17:29	1
d5-NEtFOSAA	67.4		25 - 135	01/21/25 03:46	01/22/25 17:29	1
13C2 4:2 FTS	101		40 - 200	01/21/25 03:46	01/22/25 17:29	1
13C2 6:2 FTS	102		40 - 200	01/21/25 03:46	01/22/25 17:29	1
13C2 8:2 FTS	94.5		40 - 300	01/21/25 03:46	01/22/25 17:29	1
13C3 HFPO-DA	112		40 - 130	01/21/25 03:46	01/22/25 17:29	1
d7-N-MeFOSE-M	68.0		10 - 130	01/21/25 03:46	01/22/25 17:29	1
d9-N-EtFOSE-M	61.3		10 - 130	01/21/25 03:46	01/22/25 17:29	1
d5-NEtPFOSA	62.2		10 - 130	01/21/25 03:46	01/22/25 17:29	1
d3-NMePFOSA	64.5		10 - 130	01/21/25 03:46	01/22/25 17:29	1

Client Sample ID: EB-01142025

Lab Sample ID: 320-118344-9

Date Collected: 01/14/25 15:25
Matrix: Water
Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.4	0.84	ng/L		01/21/25 03:46	01/22/25 17:45	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:45	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:45	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:45	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:45	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:45	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:45	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:45	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		01/21/25 03:46	01/22/25 17:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.49	ng/L		01/21/25 03:46	01/22/25 17:45	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.68	ng/L		01/21/25 03:46	01/22/25 17:45	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:45	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:45	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:45	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.45	ng/L		01/21/25 03:46	01/22/25 17:45	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.4	0.84	ng/L		01/21/25 03:46	01/22/25 17:45	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.4	0.84	ng/L		01/21/25 03:46	01/22/25 17:45	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.4	0.84	ng/L		01/21/25 03:46	01/22/25 17:45	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:45	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:45	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:45	1

Client Sample ID: EB-01142025
Date Collected: 01/14/25 15:25
Date Received: 01/17/25 10:45

Lab Sample ID: 320-118344-9
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:45	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.4	2.1	ng/L		01/21/25 03:46	01/22/25 17:45	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.4	2.1	ng/L		01/21/25 03:46	01/22/25 17:45	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/21/25 03:46	01/22/25 17:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:45	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:45	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:45	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	1.7	0.61	ng/L		01/21/25 03:46	01/22/25 17:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.49	ng/L		01/21/25 03:46	01/22/25 17:45	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:45	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 17:45	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.4	0.84	ng/L		01/21/25 03:46	01/22/25 17:45	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.4	2.1	ng/L		01/21/25 03:46	01/22/25 17:45	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.4	2.1	ng/L		01/21/25 03:46	01/22/25 17:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*102*		*5 - 130*	*01/21/25 03:46*	*01/22/25 17:45*	*1*
13C5 PFPeA	*114*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:45*	*1*
13C5 PFHxA	*101*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:45*	*1*
13C4 PFHpA	*112*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:45*	*1*
13C8 PFOA	*91.3*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:45*	*1*
13C9 PFNA	*94.0*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:45*	*1*
13C6 PFDA	*90.0*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:45*	*1*
13C7 PFUnA	*108*		*30 - 130*	*01/21/25 03:46*	*01/22/25 17:45*	*1*
13C2 PFDoA	*127*		*10 - 130*	*01/21/25 03:46*	*01/22/25 17:45*	*1*
13C2 PFTeDA	*96.4*		*10 - 130*	*01/21/25 03:46*	*01/22/25 17:45*	*1*
13C3 PFBS	*110*		*40 - 135*	*01/21/25 03:46*	*01/22/25 17:45*	*1*
13C3 PFHxS	*114*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:45*	*1*
13C8 PFOS	*98.5*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:45*	*1*
13C8 FOSA	*83.8*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:45*	*1*
d3-NMeFOSAA	*90.3*		*40 - 170*	*01/21/25 03:46*	*01/22/25 17:45*	*1*
d5-NEtFOSAA	*94.1*		*25 - 135*	*01/21/25 03:46*	*01/22/25 17:45*	*1*
13C2 4:2 FTS	*129*		*40 - 200*	*01/21/25 03:46*	*01/22/25 17:45*	*1*
13C2 6:2 FTS	*126*		*40 - 200*	*01/21/25 03:46*	*01/22/25 17:45*	*1*
13C2 8:2 FTS	*109*		*40 - 300*	*01/21/25 03:46*	*01/22/25 17:45*	*1*
13C3 HFPO-DA	*106*		*40 - 130*	*01/21/25 03:46*	*01/22/25 17:45*	*1*
d7-N-MeFOSE-M	*88.8*		*10 - 130*	*01/21/25 03:46*	*01/22/25 17:45*	*1*
d9-N-EtFOSE-M	*87.7*		*10 - 130*	*01/21/25 03:46*	*01/22/25 17:45*	*1*
d5-NEtPFOSA	*86.6*		*10 - 130*	*01/21/25 03:46*	*01/22/25 17:45*	*1*
d3-NMePFOSA	*83.4*		*10 - 130*	*01/21/25 03:46*	*01/22/25 17:45*	*1*

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118344-1

Client Sample ID: FB-01142025
Date Collected: 01/14/25 00:00
Date Received: 01/17/25 10:45

Lab Sample ID: 320-118344-10
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.0	0.74	ng/L		01/21/25 03:46	01/22/25 18:02	1
Perfluoropentanoic acid (PFPeA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 18:02	1
Perfluorohexanoic acid (PFHxA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 18:02	1
Perfluoroheptanoic acid (PFHpA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 18:02	1
Perfluorooctanoic acid (PFOA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 18:02	1
Perfluorononanoic acid (PFNA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 18:02	1
Perfluorodecanoic acid (PFDA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 18:02	1
Perfluoroundecanoic acid (PFUnA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 18:02	1
Perfluorododecanoic acid (PFDoA)	ND		1.5	0.41	ng/L		01/21/25 03:46	01/22/25 18:02	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.5	0.43	ng/L		01/21/25 03:46	01/22/25 18:02	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.5	0.60	ng/L		01/21/25 03:46	01/22/25 18:02	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 18:02	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 18:02	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 18:02	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 18:02	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 18:02	1
Perfluorononanesulfonic acid (PFNS)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 18:02	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 18:02	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.5	0.39	ng/L		01/21/25 03:46	01/22/25 18:02	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.0	0.74	ng/L		01/21/25 03:46	01/22/25 18:02	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.0	0.74	ng/L		01/21/25 03:46	01/22/25 18:02	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.0	0.74	ng/L		01/21/25 03:46	01/22/25 18:02	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 18:02	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 18:02	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 18:02	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 18:02	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 18:02	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		7.4	1.9	ng/L		01/21/25 03:46	01/22/25 18:02	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		7.4	1.9	ng/L		01/21/25 03:46	01/22/25 18:02	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.1	0.29	ng/L		01/21/25 03:46	01/22/25 18:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 18:02	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 18:02	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 18:02	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	1.5	0.53	ng/L		01/21/25 03:46	01/22/25 18:02	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.5	0.43	ng/L		01/21/25 03:46	01/22/25 18:02	1

Client Sample ID: FB-01142025

Lab Sample ID: 320-118344-10

Date Collected: 01/14/25 00:00

Matrix: Water

Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	1.5	0.37	ng/L		01/21/25 03:46	01/22/25 18:02	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 18:02	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.0	0.74	ng/L		01/21/25 03:46	01/22/25 18:02	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		7.4	1.9	ng/L		01/21/25 03:46	01/22/25 18:02	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		7.4	1.9	ng/L		01/21/25 03:46	01/22/25 18:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99.6*		*5 - 130*	*01/21/25 03:46*	*01/22/25 18:02*	*1*
13C5 PFPeA	*73.3*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:02*	*1*
13C5 PFHxA	*93.3*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:02*	*1*
13C4 PFHpA	*92.0*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:02*	*1*
13C8 PFOA	*84.0*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:02*	*1*
13C9 PFNA	*84.4*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:02*	*1*
13C6 PFDA	*88.4*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:02*	*1*
13C7 PFUnA	*81.2*		*30 - 130*	*01/21/25 03:46*	*01/22/25 18:02*	*1*
13C2 PFDoA	*85.6*		*10 - 130*	*01/21/25 03:46*	*01/22/25 18:02*	*1*
13C2 PFTeDA	*78.3*		*10 - 130*	*01/21/25 03:46*	*01/22/25 18:02*	*1*
13C3 PFBS	*92.5*		*40 - 135*	*01/21/25 03:46*	*01/22/25 18:02*	*1*
13C3 PFHxS	*100*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:02*	*1*
13C8 PFOS	*94.8*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:02*	*1*
13C8 FOSA	*90.7*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:02*	*1*
d3-NMeFOSAA	*92.8*		*40 - 170*	*01/21/25 03:46*	*01/22/25 18:02*	*1*
d5-NEtFOSAA	*94.9*		*25 - 135*	*01/21/25 03:46*	*01/22/25 18:02*	*1*
13C2 4:2 FTS	*95.6*		*40 - 200*	*01/21/25 03:46*	*01/22/25 18:02*	*1*
13C2 6:2 FTS	*100*		*40 - 200*	*01/21/25 03:46*	*01/22/25 18:02*	*1*
13C2 8:2 FTS	*95.0*		*40 - 300*	*01/21/25 03:46*	*01/22/25 18:02*	*1*
13C3 HFPO-DA	*73.6*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:02*	*1*
d7-N-MeFOSE-M	*93.2*		*10 - 130*	*01/21/25 03:46*	*01/22/25 18:02*	*1*
d9-N-EtFOSE-M	*92.6*		*10 - 130*	*01/21/25 03:46*	*01/22/25 18:02*	*1*
d5-NEtPFOSA	*83.2*		*10 - 130*	*01/21/25 03:46*	*01/22/25 18:02*	*1*
d3-NMePFOSA	*86.6*		*10 - 130*	*01/21/25 03:46*	*01/22/25 18:02*	*1*

Client Sample ID: GDF-GR-2-N-01152025

Lab Sample ID: 320-118344-11

Date Collected: 01/15/25 09:45

Matrix: Water

Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**18**		3.6	0.89	ng/L		01/21/25 03:46	01/22/25 18:18	1
Perfluoropentanoic acid (PFPeA)	**7.8**		1.8	0.45	ng/L		01/21/25 03:46	01/22/25 18:18	1
Perfluorohexanoic acid (PFHxA)	**7.8**		1.8	0.45	ng/L		01/21/25 03:46	01/22/25 18:18	1
Perfluoroheptanoic acid (PFHpA)	**2.7**		1.8	0.45	ng/L		01/21/25 03:46	01/22/25 18:18	1
Perfluorooctanoic acid (PFOA)	**4.1**		1.8	0.45	ng/L		01/21/25 03:46	01/22/25 18:18	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.45	ng/L		01/21/25 03:46	01/22/25 18:18	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.45	ng/L		01/21/25 03:46	01/22/25 18:18	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.45	ng/L		01/21/25 03:46	01/22/25 18:18	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		01/21/25 03:46	01/22/25 18:18	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118344-1

Client Sample ID: GDF-GR-2-N-01152025
Date Collected: 01/15/25 09:45
Date Received: 01/17/25 10:45

Lab Sample ID: 320-118344-11
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.52	ng/L		01/21/25 03:46	01/22/25 18:18	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.8	0.72	ng/L		01/21/25 03:46	01/22/25 18:18	1
Perfluorobutanesulfonic acid (PFBS)	**3.5**		1.8	0.45	ng/L		01/21/25 03:46	01/22/25 18:18	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.45	ng/L		01/21/25 03:46	01/22/25 18:18	1
Perfluorohexanesulfonic acid (PFHxS)	**1.4**	**J**	1.8	0.45	ng/L		01/21/25 03:46	01/22/25 18:18	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.45	ng/L		01/21/25 03:46	01/22/25 18:18	1
Perfluorooctanesulfonic acid (PFOS)	**5.9**		1.8	0.45	ng/L		01/21/25 03:46	01/22/25 18:18	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.45	ng/L		01/21/25 03:46	01/22/25 18:18	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.45	ng/L		01/21/25 03:46	01/22/25 18:18	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.47	ng/L		01/21/25 03:46	01/22/25 18:18	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.6	0.89	ng/L		01/21/25 03:46	01/22/25 18:18	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.6	0.89	ng/L		01/21/25 03:46	01/22/25 18:18	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.6	0.89	ng/L		01/21/25 03:46	01/22/25 18:18	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.45	ng/L		01/21/25 03:46	01/22/25 18:18	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.8	0.45	ng/L		01/21/25 03:46	01/22/25 18:18	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.8	0.45	ng/L		01/21/25 03:46	01/22/25 18:18	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.8	0.45	ng/L		01/21/25 03:46	01/22/25 18:18	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.8	0.45	ng/L		01/21/25 03:46	01/22/25 18:18	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.9	2.2	ng/L		01/21/25 03:46	01/22/25 18:18	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.9	2.2	ng/L		01/21/25 03:46	01/22/25 18:18	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.35	ng/L		01/21/25 03:46	01/22/25 18:18	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.45	ng/L		01/21/25 03:46	01/22/25 18:18	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.8	0.45	ng/L		01/21/25 03:46	01/22/25 18:18	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.8	0.45	ng/L		01/21/25 03:46	01/22/25 18:18	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	1.8	0.64	ng/L		01/21/25 03:46	01/22/25 18:18	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.8	0.52	ng/L		01/21/25 03:46	01/22/25 18:18	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	1.8	0.45	ng/L		01/21/25 03:46	01/22/25 18:18	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.8	0.45	ng/L		01/21/25 03:46	01/22/25 18:18	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.6	0.89	ng/L		01/21/25 03:46	01/22/25 18:18	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.9	2.2	ng/L		01/21/25 03:46	01/22/25 18:18	1

Client Sample ID: GDF-GR-2-N-01152025

Lab Sample ID: 320-118344-11

Date Collected: 01/15/25 09:45

Matrix: Water

Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.9	2.2	ng/L		01/21/25 03:46	01/22/25 18:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*106*		*5 - 130*	*01/21/25 03:46*	*01/22/25 18:18*	*1*
13C5 PFPeA	*111*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:18*	*1*
13C5 PFHxA	*114*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:18*	*1*
13C4 PFHpA	*117*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:18*	*1*
13C8 PFOA	*117*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:18*	*1*
13C9 PFNA	*94.0*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:18*	*1*
13C6 PFDA	*89.3*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:18*	*1*
13C7 PFUnA	*71.6*		*30 - 130*	*01/21/25 03:46*	*01/22/25 18:18*	*1*
13C2 PFDoA	*98.4*		*10 - 130*	*01/21/25 03:46*	*01/22/25 18:18*	*1*
13C2 PFTeDA	*86.6*		*10 - 130*	*01/21/25 03:46*	*01/22/25 18:18*	*1*
13C3 PFBS	*115*		*40 - 135*	*01/21/25 03:46*	*01/22/25 18:18*	*1*
13C3 PFHxS	*119*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:18*	*1*
13C8 PFOS	*106*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:18*	*1*
13C8 FOSA	*97.8*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:18*	*1*
d3-NMeFOSAA	*91.8*		*40 - 170*	*01/21/25 03:46*	*01/22/25 18:18*	*1*
d5-NEtFOSAA	*100*		*25 - 135*	*01/21/25 03:46*	*01/22/25 18:18*	*1*
13C2 4:2 FTS	*113*		*40 - 200*	*01/21/25 03:46*	*01/22/25 18:18*	*1*
13C2 6:2 FTS	*141*		*40 - 200*	*01/21/25 03:46*	*01/22/25 18:18*	*1*
13C2 8:2 FTS	*103*		*40 - 300*	*01/21/25 03:46*	*01/22/25 18:18*	*1*
13C3 HFPO-DA	*67.3*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:18*	*1*
d7-N-MeFOSE-M	*97.0*		*10 - 130*	*01/21/25 03:46*	*01/22/25 18:18*	*1*
d9-N-EtFOSE-M	*95.6*		*10 - 130*	*01/21/25 03:46*	*01/22/25 18:18*	*1*
d5-NEtPFOSA	*87.0*		*10 - 130*	*01/21/25 03:46*	*01/22/25 18:18*	*1*
d3-NMePFOSA	*90.7*		*10 - 130*	*01/21/25 03:46*	*01/22/25 18:18*	*1*

Client Sample ID: GDF-GR-2-FD-01152025

Lab Sample ID: 320-118344-12

Date Collected: 01/15/25 09:55

Matrix: Water

Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**19**		3.7	0.92	ng/L		01/21/25 03:46	01/22/25 18:34	1
Perfluoropentanoic acid (PFPeA)	**8.9**		1.8	0.46	ng/L		01/21/25 03:46	01/22/25 18:34	1
Perfluorohexanoic acid (PFHxA)	**8.4**		1.8	0.46	ng/L		01/21/25 03:46	01/22/25 18:34	1
Perfluoroheptanoic acid (PFHpA)	**2.4**		1.8	0.46	ng/L		01/21/25 03:46	01/22/25 18:34	1
Perfluorooctanoic acid (PFOA)	**3.4**		1.8	0.46	ng/L		01/21/25 03:46	01/22/25 18:34	1
Perfluorononanoic acid (PFNA)	**0.46**	**J**	1.8	0.46	ng/L		01/21/25 03:46	01/22/25 18:34	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.46	ng/L		01/21/25 03:46	01/22/25 18:34	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.46	ng/L		01/21/25 03:46	01/22/25 18:34	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.51	ng/L		01/21/25 03:46	01/22/25 18:34	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.53	ng/L		01/21/25 03:46	01/22/25 18:34	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.8	0.75	ng/L		01/21/25 03:46	01/22/25 18:34	1
Perfluorobutanesulfonic acid (PFBS)	**3.7**		1.8	0.46	ng/L		01/21/25 03:46	01/22/25 18:34	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.46	ng/L		01/21/25 03:46	01/22/25 18:34	1
Perfluorohexanesulfonic acid (PFHxS)	**1.4**	**J**	1.8	0.46	ng/L		01/21/25 03:46	01/22/25 18:34	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118344-1

Client Sample ID: GDF-GR-2-FD-01152025
Date Collected: 01/15/25 09:55
Date Received: 01/17/25 10:45

Lab Sample ID: 320-118344-12
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.46	ng/L		01/21/25 03:46	01/22/25 18:34	1
Perfluorooctanesulfonic acid (PFOS)	**5.7**		1.8	0.46	ng/L		01/21/25 03:46	01/22/25 18:34	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.46	ng/L		01/21/25 03:46	01/22/25 18:34	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.46	ng/L		01/21/25 03:46	01/22/25 18:34	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.49	ng/L		01/21/25 03:46	01/22/25 18:34	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.7	0.92	ng/L		01/21/25 03:46	01/22/25 18:34	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.7	0.92	ng/L		01/21/25 03:46	01/22/25 18:34	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.7	0.92	ng/L		01/21/25 03:46	01/22/25 18:34	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.46	ng/L		01/21/25 03:46	01/22/25 18:34	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.8	0.46	ng/L		01/21/25 03:46	01/22/25 18:34	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.8	0.46	ng/L		01/21/25 03:46	01/22/25 18:34	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.8	0.46	ng/L		01/21/25 03:46	01/22/25 18:34	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.8	0.46	ng/L		01/21/25 03:46	01/22/25 18:34	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		9.2	2.3	ng/L		01/21/25 03:46	01/22/25 18:34	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		9.2	2.3	ng/L		01/21/25 03:46	01/22/25 18:34	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.4	0.36	ng/L		01/21/25 03:46	01/22/25 18:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.46	ng/L		01/21/25 03:46	01/22/25 18:34	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.8	0.46	ng/L		01/21/25 03:46	01/22/25 18:34	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.8	0.46	ng/L		01/21/25 03:46	01/22/25 18:34	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	1.8	0.66	ng/L		01/21/25 03:46	01/22/25 18:34	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.8	0.53	ng/L		01/21/25 03:46	01/22/25 18:34	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	1.8	0.46	ng/L		01/21/25 03:46	01/22/25 18:34	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.8	0.46	ng/L		01/21/25 03:46	01/22/25 18:34	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.7	0.92	ng/L		01/21/25 03:46	01/22/25 18:34	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		9.2	2.3	ng/L		01/21/25 03:46	01/22/25 18:34	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		9.2	2.3	ng/L		01/21/25 03:46	01/22/25 18:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*107*		*5 - 130*	*01/21/25 03:46*	*01/22/25 18:34*	*1*
13C5 PFPeA	*84.8*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:34*	*1*
13C5 PFHxA	*95.0*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:34*	*1*
13C4 PFHpA	*96.1*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:34*	*1*
13C8 PFOA	*92.2*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:34*	*1*

Client Sample ID: GDF-GR-2-FD-01152025

Lab Sample ID: 320-118344-12

Date Collected: 01/15/25 09:55

Matrix: Water

Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C9 PFNA	90.5		40 - 130	01/21/25 03:46	01/22/25 18:34	1
13C6 PFDA	90.7		40 - 130	01/21/25 03:46	01/22/25 18:34	1
13C7 PFUnA	93.5		30 - 130	01/21/25 03:46	01/22/25 18:34	1
13C2 PFDoA	98.6		10 - 130	01/21/25 03:46	01/22/25 18:34	1
13C2 PFTeDA	81.7		10 - 130	01/21/25 03:46	01/22/25 18:34	1
13C3 PFBS	109		40 - 135	01/21/25 03:46	01/22/25 18:34	1
13C3 PFHxS	108		40 - 130	01/21/25 03:46	01/22/25 18:34	1
13C8 PFOS	95.2		40 - 130	01/21/25 03:46	01/22/25 18:34	1
13C8 FOSA	82.4		40 - 130	01/21/25 03:46	01/22/25 18:34	1
d3-NMeFOSAA	77.1		40 - 170	01/21/25 03:46	01/22/25 18:34	1
d5-NEtFOSAA	84.3		25 - 135	01/21/25 03:46	01/22/25 18:34	1
13C2 4:2 FTS	118		40 - 200	01/21/25 03:46	01/22/25 18:34	1
13C2 6:2 FTS	111		40 - 200	01/21/25 03:46	01/22/25 18:34	1
13C2 8:2 FTS	92.2		40 - 300	01/21/25 03:46	01/22/25 18:34	1
13C3 HFPO-DA	57.5		40 - 130	01/21/25 03:46	01/22/25 18:34	1
d7-N-MeFOSE-M	78.9		10 - 130	01/21/25 03:46	01/22/25 18:34	1
d9-N-EtFOSE-M	80.4		10 - 130	01/21/25 03:46	01/22/25 18:34	1
d5-NEtPFOSA	70.0		10 - 130	01/21/25 03:46	01/22/25 18:34	1
d3-NMePFOSA	73.5		10 - 130	01/21/25 03:46	01/22/25 18:34	1

Client Sample ID: GDF-GR-3-N-01152025

Lab Sample ID: 320-118344-13

Date Collected: 01/15/25 09:05

Matrix: Water

Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.5**		3.5	0.87	ng/L		01/21/25 03:46	01/22/25 18:51	1
Perfluoropentanoic acid (PFPeA)	**0.79**	**J**	1.7	0.43	ng/L		01/21/25 03:46	01/22/25 18:51	1
Perfluorohexanoic acid (PFHxA)	**0.64**	**J**	1.7	0.43	ng/L		01/21/25 03:46	01/22/25 18:51	1
Perfluoroheptanoic acid (PFHpA)	**0.43**	**J**	1.7	0.43	ng/L		01/21/25 03:46	01/22/25 18:51	1
Perfluorooctanoic acid (PFOA)	**0.55**	**J**	1.7	0.43	ng/L		01/21/25 03:46	01/22/25 18:51	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 18:51	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 18:51	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 18:51	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.48	ng/L		01/21/25 03:46	01/22/25 18:51	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.50	ng/L		01/21/25 03:46	01/22/25 18:51	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.70	ng/L		01/21/25 03:46	01/22/25 18:51	1
Perfluorobutanesulfonic acid (PFBS)	**0.97**	**J**	1.7	0.43	ng/L		01/21/25 03:46	01/22/25 18:51	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 18:51	1
Perfluorohexanesulfonic acid (PFHxS)	**1.4**	**J**	1.7	0.43	ng/L		01/21/25 03:46	01/22/25 18:51	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 18:51	1
Perfluorooctanesulfonic acid (PFOS)	**3.1**		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 18:51	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 18:51	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 18:51	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.46	ng/L		01/21/25 03:46	01/22/25 18:51	1

Client Sample ID: GDF-GR-3-N-01152025
Date Collected: 01/15/25 09:05
Date Received: 01/17/25 10:45

Lab Sample ID: 320-118344-13
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.5	0.87	ng/L		01/21/25 03:46	01/22/25 18:51	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.5	0.87	ng/L		01/21/25 03:46	01/22/25 18:51	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.5	0.87	ng/L		01/21/25 03:46	01/22/25 18:51	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 18:51	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 18:51	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 18:51	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 18:51	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 18:51	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.7	2.2	ng/L		01/21/25 03:46	01/22/25 18:51	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.7	2.2	ng/L		01/21/25 03:46	01/22/25 18:51	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.34	ng/L		01/21/25 03:46	01/22/25 18:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 18:51	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 18:51	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 18:51	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	1.7	0.63	ng/L		01/21/25 03:46	01/22/25 18:51	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.50	ng/L		01/21/25 03:46	01/22/25 18:51	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	1.7	0.43	ng/L		01/21/25 03:46	01/22/25 18:51	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.43	ng/L		01/21/25 03:46	01/22/25 18:51	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.5	0.87	ng/L		01/21/25 03:46	01/22/25 18:51	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.7	2.2	ng/L		01/21/25 03:46	01/22/25 18:51	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.7	2.2	ng/L		01/21/25 03:46	01/22/25 18:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*105*		*5 - 130*	*01/21/25 03:46*	*01/22/25 18:51*	*1*
13C5 PFPeA	*104*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:51*	*1*
13C5 PFHxA	*96.2*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:51*	*1*
13C4 PFHpA	*94.6*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:51*	*1*
13C8 PFOA	*92.8*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:51*	*1*
13C9 PFNA	*101*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:51*	*1*
13C6 PFDA	*81.3*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:51*	*1*
13C7 PFUnA	*85.0*		*30 - 130*	*01/21/25 03:46*	*01/22/25 18:51*	*1*
13C2 PFDoA	*89.6*		*10 - 130*	*01/21/25 03:46*	*01/22/25 18:51*	*1*
13C2 PFTeDA	*84.5*		*10 - 130*	*01/21/25 03:46*	*01/22/25 18:51*	*1*
13C3 PFBS	*97.1*		*40 - 135*	*01/21/25 03:46*	*01/22/25 18:51*	*1*
13C3 PFHxS	*101*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:51*	*1*

Client Sample ID: GDF-GR-3-N-01152025

Lab Sample ID: 320-118344-13

Date Collected: 01/15/25 09:05
Matrix: Water
Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*91.8*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:51*	*1*
13C8 FOSA	*87.7*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:51*	*1*
d3-NMeFOSAA	*101*		*40 - 170*	*01/21/25 03:46*	*01/22/25 18:51*	*1*
d5-NEtFOSAA	*83.4*		*25 - 135*	*01/21/25 03:46*	*01/22/25 18:51*	*1*
13C2 4:2 FTS	*84.2*		*40 - 200*	*01/21/25 03:46*	*01/22/25 18:51*	*1*
13C2 6:2 FTS	*101*		*40 - 200*	*01/21/25 03:46*	*01/22/25 18:51*	*1*
13C2 8:2 FTS	*74.0*		*40 - 300*	*01/21/25 03:46*	*01/22/25 18:51*	*1*
13C3 HFPO-DA	*86.9*		*40 - 130*	*01/21/25 03:46*	*01/22/25 18:51*	*1*
d7-N-MeFOSE-M	*82.3*		*10 - 130*	*01/21/25 03:46*	*01/22/25 18:51*	*1*
d9-N-EtFOSE-M	*84.4*		*10 - 130*	*01/21/25 03:46*	*01/22/25 18:51*	*1*
d5-NEtPFOSA	*81.1*		*10 - 130*	*01/21/25 03:46*	*01/22/25 18:51*	*1*
d3-NMePFOSA	*82.6*		*10 - 130*	*01/21/25 03:46*	*01/22/25 18:51*	*1*

Client Sample ID: GDF-GR-4-N-01152025

Lab Sample ID: 320-118344-14

Date Collected: 01/15/25 10:45
Matrix: Water
Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.1**	**J**	3.3	0.84	ng/L		01/21/25 03:46	01/22/25 19:07	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 19:07	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 19:07	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 19:07	1
Perfluorooctanoic acid (PFOA)	**0.63**	**J**	1.7	0.42	ng/L		01/21/25 03:46	01/22/25 19:07	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 19:07	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 19:07	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 19:07	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		01/21/25 03:46	01/22/25 19:07	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.49	ng/L		01/21/25 03:46	01/22/25 19:07	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.68	ng/L		01/21/25 03:46	01/22/25 19:07	1
Perfluorobutanesulfonic acid (PFBS)	**1.4**	**J**	1.7	0.42	ng/L		01/21/25 03:46	01/22/25 19:07	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 19:07	1
Perfluorohexanesulfonic acid (PFHxS)	**0.84**	**J**	1.7	0.42	ng/L		01/21/25 03:46	01/22/25 19:07	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 19:07	1
Perfluorooctanesulfonic acid (PFOS)	**2.9**		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 19:07	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 19:07	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 19:07	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.44	ng/L		01/21/25 03:46	01/22/25 19:07	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.3	0.84	ng/L		01/21/25 03:46	01/22/25 19:07	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.3	0.84	ng/L		01/21/25 03:46	01/22/25 19:07	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.3	0.84	ng/L		01/21/25 03:46	01/22/25 19:07	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 19:07	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118344-1

Client Sample ID: GDF-GR-4-N-01152025
Date Collected: 01/15/25 10:45
Date Received: 01/17/25 10:45

Lab Sample ID: 320-118344-14
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 19:07	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 19:07	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 19:07	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 19:07	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.4	2.1	ng/L		01/21/25 03:46	01/22/25 19:07	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.4	2.1	ng/L		01/21/25 03:46	01/22/25 19:07	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/21/25 03:46	01/22/25 19:07	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 19:07	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 19:07	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 19:07	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	1.7	0.60	ng/L		01/21/25 03:46	01/22/25 19:07	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.49	ng/L		01/21/25 03:46	01/22/25 19:07	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	1.7	0.42	ng/L		01/21/25 03:46	01/22/25 19:07	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.42	ng/L		01/21/25 03:46	01/22/25 19:07	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.3	0.84	ng/L		01/21/25 03:46	01/22/25 19:07	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.4	2.1	ng/L		01/21/25 03:46	01/22/25 19:07	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.4	2.1	ng/L		01/21/25 03:46	01/22/25 19:07	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*107*		*5 - 130*	*01/21/25 03:46*	*01/22/25 19:07*	*1*
13C5 PFPeA	*94.2*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:07*	*1*
13C5 PFHxA	*102*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:07*	*1*
13C4 PFHpA	*104*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:07*	*1*
13C8 PFOA	*101*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:07*	*1*
13C9 PFNA	*85.7*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:07*	*1*
13C6 PFDA	*93.7*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:07*	*1*
13C7 PFUnA	*77.0*		*30 - 130*	*01/21/25 03:46*	*01/22/25 19:07*	*1*
13C2 PFDoA	*103*		*10 - 130*	*01/21/25 03:46*	*01/22/25 19:07*	*1*
13C2 PFTeDA	*98.8*		*10 - 130*	*01/21/25 03:46*	*01/22/25 19:07*	*1*
13C3 PFBS	*102*		*40 - 135*	*01/21/25 03:46*	*01/22/25 19:07*	*1*
13C3 PFHxS	*109*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:07*	*1*
13C8 PFOS	*97.8*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:07*	*1*
13C8 FOSA	*91.3*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:07*	*1*
d3-NMeFOSAA	*88.2*		*40 - 170*	*01/21/25 03:46*	*01/22/25 19:07*	*1*
d5-NEtFOSAA	*83.2*		*25 - 135*	*01/21/25 03:46*	*01/22/25 19:07*	*1*
13C2 4:2 FTS	*105*		*40 - 200*	*01/21/25 03:46*	*01/22/25 19:07*	*1*
13C2 6:2 FTS	*115*		*40 - 200*	*01/21/25 03:46*	*01/22/25 19:07*	*1*

Client Sample ID: GDF-GR-4-N-01152025
Lab Sample ID: 320-118344-14

Date Collected: 01/15/25 10:45
Matrix: Water
Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 8:2 FTS	*96.7*		*40 - 300*	*01/21/25 03:46*	*01/22/25 19:07*	*1*
13C3 HFPO-DA	*99.5*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:07*	*1*
d7-N-MeFOSE-M	*86.4*		*10 - 130*	*01/21/25 03:46*	*01/22/25 19:07*	*1*
d9-N-EtFOSE-M	*85.0*		*10 - 130*	*01/21/25 03:46*	*01/22/25 19:07*	*1*
d5-NEtPFOSA	*77.4*		*10 - 130*	*01/21/25 03:46*	*01/22/25 19:07*	*1*
d3-NMePFOSA	*81.9*		*10 - 130*	*01/21/25 03:46*	*01/22/25 19:07*	*1*

Client Sample ID: EB-01152025
Lab Sample ID: 320-118344-15

Date Collected: 01/15/25 10:55
Matrix: Water
Date Received: 01/17/25 10:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.2	0.80	ng/L		01/21/25 03:46	01/22/25 19:24	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 19:24	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 19:24	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 19:24	1
Perfluorooctanoic acid (PFOA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 19:24	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 19:24	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 19:24	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 19:24	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.44	ng/L		01/21/25 03:46	01/22/25 19:24	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.6	0.46	ng/L		01/21/25 03:46	01/22/25 19:24	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.6	0.65	ng/L		01/21/25 03:46	01/22/25 19:24	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 19:24	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 19:24	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 19:24	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 19:24	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 19:24	1
Perfluorononanesulfonic acid (PFNS)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 19:24	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 19:24	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.6	0.42	ng/L		01/21/25 03:46	01/22/25 19:24	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.2	0.80	ng/L		01/21/25 03:46	01/22/25 19:24	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.2	0.80	ng/L		01/21/25 03:46	01/22/25 19:24	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.2	0.80	ng/L		01/21/25 03:46	01/22/25 19:24	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 19:24	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 19:24	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 19:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 19:24	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 19:24	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.0	2.0	ng/L		01/21/25 03:46	01/22/25 19:24	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118344-1

Client Sample ID: EB-01152025
Date Collected: 01/15/25 10:55
Date Received: 01/17/25 10:45

Lab Sample ID: 320-118344-15
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.0	2.0	ng/L		01/21/25 03:46	01/22/25 19:24	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.2	0.31	ng/L		01/21/25 03:46	01/22/25 19:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 19:24	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 19:24	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 19:24	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	1.6	0.57	ng/L		01/21/25 03:46	01/22/25 19:24	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.6	0.46	ng/L		01/21/25 03:46	01/22/25 19:24	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	1.6	0.40	ng/L		01/21/25 03:46	01/22/25 19:24	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.6	0.40	ng/L		01/21/25 03:46	01/22/25 19:24	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.2	0.80	ng/L		01/21/25 03:46	01/22/25 19:24	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.0	2.0	ng/L		01/21/25 03:46	01/22/25 19:24	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.0	2.0	ng/L		01/21/25 03:46	01/22/25 19:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*108*		*5 - 130*	*01/21/25 03:46*	*01/22/25 19:24*	*1*
13C5 PFPeA	*108*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:24*	*1*
13C5 PFHxA	*109*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:24*	*1*
13C4 PFHpA	*97.0*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:24*	*1*
13C8 PFOA	*102*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:24*	*1*
13C9 PFNA	*91.0*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:24*	*1*
13C6 PFDA	*88.3*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:24*	*1*
13C7 PFUnA	*91.9*		*30 - 130*	*01/21/25 03:46*	*01/22/25 19:24*	*1*
13C2 PFDoA	*105*		*10 - 130*	*01/21/25 03:46*	*01/22/25 19:24*	*1*
13C2 PFTeDA	*95.8*		*10 - 130*	*01/21/25 03:46*	*01/22/25 19:24*	*1*
13C3 PFBS	*106*		*40 - 135*	*01/21/25 03:46*	*01/22/25 19:24*	*1*
13C3 PFHxS	*107*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:24*	*1*
13C8 PFOS	*95.4*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:24*	*1*
13C8 FOSA	*78.3*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:24*	*1*
d3-NMeFOSAA	*89.3*		*40 - 170*	*01/21/25 03:46*	*01/22/25 19:24*	*1*
d5-NEtFOSAA	*89.3*		*25 - 135*	*01/21/25 03:46*	*01/22/25 19:24*	*1*
13C2 4:2 FTS	*84.8*		*40 - 200*	*01/21/25 03:46*	*01/22/25 19:24*	*1*
13C2 6:2 FTS	*111*		*40 - 200*	*01/21/25 03:46*	*01/22/25 19:24*	*1*
13C2 8:2 FTS	*94.7*		*40 - 300*	*01/21/25 03:46*	*01/22/25 19:24*	*1*
13C3 HFPO-DA	*91.4*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:24*	*1*
d7-N-MeFOSE-M	*79.8*		*10 - 130*	*01/21/25 03:46*	*01/22/25 19:24*	*1*
d9-N-EtFOSE-M	*83.4*		*10 - 130*	*01/21/25 03:46*	*01/22/25 19:24*	*1*
d5-NEtPFOSA	*73.4*		*10 - 130*	*01/21/25 03:46*	*01/22/25 19:24*	*1*
d3-NMePFOSA	*72.8*		*10 - 130*	*01/21/25 03:46*	*01/22/25 19:24*	*1*

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118344-1

Client Sample ID: FB-01152025
Date Collected: 01/15/25 00:00
Date Received: 01/17/25 10:45

Lab Sample ID: 320-118344-16
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		2.9	0.73	ng/L		01/21/25 03:46	01/22/25 19:40	1
Perfluoropentanoic acid (PFPeA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 19:40	1
Perfluorohexanoic acid (PFHxA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 19:40	1
Perfluoroheptanoic acid (PFHpA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 19:40	1
Perfluorooctanoic acid (PFOA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 19:40	1
Perfluorononanoic acid (PFNA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 19:40	1
Perfluorodecanoic acid (PFDA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 19:40	1
Perfluoroundecanoic acid (PFUnA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 19:40	1
Perfluorododecanoic acid (PFDoA)	ND		1.5	0.40	ng/L		01/21/25 03:46	01/22/25 19:40	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.5	0.42	ng/L		01/21/25 03:46	01/22/25 19:40	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.5	0.59	ng/L		01/21/25 03:46	01/22/25 19:40	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 19:40	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 19:40	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 19:40	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 19:40	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 19:40	1
Perfluorononanesulfonic acid (PFNS)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 19:40	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 19:40	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.5	0.39	ng/L		01/21/25 03:46	01/22/25 19:40	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.9	0.73	ng/L		01/21/25 03:46	01/22/25 19:40	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.9	0.73	ng/L		01/21/25 03:46	01/22/25 19:40	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.9	0.73	ng/L		01/21/25 03:46	01/22/25 19:40	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 19:40	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 19:40	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 19:40	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 19:40	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 19:40	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		7.3	1.8	ng/L		01/21/25 03:46	01/22/25 19:40	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		7.3	1.8	ng/L		01/21/25 03:46	01/22/25 19:40	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.1	0.28	ng/L		01/21/25 03:46	01/22/25 19:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 19:40	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 19:40	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 19:40	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	1.5	0.53	ng/L		01/21/25 03:46	01/22/25 19:40	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.5	0.42	ng/L		01/21/25 03:46	01/22/25 19:40	1

Client Sample ID: FB-01152025
Date Collected: 01/15/25 00:00
Date Received: 01/17/25 10:45

Lab Sample ID: 320-118344-16
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	^+	1.5	0.37	ng/L		01/21/25 03:46	01/22/25 19:40	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.5	0.37	ng/L		01/21/25 03:46	01/22/25 19:40	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		2.9	0.73	ng/L		01/21/25 03:46	01/22/25 19:40	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		7.3	1.8	ng/L		01/21/25 03:46	01/22/25 19:40	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		7.3	1.8	ng/L		01/21/25 03:46	01/22/25 19:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*108*		*5 - 130*	*01/21/25 03:46*	*01/22/25 19:40*	*1*
13C5 PFPeA	*110*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:40*	*1*
13C5 PFHxA	*119*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:40*	*1*
13C4 PFHpA	*125*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:40*	*1*
13C8 PFOA	*91.9*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:40*	*1*
13C9 PFNA	*87.1*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:40*	*1*
13C6 PFDA	*79.7*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:40*	*1*
13C7 PFUnA	*80.2*		*30 - 130*	*01/21/25 03:46*	*01/22/25 19:40*	*1*
13C2 PFDoA	*105*		*10 - 130*	*01/21/25 03:46*	*01/22/25 19:40*	*1*
13C2 PFTeDA	*92.4*		*10 - 130*	*01/21/25 03:46*	*01/22/25 19:40*	*1*
13C3 PFBS	*112*		*40 - 135*	*01/21/25 03:46*	*01/22/25 19:40*	*1*
13C3 PFHxS	*105*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:40*	*1*
13C8 PFOS	*96.1*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:40*	*1*
13C8 FOSA	*83.8*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:40*	*1*
d3-NMeFOSAA	*85.7*		*40 - 170*	*01/21/25 03:46*	*01/22/25 19:40*	*1*
d5-NEtFOSAA	*82.0*		*25 - 135*	*01/21/25 03:46*	*01/22/25 19:40*	*1*
13C2 4:2 FTS	*118*		*40 - 200*	*01/21/25 03:46*	*01/22/25 19:40*	*1*
13C2 6:2 FTS	*102*		*40 - 200*	*01/21/25 03:46*	*01/22/25 19:40*	*1*
13C2 8:2 FTS	*87.6*		*40 - 300*	*01/21/25 03:46*	*01/22/25 19:40*	*1*
13C3 HFPO-DA	*94.1*		*40 - 130*	*01/21/25 03:46*	*01/22/25 19:40*	*1*
d7-N-MeFOSE-M	*78.4*		*10 - 130*	*01/21/25 03:46*	*01/22/25 19:40*	*1*
d9-N-EtFOSE-M	*82.4*		*10 - 130*	*01/21/25 03:46*	*01/22/25 19:40*	*1*
d5-NEtPFOSA	*70.2*		*10 - 130*	*01/21/25 03:46*	*01/22/25 19:40*	*1*
d3-NMePFOSA	*67.6*		*10 - 130*	*01/21/25 03:46*	*01/22/25 19:40*	*1*

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118344-1
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (5-130)	PFPeA (40-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (30-130)
320-118344-1	EA-MW-8B-N-01142025	87.2	104	97.6	103	98.2	95.3	88.5	86.6
320-118344-2	GDF-GR-5-N-01142025	100	103	102	91.5	98.0	95.8	78.7	75.7
320-118344-2 - RA	GDF-GR-5-N-01142025			109					
320-118344-3	GCF-MW-11A-N-01142025	101	95.6	106	101	107	86.8	83.4	91.3
320-118344-3 - RA	GCF-MW-11A-N-01142025			102					
320-118344-4	GCF-MW-12A-N-01142025	98.0	121	104	123	84.2	73.0	74.9	81.5
320-118344-4 - RA	GCF-MW-12A-N-01142025			93.7					
320-118344-5	GCF-MW-12A-FD-01142025	101	104	98.9	108	98.3	81.5	75.3	90.2
320-118344-5 - RA	GCF-MW-12A-FD-01142025			94.1					
320-118344-6	GCF-MW-12B-N-01142025	104	92.3	103	113	92.5	86.4	82.3	89.7
320-118344-6 - RA	GCF-MW-12B-N-01142025			99.2					
320-118344-7	GDF-MW-10A-N-01142025	105	91.9	100	87.5	91.8	90.7	92.7	92.6
320-118344-8	GDF-MW-10R-N-01142025	99.1	109	105	112	77.7	96.1	85.5	73.9
320-118344-9	EB-01142025	102	114	101	112	91.3	94.0	90.0	108
320-118344-10	FB-01142025	99.6	73.3	93.3	92.0	84.0	84.4	88.4	81.2
320-118344-11	GDF-GR-2-N-01152025	106	111	114	117	117	94.0	89.3	71.6
320-118344-12	GDF-GR-2-FD-01152025	107	84.8	95.0	96.1	92.2	90.5	90.7	93.5
320-118344-13	GDF-GR-3-N-01152025	105	104	96.2	94.6	92.8	101	81.3	85.0
320-118344-14	GDF-GR-4-N-01152025	107	94.2	102	104	101	85.7	93.7	77.0
320-118344-15	EB-01152025	108	108	109	97.0	102	91.0	88.3	91.9
320-118344-16	FB-01152025	108	110	119	125	91.9	87.1	79.7	80.2
LCS 320-828457/3-A	Lab Control Sample	112	96.5	91.7	89.7	94.0	88.1	85.4	99.9
LCS 320-829259/3-A	Lab Control Sample	83.0	94.7	96.0	99.1	90.3	93.0	89.3	88.7
LCSD 320-828457/4-A	Lab Control Sample Dup	109	88.7	94.9	87.9	97.0	92.8	90.7	87.2
LCSD 320-829259/4-A	Lab Control Sample Dup	88.4	104	95.7	95.3	88.0	91.2	85.9	82.5
LLCS 320-828457/2-A	Lab Control Sample	113	91.5	102	82.7	104	91.2	86.5	85.8
LLCS 320-829259/2-A	Lab Control Sample	89.4	96.3	98.3	92.8	90.1	89.7	85.1	79.6
MB 320-828457/1-A	Method Blank	110	106	116	101	91.4	96.6	81.2	90.7
MB 320-829259/1-A	Method Blank	92.6	104	98.0	98.9	96.3	95.9	94.4	94.5

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (10-130)	PFTDA (10-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-170)	d5NEFOS (25-135)
320-118344-1	EA-MW-8B-N-01142025	90.2	81.1	100	98.8	97.1	88.1	80.5	77.3
320-118344-2	GDF-GR-5-N-01142025	79.2	84.9	87.2	100	81.1	82.8	78.9	73.0
320-118344-2 - RA	GDF-GR-5-N-01142025								
320-118344-3	GCF-MW-11A-N-01142025	100	90.5	98.5	105	88.8	84.7	75.5	85.9
320-118344-3 - RA	GCF-MW-11A-N-01142025								
320-118344-4	GCF-MW-12A-N-01142025	87.4	77.4	80.1	98.4	81.4	82.0	80.3	73.1
320-118344-4 - RA	GCF-MW-12A-N-01142025								
320-118344-5	GCF-MW-12A-FD-01142025	97.0	84.5	94.0	91.3	86.3	83.2	74.0	68.9
320-118344-5 - RA	GCF-MW-12A-FD-01142025								
320-118344-6	GCF-MW-12B-N-01142025	96.9	87.4	95.5	95.7	94.8	91.5	83.2	78.9
320-118344-6 - RA	GCF-MW-12B-N-01142025								
320-118344-7	GDF-MW-10A-N-01142025	85.3	77.9	98.6	99.7	90.1	90.5	89.9	74.2
320-118344-8	GDF-MW-10R-N-01142025	80.2	56.1	91.5	101	71.8	71.3	68.6	67.4
320-118344-9	EB-01142025	127	96.4	110	114	98.5	83.8	90.3	94.1
320-118344-10	FB-01142025	85.6	78.3	92.5	100	94.8	90.7	92.8	94.9
320-118344-11	GDF-GR-2-N-01152025	98.4	86.6	115	119	106	97.8	91.8	100
320-118344-12	GDF-GR-2-FD-01152025	98.6	81.7	109	108	95.2	82.4	77.1	84.3

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118344-1
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (10-130)	PFTDA (10-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-170)	d5NEFOS (25-135)
320-118344-13	GDF-GR-3-N-01152025	89.6	84.5	97.1	101	91.8	87.7	101	83.4
320-118344-14	GDF-GR-4-N-01152025	103	98.8	102	109	97.8	91.3	88.2	83.2
320-118344-15	EB-01152025	105	95.8	106	107	95.4	78.3	89.3	89.3
320-118344-16	FB-01152025	105	92.4	112	105	96.1	83.8	85.7	82.0
LCS 320-828457/3-A	Lab Control Sample	111	99.6	105	103	87.0	77.2	81.3	87.3
LCS 320-829259/3-A	Lab Control Sample	93.6	85.0	93.7	89.5	90.6	76.1	72.5	72.3
LCSD 320-828457/4-A	Lab Control Sample Dup	96.9	92.2	102	105	103	89.1	97.5	85.4
LCSD 320-829259/4-A	Lab Control Sample Dup	89.2	73.1	85.9	88.9	89.5	84.0	76.2	74.6
LLCS 320-828457/2-A	Lab Control Sample	105	91.9	88.3	106	100	77.5	87.4	78.1
LLCS 320-829259/2-A	Lab Control Sample	88.9	78.8	94.8	86.9	88.5	87.0	80.7	79.4
MB 320-828457/1-A	Method Blank	109	101	102	107	95.3	82.3	93.6	84.1
MB 320-829259/1-A	Method Blank	98.9	87.3	97.9	95.6	99.8	88.2	85.8	80.7

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-200)	M262FTS (40-200)	M282FTS (40-300)	HFPODA (40-130)	NMFM (10-130)	NEFM (10-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118344-1	EA-MW-8B-N-01142025	109	77.9	66.8	115	80.2	75.4	77.2	79.5
320-118344-2	GDF-GR-5-N-01142025	104	107	94.1	83.6	80.0	80.1	72.1	69.3
320-118344-2 - RA	GDF-GR-5-N-01142025								
320-118344-3	GCF-MW-11A-N-01142025	129	107	89.6	86.8	83.0	80.9	74.4	78.5
320-118344-3 - RA	GCF-MW-11A-N-01142025								
320-118344-4	GCF-MW-12A-N-01142025	99.5	86.7	93.0	111	76.7	77.2	64.2	69.9
320-118344-4 - RA	GCF-MW-12A-N-01142025								
320-118344-5	GCF-MW-12A-FD-01142025	90.4	120	82.3	107	74.6	75.2	74.1	74.4
320-118344-5 - RA	GCF-MW-12A-FD-01142025								
320-118344-6	GCF-MW-12B-N-01142025	90.8	108	90.4	93.9	79.3	77.4	74.2	75.0
320-118344-6 - RA	GCF-MW-12B-N-01142025								
320-118344-7	GDF-MW-10A-N-01142025	101	105	104	83.9	84.3	83.4	80.6	78.3
320-118344-8	GDF-MW-10R-N-01142025	101	102	94.5	112	68.0	61.3	62.2	64.5
320-118344-9	EB-01142025	129	126	109	106	88.8	87.7	86.6	83.4
320-118344-10	FB-01142025	95.6	100	95.0	73.6	93.2	92.6	83.2	86.6
320-118344-11	GDF-GR-2-N-01152025	113	141	103	67.3	97.0	95.6	87.0	90.7
320-118344-12	GDF-GR-2-FD-01152025	118	111	92.2	57.5	78.9	80.4	70.0	73.5
320-118344-13	GDF-GR-3-N-01152025	84.2	101	74.0	86.9	82.3	84.4	81.1	82.6
320-118344-14	GDF-GR-4-N-01152025	105	115	96.7	99.5	86.4	85.0	77.4	81.9
320-118344-15	EB-01152025	84.8	111	94.7	91.4	79.8	83.4	73.4	72.8
320-118344-16	FB-01152025	118	102	87.6	94.1	78.4	82.4	70.2	67.6
LCS 320-828457/3-A	Lab Control Sample	83.5	110	91.4	75.6	81.3	82.7	74.8	75.9
LCS 320-829259/3-A	Lab Control Sample	87.8	67.2	62.7	101	78.9	75.4	73.5	75.4
LCSD 320-828457/4-A	Lab Control Sample Dup	77.7	84.4	72.5	75.9	91.2	90.6	80.5	76.8
LCSD 320-829259/4-A	Lab Control Sample Dup	85.7	73.7	63.0	110	81.4	75.7	72.9	79.0
LLCS 320-828457/2-A	Lab Control Sample	83.5	111	82.6	68.3	81.6	80.1	72.5	76.4
LLCS 320-829259/2-A	Lab Control Sample	85.0	71.0	64.0	106	90.9	88.4	88.7	87.4
MB 320-828457/1-A	Method Blank	96.0	96.9	80.7	92.8	86.3	88.5	76.4	76.2
MB 320-829259/1-A	Method Blank	79.3	77.7	67.2	112	84.5	81.6	82.3	83.3

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118344-1
Project/Site: Spokane International Airport

C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-828457/1-A
Matrix: Water
Analysis Batch: 828767

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 828457

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.0	1.0	ng/L		01/21/25 03:46	01/22/25 08:10	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.50	ng/L		01/21/25 03:46	01/22/25 08:10	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		01/21/25 03:46	01/22/25 08:10	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		01/21/25 03:46	01/22/25 08:10	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		01/21/25 03:46	01/22/25 08:10	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		01/21/25 03:46	01/22/25 08:10	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		01/21/25 03:46	01/22/25 08:10	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		01/21/25 03:46	01/22/25 08:10	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		01/21/25 03:46	01/22/25 08:10	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.58	ng/L		01/21/25 03:46	01/22/25 08:10	1
Perfluorotetradecanoic acid (PFTeDA)	ND		2.0	0.81	ng/L		01/21/25 03:46	01/22/25 08:10	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		01/21/25 03:46	01/22/25 08:10	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		01/21/25 03:46	01/22/25 08:10	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		01/21/25 03:46	01/22/25 08:10	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.50	ng/L		01/21/25 03:46	01/22/25 08:10	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		01/21/25 03:46	01/22/25 08:10	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		01/21/25 03:46	01/22/25 08:10	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		01/21/25 03:46	01/22/25 08:10	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.53	ng/L		01/21/25 03:46	01/22/25 08:10	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		4.0	1.0	ng/L		01/21/25 03:46	01/22/25 08:10	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		4.0	1.0	ng/L		01/21/25 03:46	01/22/25 08:10	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		4.0	1.0	ng/L		01/21/25 03:46	01/22/25 08:10	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		01/21/25 03:46	01/22/25 08:10	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		2.0	0.50	ng/L		01/21/25 03:46	01/22/25 08:10	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		2.0	0.50	ng/L		01/21/25 03:46	01/22/25 08:10	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ng/L		01/21/25 03:46	01/22/25 08:10	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.50	ng/L		01/21/25 03:46	01/22/25 08:10	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		10	2.5	ng/L		01/21/25 03:46	01/22/25 08:10	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		10	2.5	ng/L		01/21/25 03:46	01/22/25 08:10	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.5	0.39	ng/L		01/21/25 03:46	01/22/25 08:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.50	ng/L		01/21/25 03:46	01/22/25 08:10	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	0.50	ng/L		01/21/25 03:46	01/22/25 08:10	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	0.50	ng/L		01/21/25 03:46	01/22/25 08:10	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	0.72	ng/L		01/21/25 03:46	01/22/25 08:10	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		2.0	0.58	ng/L		01/21/25 03:46	01/22/25 08:10	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-828457/1-A
Matrix: Water
Analysis Batch: 828767

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 828457

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	0.50	ng/L		01/21/25 03:46	01/22/25 08:10	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	0.50	ng/L		01/21/25 03:46	01/22/25 08:10	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		4.0	1.0	ng/L		01/21/25 03:46	01/22/25 08:10	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		10	2.5	ng/L		01/21/25 03:46	01/22/25 08:10	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		10	2.5	ng/L		01/21/25 03:46	01/22/25 08:10	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*110*		*5 - 130*	*01/21/25 03:46*	*01/22/25 08:10*	*1*
13C5 PFPeA	*106*		*40 - 130*	*01/21/25 03:46*	*01/22/25 08:10*	*1*
13C5 PFHxA	*116*		*40 - 130*	*01/21/25 03:46*	*01/22/25 08:10*	*1*
13C4 PFHpA	*101*		*40 - 130*	*01/21/25 03:46*	*01/22/25 08:10*	*1*
13C8 PFOA	*91.4*		*40 - 130*	*01/21/25 03:46*	*01/22/25 08:10*	*1*
13C9 PFNA	*96.6*		*40 - 130*	*01/21/25 03:46*	*01/22/25 08:10*	*1*
13C6 PFDA	*81.2*		*40 - 130*	*01/21/25 03:46*	*01/22/25 08:10*	*1*
13C7 PFUnA	*90.7*		*30 - 130*	*01/21/25 03:46*	*01/22/25 08:10*	*1*
13C2 PFDoA	*109*		*10 - 130*	*01/21/25 03:46*	*01/22/25 08:10*	*1*
13C2 PFTeDA	*101*		*10 - 130*	*01/21/25 03:46*	*01/22/25 08:10*	*1*
13C3 PFBS	*102*		*40 - 135*	*01/21/25 03:46*	*01/22/25 08:10*	*1*
13C3 PFHxS	*107*		*40 - 130*	*01/21/25 03:46*	*01/22/25 08:10*	*1*
13C8 PFOS	*95.3*		*40 - 130*	*01/21/25 03:46*	*01/22/25 08:10*	*1*
13C8 FOSA	*82.3*		*40 - 130*	*01/21/25 03:46*	*01/22/25 08:10*	*1*
d3-NMeFOSAA	*93.6*		*40 - 170*	*01/21/25 03:46*	*01/22/25 08:10*	*1*
d5-NEtFOSAA	*84.1*		*25 - 135*	*01/21/25 03:46*	*01/22/25 08:10*	*1*
13C2 4:2 FTS	*96.0*		*40 - 200*	*01/21/25 03:46*	*01/22/25 08:10*	*1*
13C2 6:2 FTS	*96.9*		*40 - 200*	*01/21/25 03:46*	*01/22/25 08:10*	*1*
13C2 8:2 FTS	*80.7*		*40 - 300*	*01/21/25 03:46*	*01/22/25 08:10*	*1*
13C3 HFPO-DA	*92.8*		*40 - 130*	*01/21/25 03:46*	*01/22/25 08:10*	*1*
d7-N-MeFOSE-M	*86.3*		*10 - 130*	*01/21/25 03:46*	*01/22/25 08:10*	*1*
d9-N-EtFOSE-M	*88.5*		*10 - 130*	*01/21/25 03:46*	*01/22/25 08:10*	*1*
d5-NEtPFOSA	*76.4*		*10 - 130*	*01/21/25 03:46*	*01/22/25 08:10*	*1*
d3-NMePFOSA	*76.2*		*10 - 130*	*01/21/25 03:46*	*01/22/25 08:10*	*1*

Lab Sample ID: LCS 320-828457/3-A
Matrix: Water
Analysis Batch: 828767

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828457

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	73.7		ng/L		92	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	41.4		ng/L		104	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	39.2		ng/L		98	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	37.8		ng/L		94	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	44.0		ng/L		110	70 - 150
Perfluorononanoic acid (PFNA)	40.0	37.6		ng/L		94	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	48.0		ng/L		120	70 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-828457/3-A
Matrix: Water
Analysis Batch: 828767

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828457

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	40.0	40.8		ng/L		102	70 - 145
Perfluorododecanoic acid (PFDoA)	40.0	36.6		ng/L		91	70 - 140
Perfluorotridecanoic acid (PFTrDA)	40.0	37.3		ng/L		93	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	40.0	34.9		ng/L		87	60 - 140
Perfluorobutanesulfonic acid (PFBS)	35.5	44.2		ng/L		125	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	38.6		ng/L		103	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	37.6		ng/L		103	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	42.1		ng/L		110	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	39.6		ng/L		107	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	42.7		ng/L		111	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	39.0		ng/L		101	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	40.9		ng/L		105	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	64.7		ng/L		86	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	60.3		ng/L		79	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	58.7		ng/L		76	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	40.3		ng/L		101	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	39.3		ng/L		98	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	39.3		ng/L		98	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	44.6		ng/L		112	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	36.5		ng/L		91	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	195		ng/L		98	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	192		ng/L		96	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	32.1		ng/L		107	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	42.3		ng/L		112	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	40.1		ng/L		100	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	39.6		ng/L		99	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	43.5		ng/L		109	50 - 150

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-828457/3-A
Matrix: Water
Analysis Batch: 828767

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828457

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	38.9		ng/L		104	70 - 155		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	45.9		ng/L		122	55 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	37.9		ng/L		106	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	76.4		ng/L		96	65 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	191		ng/L		95	70 - 135		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	170		ng/L		85	50 - 145		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*112*		*5 - 130*
13C5 PFPeA	*96.5*		*40 - 130*
13C5 PFHxA	*91.7*		*40 - 130*
13C4 PFHpA	*89.7*		*40 - 130*
13C8 PFOA	*94.0*		*40 - 130*
13C9 PFNA	*88.1*		*40 - 130*
13C6 PFDA	*85.4*		*40 - 130*
13C7 PFUnA	*99.9*		*30 - 130*
13C2 PFDoA	*111*		*10 - 130*
13C2 PFTeDA	*99.6*		*10 - 130*
13C3 PFBS	*105*		*40 - 135*
13C3 PFHxS	*103*		*40 - 130*
13C8 PFOS	*87.0*		*40 - 130*
13C8 FOSA	*77.2*		*40 - 130*
d3-NMeFOSAA	*81.3*		*40 - 170*
d5-NEtFOSAA	*87.3*		*25 - 135*
13C2 4:2 FTS	*83.5*		*40 - 200*
13C2 6:2 FTS	*110*		*40 - 200*
13C2 8:2 FTS	*91.4*		*40 - 300*
13C3 HFPO-DA	*75.6*		*40 - 130*
d7-N-MeFOSE-M	*81.3*		*10 - 130*
d9-N-EtFOSE-M	*82.7*		*10 - 130*
d5-NEtPFOSA	*74.8*		*10 - 130*
d3-NMePFOSA	*75.9*		*10 - 130*

Lab Sample ID: LCSD 320-828457/4-A
Matrix: Water
Analysis Batch: 828767

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 828457

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			80.0	73.8		ng/L		92	70 - 140	0	30
Perfluoropentanoic acid (PFPeA)			40.0	41.8		ng/L		104	65 - 135	1	30
Perfluorohexanoic acid (PFHxA)			40.0	39.4		ng/L		98	70 - 145	0	30
Perfluoroheptanoic acid (PFHpA)			40.0	40.0		ng/L		100	70 - 150	6	30
Perfluorooctanoic acid (PFOA)			40.0	45.4		ng/L		114	70 - 150	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-828457/4-A
Matrix: Water
Analysis Batch: 828767

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 828457

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	40.0	41.9		ng/L		105	70 - 150	11	30
Perfluorodecanoic acid (PFDA)	40.0	38.5		ng/L		96	70 - 140	22	30
Perfluoroundecanoic acid (PFUnA)	40.0	47.2		ng/L		118	70 - 145	15	30
Perfluorododecanoic acid (PFDoA)	40.0	43.1		ng/L		108	70 - 140	17	30
Perfluorotridecanoic acid (PFTrDA)	40.0	37.2		ng/L		93	65 - 140	0	30
Perfluorotetradecanoic acid (PFTeDA)	40.0	33.1		ng/L		83	60 - 140	5	30
Perfluorobutanesulfonic acid (PFBS)	35.5	40.2		ng/L		113	60 - 145	10	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	36.4		ng/L		97	65 - 140	6	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	39.6		ng/L		109	65 - 145	5	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	38.3		ng/L		100	70 - 150	10	30
Perfluorooctanesulfonic acid (PFOS)	37.2	38.2		ng/L		103	55 - 150	4	30
Perfluorononanesulfonic acid (PFNS)	38.5	41.6		ng/L		108	65 - 145	3	30
Perfluorodecanesulfonic acid (PFDS)	38.6	36.7		ng/L		95	60 - 145	6	30
Perfluorododecanesulfonic acid (PFDoS)	38.8	38.7		ng/L		100	50 - 145	5	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	73.6		ng/L		98	70 - 145	13	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	66.6		ng/L		87	65 - 155	10	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	76.6		ng/L		100	60 - 150	26	30
Perfluorooctanesulfonamide (PFOSA)	40.0	39.9		ng/L		100	70 - 145	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	41.8		ng/L		104	60 - 150	6	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	38.5		ng/L		96	65 - 145	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	42.0		ng/L		105	50 - 140	6	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	46.4		ng/L		116	70 - 145	24	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	194		ng/L		97	70 - 145	1	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	199		ng/L		100	70 - 135	4	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	29.4		ng/L		98	70 - 140	9	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	38.8		ng/L		103	65 - 145	9	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	41.2		ng/L		103	55 - 140	3	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	41.7		ng/L		104	60 - 150	5	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-828457/4-A
Matrix: Water
Analysis Batch: 828767

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 828457

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			40.0	30.3	*1	ng/L		76	50 - 150	36	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	39.7		ng/L		106	70 - 155	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	46.9		ng/L		124	55 - 160	2	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	41.2		ng/L		116	70 - 140	8	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	75.5		ng/L		94	65 - 130	1	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	185		ng/L		93	70 - 135	3	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	159		ng/L		80	50 - 145	6	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*109*		*5 - 130*
13C5 PFPeA	*88.7*		*40 - 130*
13C5 PFHxA	*94.9*		*40 - 130*
13C4 PFHpA	*87.9*		*40 - 130*
13C8 PFOA	*97.0*		*40 - 130*
13C9 PFNA	*92.8*		*40 - 130*
13C6 PFDA	*90.7*		*40 - 130*
13C7 PFUnA	*87.2*		*30 - 130*
13C2 PFDoA	*96.9*		*10 - 130*
13C2 PFTeDA	*92.2*		*10 - 130*
13C3 PFBS	*102*		*40 - 135*
13C3 PFHxS	*105*		*40 - 130*
13C8 PFOS	*103*		*40 - 130*
13C8 FOSA	*89.1*		*40 - 130*
d3-NMeFOSAA	*97.5*		*40 - 170*
d5-NEtFOSAA	*85.4*		*25 - 135*
13C2 4:2 FTS	*77.7*		*40 - 200*
13C2 6:2 FTS	*84.4*		*40 - 200*
13C2 8:2 FTS	*72.5*		*40 - 300*
13C3 HFPO-DA	*75.9*		*40 - 130*
d7-N-MeFOSE-M	*91.2*		*10 - 130*
d9-N-EtFOSE-M	*90.6*		*10 - 130*
d5-NEtPFOSA	*80.5*		*10 - 130*
d3-NMePFOSA	*76.8*		*10 - 130*

Lab Sample ID: LLCS 320-828457/2-A
Matrix: Water
Analysis Batch: 828767

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828457

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			8.00	7.62		ng/L		95	70 - 140
Perfluoropentanoic acid (PFPeA)			4.00	3.74		ng/L		94	65 - 135
Perfluorohexanoic acid (PFHxA)			4.00	3.43		ng/L		86	70 - 145

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-828457/2-A
Matrix: Water
Analysis Batch: 828767

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828457

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	4.00	3.47		ng/L		87	70 - 150
Perfluorooctanoic acid (PFOA)	4.00	3.79		ng/L		95	70 - 150
Perfluorononanoic acid (PFNA)	4.00	4.34		ng/L		109	70 - 150
Perfluorodecanoic acid (PFDA)	4.00	4.26		ng/L		106	70 - 140
Perfluoroundecanoic acid (PFUnA)	4.00	4.14		ng/L		103	70 - 145
Perfluorododecanoic acid (PFDoA)	4.00	4.14		ng/L		104	70 - 140
Perfluorotridecanoic acid (PFTrDA)	4.00	3.19		ng/L		80	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	4.00	3.49		ng/L		87	60 - 140
Perfluorobutanesulfonic acid (PFBS)	3.55	4.99		ng/L		141	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.76	3.68		ng/L		98	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	3.65	3.73		ng/L		102	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.82	3.37		ng/L		88	70 - 150
Perfluorooctanesulfonic acid (PFOS)	3.72	3.50		ng/L		94	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.85	3.24		ng/L		84	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.86	3.31		ng/L		86	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.88	3.02		ng/L		78	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	7.50	7.89		ng/L		105	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.62	5.90		ng/L		77	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.68	5.60		ng/L		73	60 - 150
Perfluorooctanesulfonamide (PFOSA)	4.00	3.93		ng/L		98	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	4.00	3.60		ng/L		90	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	4.00	3.83		ng/L		96	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.00	4.17		ng/L		104	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.00	4.29		ng/L		107	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	20.0	19.0		ng/L		95	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	20.0	18.6		ng/L		93	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.00	3.12		ng/L		104	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	4.87		ng/L		129	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.00	3.67		ng/L		92	55 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-828457/2-A
Matrix: Water
Analysis Batch: 828767

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828457

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.00	4.12		ng/L		103	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.00	3.69		ng/L		92	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	3.74	4.36		ng/L		117	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	3.78	4.64		ng/L		123	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	3.57	3.31		ng/L		93	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	8.00	6.77		ng/L		85	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	20.0	16.2		ng/L		81	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	20.0	13.7		ng/L		69	50 - 145

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*113*		*5 - 130*
13C5 PFPeA	*91.5*		*40 - 130*
13C5 PFHxA	*102*		*40 - 130*
13C4 PFHpA	*82.7*		*40 - 130*
13C8 PFOA	*104*		*40 - 130*
13C9 PFNA	*91.2*		*40 - 130*
13C6 PFDA	*86.5*		*40 - 130*
13C7 PFUnA	*85.8*		*30 - 130*
13C2 PFDoA	*105*		*10 - 130*
13C2 PFTeDA	*91.9*		*10 - 130*
13C3 PFBS	*88.3*		*40 - 135*
13C3 PFHxS	*106*		*40 - 130*
13C8 PFOS	*100*		*40 - 130*
13C8 FOSA	*77.5*		*40 - 130*
d3-NMeFOSAA	*87.4*		*40 - 170*
d5-NEtFOSAA	*78.1*		*25 - 135*
13C2 4:2 FTS	*83.5*		*40 - 200*
13C2 6:2 FTS	*111*		*40 - 200*
13C2 8:2 FTS	*82.6*		*40 - 300*
13C3 HFPO-DA	*68.3*		*40 - 130*
d7-N-MeFOSE-M	*81.6*		*10 - 130*
d9-N-EtFOSE-M	*80.1*		*10 - 130*
d5-NEtPFOSA	*72.5*		*10 - 130*
d3-NMePFOSA	*76.4*		*10 - 130*

Lab Sample ID: MB 320-829259/1-A
Matrix: Water
Analysis Batch: 829780

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 829259

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.0	1.0	ng/L		01/24/25 04:09	01/27/25 18:48	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-829259/1-A
Matrix: Water
Analysis Batch: 829780

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 829259

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.50	ng/L		01/24/25 04:09	01/27/25 18:48	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		01/24/25 04:09	01/27/25 18:48	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		01/24/25 04:09	01/27/25 18:48	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		01/24/25 04:09	01/27/25 18:48	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		01/24/25 04:09	01/27/25 18:48	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		01/24/25 04:09	01/27/25 18:48	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		01/24/25 04:09	01/27/25 18:48	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		01/24/25 04:09	01/27/25 18:48	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.58	ng/L		01/24/25 04:09	01/27/25 18:48	1
Perfluorotetradecanoic acid (PFTeDA)	ND		2.0	0.81	ng/L		01/24/25 04:09	01/27/25 18:48	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		01/24/25 04:09	01/27/25 18:48	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		01/24/25 04:09	01/27/25 18:48	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		01/24/25 04:09	01/27/25 18:48	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.50	ng/L		01/24/25 04:09	01/27/25 18:48	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		01/24/25 04:09	01/27/25 18:48	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		01/24/25 04:09	01/27/25 18:48	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		01/24/25 04:09	01/27/25 18:48	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.53	ng/L		01/24/25 04:09	01/27/25 18:48	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		4.0	1.0	ng/L		01/24/25 04:09	01/27/25 18:48	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		4.0	1.0	ng/L		01/24/25 04:09	01/27/25 18:48	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		4.0	1.0	ng/L		01/24/25 04:09	01/27/25 18:48	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		01/24/25 04:09	01/27/25 18:48	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		2.0	0.50	ng/L		01/24/25 04:09	01/27/25 18:48	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		2.0	0.50	ng/L		01/24/25 04:09	01/27/25 18:48	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ng/L		01/24/25 04:09	01/27/25 18:48	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.50	ng/L		01/24/25 04:09	01/27/25 18:48	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		10	2.5	ng/L		01/24/25 04:09	01/27/25 18:48	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		10	2.5	ng/L		01/24/25 04:09	01/27/25 18:48	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.5	0.39	ng/L		01/24/25 04:09	01/27/25 18:48	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.50	ng/L		01/24/25 04:09	01/27/25 18:48	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	0.50	ng/L		01/24/25 04:09	01/27/25 18:48	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	0.50	ng/L		01/24/25 04:09	01/27/25 18:48	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	0.72	ng/L		01/24/25 04:09	01/27/25 18:48	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		2.0	0.58	ng/L		01/24/25 04:09	01/27/25 18:48	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-829259/1-A
Matrix: Water
Analysis Batch: 829780

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 829259

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	0.50	ng/L		01/24/25 04:09	01/27/25 18:48	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	0.50	ng/L		01/24/25 04:09	01/27/25 18:48	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		4.0	1.0	ng/L		01/24/25 04:09	01/27/25 18:48	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		10	2.5	ng/L		01/24/25 04:09	01/27/25 18:48	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		10	2.5	ng/L		01/24/25 04:09	01/27/25 18:48	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*92.6*		*5 - 130*	*01/24/25 04:09*	*01/27/25 18:48*	*1*
13C5 PFPeA	*104*		*40 - 130*	*01/24/25 04:09*	*01/27/25 18:48*	*1*
13C5 PFHxA	*98.0*		*40 - 130*	*01/24/25 04:09*	*01/27/25 18:48*	*1*
13C4 PFHpA	*98.9*		*40 - 130*	*01/24/25 04:09*	*01/27/25 18:48*	*1*
13C8 PFOA	*96.3*		*40 - 130*	*01/24/25 04:09*	*01/27/25 18:48*	*1*
13C9 PFNA	*95.9*		*40 - 130*	*01/24/25 04:09*	*01/27/25 18:48*	*1*
13C6 PFDA	*94.4*		*40 - 130*	*01/24/25 04:09*	*01/27/25 18:48*	*1*
13C7 PFUnA	*94.5*		*30 - 130*	*01/24/25 04:09*	*01/27/25 18:48*	*1*
13C2 PFDoA	*98.9*		*10 - 130*	*01/24/25 04:09*	*01/27/25 18:48*	*1*
13C2 PFTeDA	*87.3*		*10 - 130*	*01/24/25 04:09*	*01/27/25 18:48*	*1*
13C3 PFBS	*97.9*		*40 - 135*	*01/24/25 04:09*	*01/27/25 18:48*	*1*
13C3 PFHxS	*95.6*		*40 - 130*	*01/24/25 04:09*	*01/27/25 18:48*	*1*
13C8 PFOS	*99.8*		*40 - 130*	*01/24/25 04:09*	*01/27/25 18:48*	*1*
13C8 FOSA	*88.2*		*40 - 130*	*01/24/25 04:09*	*01/27/25 18:48*	*1*
d3-NMeFOSAA	*85.8*		*40 - 170*	*01/24/25 04:09*	*01/27/25 18:48*	*1*
d5-NEtFOSAA	*80.7*		*25 - 135*	*01/24/25 04:09*	*01/27/25 18:48*	*1*
13C2 4:2 FTS	*79.3*		*40 - 200*	*01/24/25 04:09*	*01/27/25 18:48*	*1*
13C2 6:2 FTS	*77.7*		*40 - 200*	*01/24/25 04:09*	*01/27/25 18:48*	*1*
13C2 8:2 FTS	*67.2*		*40 - 300*	*01/24/25 04:09*	*01/27/25 18:48*	*1*
13C3 HFPO-DA	*112*		*40 - 130*	*01/24/25 04:09*	*01/27/25 18:48*	*1*
d7-N-MeFOSE-M	*84.5*		*10 - 130*	*01/24/25 04:09*	*01/27/25 18:48*	*1*
d9-N-EtFOSE-M	*81.6*		*10 - 130*	*01/24/25 04:09*	*01/27/25 18:48*	*1*
d5-NEtPFOSA	*82.3*		*10 - 130*	*01/24/25 04:09*	*01/27/25 18:48*	*1*
d3-NMePFOSA	*83.3*		*10 - 130*	*01/24/25 04:09*	*01/27/25 18:48*	*1*

Lab Sample ID: LCS 320-829259/3-A
Matrix: Water
Analysis Batch: 829780

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829259

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	76.8		ng/L		96	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	39.1		ng/L		98	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	43.2		ng/L		108	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	40.4		ng/L		101	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	44.8		ng/L		112	70 - 150
Perfluorononanoic acid (PFNA)	40.0	39.7		ng/L		99	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	40.6		ng/L		101	70 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-829259/3-A
Matrix: Water
Analysis Batch: 829780

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829259

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	40.0	42.5		ng/L		106	70 - 145
Perfluorododecanoic acid (PFDoA)	40.0	42.7		ng/L		107	70 - 140
Perfluorotridecanoic acid (PFTrDA)	40.0	38.3		ng/L		96	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	40.0	37.7		ng/L		94	60 - 140
Perfluorobutanesulfonic acid (PFBS)	35.5	37.1		ng/L		104	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	40.0		ng/L		106	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	37.2		ng/L		102	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	39.1		ng/L		102	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	37.5		ng/L		101	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	37.9		ng/L		99	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	38.2		ng/L		99	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	36.5		ng/L		94	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	78.4		ng/L		104	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	83.2		ng/L		109	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	82.9		ng/L		108	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	43.1		ng/L		108	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	42.8		ng/L		107	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	41.0		ng/L		103	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	44.5		ng/L		111	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	43.4		ng/L		109	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	209		ng/L		105	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	206		ng/L		103	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	34.6		ng/L		115	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	33.1		ng/L		88	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	46.8		ng/L		117	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	41.3		ng/L		103	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	55.6		ng/L		139	50 - 150

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-829259/3-A
Matrix: Water
Analysis Batch: 829780

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829259

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	36.1		ng/L		97	70 - 155		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	35.6		ng/L		94	55 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	39.0		ng/L		109	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	93.0		ng/L		116	65 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	176		ng/L		88	70 - 135		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	182		ng/L		91	50 - 145		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*83.0*		*5 - 130*
13C5 PFPeA	*94.7*		*40 - 130*
13C5 PFHxA	*96.0*		*40 - 130*
13C4 PFHpA	*99.1*		*40 - 130*
13C8 PFOA	*90.3*		*40 - 130*
13C9 PFNA	*93.0*		*40 - 130*
13C6 PFDA	*89.3*		*40 - 130*
13C7 PFUnA	*88.7*		*30 - 130*
13C2 PFDoA	*93.6*		*10 - 130*
13C2 PFTeDA	*85.0*		*10 - 130*
13C3 PFBS	*93.7*		*40 - 135*
13C3 PFHxS	*89.5*		*40 - 130*
13C8 PFOS	*90.6*		*40 - 130*
13C8 FOSA	*76.1*		*40 - 130*
d3-NMeFOSAA	*72.5*		*40 - 170*
d5-NEtFOSAA	*72.3*		*25 - 135*
13C2 4:2 FTS	*87.8*		*40 - 200*
13C2 6:2 FTS	*67.2*		*40 - 200*
13C2 8:2 FTS	*62.7*		*40 - 300*
13C3 HFPO-DA	*101*		*40 - 130*
d7-N-MeFOSE-M	*78.9*		*10 - 130*
d9-N-EtFOSE-M	*75.4*		*10 - 130*
d5-NEtPFOSA	*73.5*		*10 - 130*
d3-NMePFOSA	*75.4*		*10 - 130*

Lab Sample ID: LCSD 320-829259/4-A
Matrix: Water
Analysis Batch: 829780

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829259

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			80.0	72.2		ng/L		90	70 - 140	6	30
Perfluoropentanoic acid (PFPeA)			40.0	36.8		ng/L		92	65 - 135	6	30
Perfluorohexanoic acid (PFHxA)			40.0	39.0		ng/L		97	70 - 145	10	30
Perfluoroheptanoic acid (PFHpA)			40.0	38.7		ng/L		97	70 - 150	4	30
Perfluorooctanoic acid (PFOA)			40.0	42.2		ng/L		105	70 - 150	6	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-829259/4-A
Matrix: Water
Analysis Batch: 829780

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829259

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	40.0	39.9		ng/L		100	70 - 150	0	30
Perfluorodecanoic acid (PFDA)	40.0	36.2		ng/L		91	70 - 140	11	30
Perfluoroundecanoic acid (PFUnA)	40.0	41.3		ng/L		103	70 - 145	3	30
Perfluorododecanoic acid (PFDoA)	40.0	39.5		ng/L		99	70 - 140	8	30
Perfluorotridecanoic acid (PFTrDA)	40.0	38.4		ng/L		96	65 - 140	0	30
Perfluorotetradecanoic acid (PFTeDA)	40.0	40.5		ng/L		101	60 - 140	7	30
Perfluorobutanesulfonic acid (PFBS)	35.5	37.3		ng/L		105	60 - 145	1	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	38.9		ng/L		104	65 - 140	3	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	33.7		ng/L		92	65 - 145	10	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	38.7		ng/L		101	70 - 150	1	30
Perfluorooctanesulfonic acid (PFOS)	37.2	35.4		ng/L		95	55 - 150	6	30
Perfluorononanesulfonic acid (PFNS)	38.5	35.7		ng/L		93	65 - 145	6	30
Perfluorodecanesulfonic acid (PFDS)	38.6	37.4		ng/L		97	60 - 145	2	30
Perfluorododecanesulfonic acid (PFDoS)	38.8	33.0		ng/L		85	50 - 145	10	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	74.5		ng/L		99	70 - 145	5	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	75.8		ng/L		100	65 - 155	9	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	75.8		ng/L		99	60 - 150	9	30
Perfluorooctanesulfonamide (PFOSA)	40.0	38.1		ng/L		95	70 - 145	12	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	39.5		ng/L		99	60 - 150	8	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	39.3		ng/L		98	65 - 145	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	41.4		ng/L		104	50 - 140	7	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	41.1		ng/L		103	70 - 145	6	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	192		ng/L		96	70 - 145	8	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	193		ng/L		96	70 - 135	7	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	29.8		ng/L		99	70 - 140	15	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	29.5		ng/L		78	65 - 145	12	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	42.9		ng/L		107	55 - 140	9	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	36.9		ng/L		92	60 - 150	11	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-829259/4-A
Matrix: Water
Analysis Batch: 829780

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829259

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			40.0	41.2		ng/L		103	50 - 150	30	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	30.6		ng/L		82	70 - 155	17	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	29.1		ng/L		77	55 - 160	20	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	34.0		ng/L		95	70 - 140	14	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	81.9		ng/L		102	65 - 130	13	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	177		ng/L		88	70 - 135	0	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	165		ng/L		83	50 - 145	10	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*88.4*		*5 - 130*
13C5 PFPeA	*104*		*40 - 130*
13C5 PFHxA	*95.7*		*40 - 130*
13C4 PFHpA	*95.3*		*40 - 130*
13C8 PFOA	*88.0*		*40 - 130*
13C9 PFNA	*91.2*		*40 - 130*
13C6 PFDA	*85.9*		*40 - 130*
13C7 PFUnA	*82.5*		*30 - 130*
13C2 PFDoA	*89.2*		*10 - 130*
13C2 PFTeDA	*73.1*		*10 - 130*
13C3 PFBS	*85.9*		*40 - 135*
13C3 PFHxS	*88.9*		*40 - 130*
13C8 PFOS	*89.5*		*40 - 130*
13C8 FOSA	*84.0*		*40 - 130*
d3-NMeFOSAA	*76.2*		*40 - 170*
d5-NEtFOSAA	*74.6*		*25 - 135*
13C2 4:2 FTS	*85.7*		*40 - 200*
13C2 6:2 FTS	*73.7*		*40 - 200*
13C2 8:2 FTS	*63.0*		*40 - 300*
13C3 HFPO-DA	*110*		*40 - 130*
d7-N-MeFOSE-M	*81.4*		*10 - 130*
d9-N-EtFOSE-M	*75.7*		*10 - 130*
d5-NEtPFOSA	*72.9*		*10 - 130*
d3-NMePFOSA	*79.0*		*10 - 130*

Lab Sample ID: LLCS 320-829259/2-A
Matrix: Water
Analysis Batch: 829780

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829259

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			8.00	8.76		ng/L		109	70 - 140
Perfluoropentanoic acid (PFPeA)			4.00	4.69		ng/L		117	65 - 135
Perfluorohexanoic acid (PFHxA)			4.00	5.14		ng/L		129	70 - 145

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-829259/2-A
Matrix: Water
Analysis Batch: 829780

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829259

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	4.00	4.86		ng/L		122	70 - 150
Perfluorooctanoic acid (PFOA)	4.00	4.94		ng/L		124	70 - 150
Perfluorononanoic acid (PFNA)	4.00	4.61		ng/L		115	70 - 150
Perfluorodecanoic acid (PFDA)	4.00	4.31		ng/L		108	70 - 140
Perfluoroundecanoic acid (PFUnA)	4.00	4.85		ng/L		121	70 - 145
Perfluorododecanoic acid (PFDoA)	4.00	4.47		ng/L		112	70 - 140
Perfluorotridecanoic acid (PFTrDA)	4.00	4.12		ng/L		103	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	4.00	3.87		ng/L		97	60 - 140
Perfluorobutanesulfonic acid (PFBS)	3.55	4.37		ng/L		123	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.76	4.57		ng/L		121	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	3.65	4.19		ng/L		115	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.82	3.97		ng/L		104	70 - 150
Perfluorooctanesulfonic acid (PFOS)	3.72	3.98		ng/L		107	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.85	4.35		ng/L		113	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.86	4.22		ng/L		109	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.88	3.63		ng/L		94	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	7.50	8.58		ng/L		114	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.62	9.99		ng/L		131	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.68	8.45		ng/L		110	60 - 150
Perfluorooctanesulfonamide (PFOSA)	4.00	4.35		ng/L		109	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	4.00	4.36		ng/L		109	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	4.00	4.04		ng/L		101	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.00	4.50		ng/L		113	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.00	4.42		ng/L		110	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	20.0	21.2		ng/L		106	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	20.0	21.2		ng/L		106	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.00	3.77		ng/L		126	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	3.77		ng/L		100	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.00	5.14		ng/L		129	55 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-829259/2-A
Matrix: Water
Analysis Batch: 829780

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829259

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.00	4.78		ng/L		119	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.00	5.51		ng/L		138	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	3.74	3.58		ng/L		96	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	3.78	3.55		ng/L		94	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	3.57	4.02		ng/L		113	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	8.00	9.29		ng/L		116	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	20.0	19.4		ng/L		97	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	20.0	16.6		ng/L		83	50 - 145

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*89.4*		*5 - 130*
13C5 PFPeA	*96.3*		*40 - 130*
13C5 PFHxA	*98.3*		*40 - 130*
13C4 PFHpA	*92.8*		*40 - 130*
13C8 PFOA	*90.1*		*40 - 130*
13C9 PFNA	*89.7*		*40 - 130*
13C6 PFDA	*85.1*		*40 - 130*
13C7 PFUnA	*79.6*		*30 - 130*
13C2 PFDoA	*88.9*		*10 - 130*
13C2 PFTeDA	*78.8*		*10 - 130*
13C3 PFBS	*94.8*		*40 - 135*
13C3 PFHxS	*86.9*		*40 - 130*
13C8 PFOS	*88.5*		*40 - 130*
13C8 FOSA	*87.0*		*40 - 130*
d3-NMeFOSAA	*80.7*		*40 - 170*
d5-NEtFOSAA	*79.4*		*25 - 135*
13C2 4:2 FTS	*85.0*		*40 - 200*
13C2 6:2 FTS	*71.0*		*40 - 200*
13C2 8:2 FTS	*64.0*		*40 - 300*
13C3 HFPO-DA	*106*		*40 - 130*
d7-N-MeFOSE-M	*90.9*		*10 - 130*
d9-N-EtFOSE-M	*88.4*		*10 - 130*
d5-NEtPFOSA	*88.7*		*10 - 130*
d3-NMePFOSA	*87.4*		*10 - 130*

LCMS

Prep Batch: 828457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118344-2	GDF-GR-5-N-01142025	Total/NA	Water	1633	
320-118344-2 - RA	GDF-GR-5-N-01142025	Total/NA	Water	1633	
320-118344-3 - RA	GCF-MW-11A-N-01142025	Total/NA	Water	1633	
320-118344-3	GCF-MW-11A-N-01142025	Total/NA	Water	1633	
320-118344-4 - RA	GCF-MW-12A-N-01142025	Total/NA	Water	1633	
320-118344-4	GCF-MW-12A-N-01142025	Total/NA	Water	1633	
320-118344-5 - RA	GCF-MW-12A-FD-01142025	Total/NA	Water	1633	
320-118344-5	GCF-MW-12A-FD-01142025	Total/NA	Water	1633	
320-118344-6 - RA	GCF-MW-12B-N-01142025	Total/NA	Water	1633	
320-118344-6	GCF-MW-12B-N-01142025	Total/NA	Water	1633	
320-118344-7	GDF-MW-10A-N-01142025	Total/NA	Water	1633	
320-118344-8	GDF-MW-10R-N-01142025	Total/NA	Water	1633	
320-118344-9	EB-01142025	Total/NA	Water	1633	
320-118344-10	FB-01142025	Total/NA	Water	1633	
320-118344-11	GDF-GR-2-N-01152025	Total/NA	Water	1633	
320-118344-12	GDF-GR-2-FD-01152025	Total/NA	Water	1633	
320-118344-13	GDF-GR-3-N-01152025	Total/NA	Water	1633	
320-118344-14	GDF-GR-4-N-01152025	Total/NA	Water	1633	
320-118344-15	EB-01152025	Total/NA	Water	1633	
320-118344-16	FB-01152025	Total/NA	Water	1633	
MB 320-828457/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-828457/3-A	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-828457/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-828457/2-A	Lab Control Sample	Total/NA	Water	1633	

Analysis Batch: 828767

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-828457/1-A	Method Blank	Total/NA	Water	1633	828457
LCS 320-828457/3-A	Lab Control Sample	Total/NA	Water	1633	828457
LCSD 320-828457/4-A	Lab Control Sample Dup	Total/NA	Water	1633	828457
LLCS 320-828457/2-A	Lab Control Sample	Total/NA	Water	1633	828457

Analysis Batch: 828810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118344-2	GDF-GR-5-N-01142025	Total/NA	Water	1633	828457
320-118344-3	GCF-MW-11A-N-01142025	Total/NA	Water	1633	828457
320-118344-4	GCF-MW-12A-N-01142025	Total/NA	Water	1633	828457
320-118344-5	GCF-MW-12A-FD-01142025	Total/NA	Water	1633	828457
320-118344-6	GCF-MW-12B-N-01142025	Total/NA	Water	1633	828457
320-118344-7	GDF-MW-10A-N-01142025	Total/NA	Water	1633	828457
320-118344-8	GDF-MW-10R-N-01142025	Total/NA	Water	1633	828457
320-118344-9	EB-01142025	Total/NA	Water	1633	828457
320-118344-10	FB-01142025	Total/NA	Water	1633	828457
320-118344-11	GDF-GR-2-N-01152025	Total/NA	Water	1633	828457
320-118344-12	GDF-GR-2-FD-01152025	Total/NA	Water	1633	828457
320-118344-13	GDF-GR-3-N-01152025	Total/NA	Water	1633	828457
320-118344-14	GDF-GR-4-N-01152025	Total/NA	Water	1633	828457
320-118344-15	EB-01152025	Total/NA	Water	1633	828457
320-118344-16	FB-01152025	Total/NA	Water	1633	828457

LCMS

Analysis Batch: 829217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118344-2 - RA	GDF-GR-5-N-01142025	Total/NA	Water	1633	828457
320-118344-3 - RA	GCF-MW-11A-N-01142025	Total/NA	Water	1633	828457
320-118344-4 - RA	GCF-MW-12A-N-01142025	Total/NA	Water	1633	828457
320-118344-5 - RA	GCF-MW-12A-FD-01142025	Total/NA	Water	1633	828457
320-118344-6 - RA	GCF-MW-12B-N-01142025	Total/NA	Water	1633	828457

Prep Batch: 829259

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118344-1	EA-MW-8B-N-01142025	Total/NA	Water	1633	
MB 320-829259/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-829259/3-A	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-829259/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-829259/2-A	Lab Control Sample	Total/NA	Water	1633	

Analysis Batch: 829780

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118344-1	EA-MW-8B-N-01142025	Total/NA	Water	1633	829259
MB 320-829259/1-A	Method Blank	Total/NA	Water	1633	829259
LCS 320-829259/3-A	Lab Control Sample	Total/NA	Water	1633	829259
LCSD 320-829259/4-A	Lab Control Sample Dup	Total/NA	Water	1633	829259
LLCS 320-829259/2-A	Lab Control Sample	Total/NA	Water	1633	829259

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118344-1

Client Sample ID: EA-MW-8B-N-01142025
Lab Sample ID: 320-118344-1
Date Collected: 01/14/25 11:50
Matrix: Water
Date Received: 01/17/25 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			132.1 mL	5.0 mL	829259	01/24/25 04:09	RMF	EET SAC
Total/NA	Analysis	1633		1			829780	01/27/25 19:54	P1P	EET SAC

Client Sample ID: GDF-GR-5-N-01142025
Lab Sample ID: 320-118344-2
Date Collected: 01/14/25 14:05
Matrix: Water
Date Received: 01/17/25 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			146.1 mL	5.0 mL	828457	01/21/25 03:46	RMF	EET SAC
Total/NA	Analysis	1633		1			828810	01/22/25 15:17	RS1	EET SAC
Total/NA	Prep	1633	RA		146.1 mL	5.0 mL	828457	01/21/25 03:46	RMF	EET SAC
Total/NA	Analysis	1633	RA	1			829217	01/23/25 16:12	SS	EET SAC

Client Sample ID: GCF-MW-11A-N-01142025
Lab Sample ID: 320-118344-3
Date Collected: 01/14/25 10:35
Matrix: Water
Date Received: 01/17/25 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			149.7 mL	5.0 mL	828457	01/21/25 03:46	RMF	EET SAC
Total/NA	Analysis	1633		1			828810	01/22/25 15:34	RS1	EET SAC
Total/NA	Prep	1633	RA		149.7 mL	5.0 mL	828457	01/21/25 03:46	RMF	EET SAC
Total/NA	Analysis	1633	RA	1			829217	01/23/25 16:28	SS	EET SAC

Client Sample ID: GCF-MW-12A-N-01142025
Lab Sample ID: 320-118344-4
Date Collected: 01/14/25 11:55
Matrix: Water
Date Received: 01/17/25 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			154.8 mL	5.0 mL	828457	01/21/25 03:46	RMF	EET SAC
Total/NA	Analysis	1633		1			828810	01/22/25 15:50	RS1	EET SAC
Total/NA	Prep	1633	RA		154.8 mL	5.0 mL	828457	01/21/25 03:46	RMF	EET SAC
Total/NA	Analysis	1633	RA	1			829217	01/23/25 16:45	SS	EET SAC

Client Sample ID: GCF-MW-12A-FD-01142025
Lab Sample ID: 320-118344-5
Date Collected: 01/14/25 12:25
Matrix: Water
Date Received: 01/17/25 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			155 mL	5.0 mL	828457	01/21/25 03:46	RMF	EET SAC
Total/NA	Analysis	1633		1			828810	01/22/25 16:07	RS1	EET SAC
Total/NA	Prep	1633	RA		155 mL	5.0 mL	828457	01/21/25 03:46	RMF	EET SAC
Total/NA	Analysis	1633	RA	1			829217	01/23/25 17:01	SS	EET SAC

Client Sample ID: GCF-MW-12B-N-01142025
Lab Sample ID: 320-118344-6
Date Collected: 01/14/25 13:15
Matrix: Water
Date Received: 01/17/25 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			150.8 mL	5.0 mL	828457	01/21/25 03:46	RMF	EET SAC
Total/NA	Analysis	1633		1			828810	01/22/25 16:23	RS1	EET SAC
Total/NA	Prep	1633	RA		150.8 mL	5.0 mL	828457	01/21/25 03:46	RMF	EET SAC
Total/NA	Analysis	1633	RA	1			829217	01/23/25 17:18	SS	EET SAC

Client Sample ID: GDF-MW-10A-N-01142025
Lab Sample ID: 320-118344-7
Date Collected: 01/14/25 14:30
Matrix: Water
Date Received: 01/17/25 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			148.1 mL	5.0 mL	828457	01/21/25 03:46	RMF	EET SAC
Total/NA	Analysis	1633		1			828810	01/22/25 17:12	RS1	EET SAC

Client Sample ID: GDF-MW-10R-N-01142025
Lab Sample ID: 320-118344-8
Date Collected: 01/14/25 15:15
Matrix: Water
Date Received: 01/17/25 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			145.8 mL	5.0 mL	828457	01/21/25 03:46	RMF	EET SAC
Total/NA	Analysis	1633		1			828810	01/22/25 17:29	RS1	EET SAC

Client Sample ID: EB-01142025
Lab Sample ID: 320-118344-9
Date Collected: 01/14/25 15:25
Matrix: Water
Date Received: 01/17/25 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			148.5 mL	5.0 mL	828457	01/21/25 03:46	RMF	EET SAC
Total/NA	Analysis	1633		1			828810	01/22/25 17:45	RS1	EET SAC

Client Sample ID: FB-01142025
Lab Sample ID: 320-118344-10
Date Collected: 01/14/25 00:00
Matrix: Water
Date Received: 01/17/25 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			168.5 mL	5.0 mL	828457	01/21/25 03:46	RMF	EET SAC
Total/NA	Analysis	1633		1			828810	01/22/25 18:02	RS1	EET SAC

Client Sample ID: GDF-GR-2-N-01152025
Lab Sample ID: 320-118344-11
Date Collected: 01/15/25 09:45
Matrix: Water
Date Received: 01/17/25 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			140.4 mL	5.0 mL	828457	01/21/25 03:46	RMF	EET SAC
Total/NA	Analysis	1633		1			828810	01/22/25 18:18	RS1	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118344-1

Client Sample ID: GDF-GR-2-FD-01152025
Lab Sample ID: 320-118344-12
Date Collected: 01/15/25 09:55
Matrix: Water
Date Received: 01/17/25 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			135.7 mL	5.0 mL	828457	01/21/25 03:46	RMF	EET SAC
Total/NA	Analysis	1633		1			828810	01/22/25 18:34	RS1	EET SAC

Client Sample ID: GDF-GR-3-N-01152025
Lab Sample ID: 320-118344-13
Date Collected: 01/15/25 09:05
Matrix: Water
Date Received: 01/17/25 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			143.7 mL	5.0 mL	828457	01/21/25 03:46	RMF	EET SAC
Total/NA	Analysis	1633		1			828810	01/22/25 18:51	RS1	EET SAC

Client Sample ID: GDF-GR-4-N-01152025
Lab Sample ID: 320-118344-14
Date Collected: 01/15/25 10:45
Matrix: Water
Date Received: 01/17/25 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			149.3 mL	5.0 mL	828457	01/21/25 03:46	RMF	EET SAC
Total/NA	Analysis	1633		1			828810	01/22/25 19:07	RS1	EET SAC

Client Sample ID: EB-01152025
Lab Sample ID: 320-118344-15
Date Collected: 01/15/25 10:55
Matrix: Water
Date Received: 01/17/25 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			156.8 mL	5.0 mL	828457	01/21/25 03:46	RMF	EET SAC
Total/NA	Analysis	1633		1			828810	01/22/25 19:24	RS1	EET SAC

Client Sample ID: FB-01152025
Lab Sample ID: 320-118344-16
Date Collected: 01/15/25 00:00
Matrix: Water
Date Received: 01/17/25 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			171.1 mL	5.0 mL	828457	01/21/25 03:46	RMF	EET SAC
Total/NA	Analysis	1633		1			828810	01/22/25 19:40	RS1	EET SAC

Laboratory References:
EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118344-1
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118344-1

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Solid-Phase Extraction (SPE)	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118344-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118344-1	EA-MW-8B-N-01142025	Water	01/14/25 11:50	01/17/25 10:45
320-118344-2	GDF-GR-5-N-01142025	Water	01/14/25 14:05	01/17/25 10:45
320-118344-3	GCF-MW-11A-N-01142025	Water	01/14/25 10:35	01/17/25 10:45
320-118344-4	GCF-MW-12A-N-01142025	Water	01/14/25 11:55	01/17/25 10:45
320-118344-5	GCF-MW-12A-FD-01142025	Water	01/14/25 12:25	01/17/25 10:45
320-118344-6	GCF-MW-12B-N-01142025	Water	01/14/25 13:15	01/17/25 10:45
320-118344-7	GDF-MW-10A-N-01142025	Water	01/14/25 14:30	01/17/25 10:45
320-118344-8	GDF-MW-10R-N-01142025	Water	01/14/25 15:15	01/17/25 10:45
320-118344-9	EB-01142025	Water	01/14/25 15:25	01/17/25 10:45
320-118344-10	FB-01142025	Water	01/14/25 00:00	01/17/25 10:45
320-118344-11	GDF-GR-2-N-01152025	Water	01/15/25 09:45	01/17/25 10:45
320-118344-12	GDF-GR-2-FD-01152025	Water	01/15/25 09:55	01/17/25 10:45
320-118344-13	GDF-GR-3-N-01152025	Water	01/15/25 09:05	01/17/25 10:45
320-118344-14	GDF-GR-4-N-01152025	Water	01/15/25 10:45	01/17/25 10:45
320-118344-15	EB-01152025	Water	01/15/25 10:55	01/17/25 10:45
320-118344-16	FB-01152025	Water	01/15/25 00:00	01/17/25 10:45

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE		TURNAROUND TIME	
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	PFAS EPA 1633	Cations EPA 200.7	Anions EPA 300.0	Bromide EPA 300.0	Alkalinity SM 2320 B	Number of Containers
EA-MW-9B-N-01147025	1/14/25	11:50	H_2O	X	X	X	X	X	3
GDF-GR-5-N-01147025	1/14/25	14:05		X	X	X	X	X	
GCF-MW-11B-N-01147025	1/14/25	10:35		X	X	X	X	X	
GCF-MW-12A-N-01147025	1/14/25	11:55		X	X	X	X	X	
GCF-MW-12A-FD-01147025	1/14/25	12:25		X	X	X	X	X	
GCF-MW-12B-N-01147025	1/14/25	13:15		X	X	X	X	X	
GDF-MW-10A-N-01147025	1/14/25	14:30		X	X	X	X	X	
GDF-MW-10R-N-01147025	1/14/25	15:15		X	X	X	X	X	
EB-01147025	1/14/25	15:25		X	X	X	X	X	
FB-01147025	1/14/25	—		X	X	X	X	X	

Comments(special instructions, precautions, additional method numbers, etc.)

- PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

- Cations to be analyzed: Ca, Mg, K, Na
- Anions to be analyzed: Cl, NO_3^-, SO_4^{2-}
- Alkilinity to be mesaured by titration

320-118344 Chain of Custody

2.8, 3.2 cor IR0066

Sampled and Relinquished by	Received by
Sign	Sign
Print Breeyn Greer	Print Macky Morris
Firm HA	Firm EETSPO
Date 1/15/25 Time 1550	Date 1/15/25 1550
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print
Firm EETSPO	Firm EETS
Date 1/16/25 Time 1535	Date 1/17/25 10:45
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1	☐ S1	☐ GW1
☐ RC-S2	☐ S2	☐ GW2
☐ RC-GW1	☐ S3	☐ GW3
☐ RC-GW2		

WHITE - Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory

1.9°C

November 2024

Form 3003

HALEY ALDRICH

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447
Page 1 of 1

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	1/10/25
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	Standard
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	Cations EPA 200.7	Anions EPA 300.0	Bromide EPA 300.0	Alkalinity SM 2320 B	Number of Containers
GDF-GR-2-N-01152025	1/15/25	9:45	H_2O	X					3 LMP
GDF-GR-2-FD-01152025	1/15/25	9:55		X					
GDF-GR-3-N-01152025	1/15/25	9:05		X					
GDF-GR-4-N-01152025	1/15/25	10:45		X					
EB-01152025	1/15/25	10:55		X					
FB-01152025	1/15/25	—		X					1
			LMP						LMP

Comments(special instructions, precautions, additional method numbers, etc.)

- PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

- Cations to be analyzed: Ca, Mg, K, Na
- Anions to be analyzed: Cl, NO_3^-, SO_4^{2-}
- Alkilinity to be mesaured by titration

11.1-Scan Rerole

Sampled and Relinquished by	Received by
Sign	Sign
Print Lucy Peden	Print Mackey
Firm Haley & Aldrich	Firm EEC SPO
Date 1/16/25 Time 13 30	Date 1/16/25 1330
Relinquished by	**Received by**
Sign	Sign
Print Mackey Morris	Print Sysan
Firm EEC SPO	Firm FET Sac
Date 1/16/25 Time 1535	Date 1/17/25 1045
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

Form 3003

November 2024

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1/28/2025

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118344

Tracking # 4242 5692 9960

Job _____ _____

SO / (FO) / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID L10 Corr Factor (+ / -) N/A °C

Ice ~ Wet_____ Gel _____ Other _____

Cooler Custody Seal: 278743/

Cooler ID _____

Temp Observed 1.9 °C Corrected 1.9 °C

From Temp Blank ☑ Sandwich ☐ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials JF Date 1/17/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☑	☐
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials JF Date 1/17/25

Notes:_____

Trizma Lot #(s). _____

Ammonium Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☑	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials JF Date 1/17/25

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 1/22/2025 11:28:13 AM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118263-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

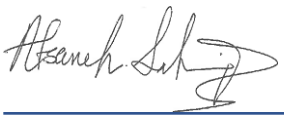
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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1/22/2025 11:28:13 AM

Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118263-1
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118263-1 — Eurofins Sacramento

Job Narrative
320-118263-1

Receipt
The samples were received on 1/15/2025 9:45 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.5º C.

Receipt Exceptions

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): FB-01132025 (320-118263-10). Sample 10, recieved 1 container not 3.

LCMS
Method 1633: The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. The associated analytes have been flagged: GCF-MW-13-N-01132025 (320-118263-3), GCF-MW-5-N-01132025 (320-118263-4), GCF-MW-11-N-01132025 (320-118263-6), GCF-MW-7-N-01132025 (320-118263-7) and (CCB 320-828189/2).

Method 1633: The continuing calibration verification (CCV) associated with batch 320-828189 recovered above the upper control limit for isotope dilution analyte (IDA) d3-NMeFOSAA, The associated target analyte, N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA), was within control limits in the CCV. The samples associated with this CCV were non-detect(s) for the affected target analyte; therefore, the data have been reported. The associated samples are impacted: GCF-MW-5D-N-01132025 (320-118263-1), EA-MW-5B-N-01132025 (320-118263-2), GCF-MW-13-N-01132025 (320-118263-3), GCF-MW-5-N-01132025 (320-118263-4), GCF-MW-5-FD-01132025 (320-118263-5) and (CCV 320-828189/1).

Method 1633: Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: GCF-MW-5D-N-01132025 (320-118263-1) and FB-01132025 (320-118263-10). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 1633: The low level continuing calibration verification (CCVL) associated with batch 320-828188 recovered above the upper control limit for Perfluorobutanesulfonic acid (PFBS). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: EA-MW-5B-N-01132025 (320-118263-2), EB-01132025 (320-118263-9), FB-01132025 (320-118263-10) and (CCVL 320-828188/2).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 1633: The following sample in preparation batch 320-827982 were light yellow in color following extraction. GCF-MW-11-N-01132025 (320-118263-6).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118263-1

Client Sample ID: GCF-MW-5D-N-01132025 — Lab Sample ID: 320-118263-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	3.8		3.7	0.92	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	4.7		1.8	0.46	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	3.0		1.8	0.46	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.0		1.8	0.46	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	4.6		1.8	0.46	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.97	J	1.8	0.46	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	11		1.8	0.46	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	11		1.8	0.46	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS) - RA	1.3	J	1.8	0.46	ng/L	1		1633	Total/NA

Client Sample ID: EA-MW-5B-N-01132025 — Lab Sample ID: 320-118263-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.99	J	1.9	0.48	ng/L	1		1633	Total/NA

Client Sample ID: GCF-MW-13-N-01132025 — Lab Sample ID: 320-118263-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	17		3.6	0.91	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	13		1.8	0.46	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	12		1.8	0.46	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	6.2		1.8	0.46	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	30		1.8	0.46	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	6.3	I	1.8	0.46	ng/L	1		1633	Total/NA
Perfluorodecanoic acid (PFDA)	24		1.8	0.46	ng/L	1		1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.97	J	1.8	0.46	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.7	J	1.8	0.46	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	20		1.8	0.46	ng/L	1		1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	7.3		1.8	0.46	ng/L	1		1633	Total/NA
N-ethylperfluorooctane sulfonamide (NEtFOSA)	1.7	J	1.8	0.46	ng/L	1		1633	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	37		1.8	0.46	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS) - RA	1.1	J	1.8	0.46	ng/L	1		1633	Total/NA

Client Sample ID: GCF-MW-5-N-01132025 — Lab Sample ID: 320-118263-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.1	J	3.1	0.79	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.44	J	1.6	0.39	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	1.7		1.6	0.39	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	0.53	J I	1.6	0.39	ng/L	1		1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.57	J	1.6	0.39	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.49	J	1.6	0.39	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.7		1.6	0.39	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.9		1.6	0.39	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS) - RA	1.7		1.6	0.39	ng/L	1		1633	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118263-1

Client Sample ID: GCF-MW-5-FD-01132025 — Lab Sample ID: 320-118263-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.1	J	3.5	0.87	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	1.3	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	0.45	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.46	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.43	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	5.1		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.9		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS) - RA	1.8		1.7	0.43	ng/L	1		1633	Total/NA

Client Sample ID: GCF-MW-11-N-01132025 — Lab Sample ID: 320-118263-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.8	J	3.7	0.93	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	1.4	J	1.9	0.47	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	1.2	J	1.9	0.47	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.61	J	1.9	0.47	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	1.5	J	1.9	0.47	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.71	J	1.9	0.47	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.9		1.9	0.47	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.6	J I	1.9	0.47	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS) - RA	2.5		1.9	0.47	ng/L	1		1633	Total/NA

Client Sample ID: GCF-MW-7-N-01132025 — Lab Sample ID: 320-118263-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	13		3.6	0.90	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	16		1.8	0.45	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	9.4		1.8	0.45	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	4.2		1.8	0.45	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	4.6		1.8	0.45	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	0.70	J I	1.8	0.45	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.57	J	1.8	0.45	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.3		1.8	0.45	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	11		1.8	0.45	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS) - RA	1.3	J	1.8	0.45	ng/L	1		1633	Total/NA

Client Sample ID: GCF-MW-11B-N-01132025 — Lab Sample ID: 320-118263-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	5.6		3.4	0.86	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	15		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	12		1.7	0.43	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	6.0		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	9.0		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	0.60	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	3.4		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	27		1.7	0.43	ng/L	1		1633	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118263-1

Client Sample ID: GCF-MW-11B-N-01132025 (Continued) — Lab Sample ID: 320-118263-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanesulfonic acid (PFHpS)	3.1		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	32		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS) - RA	3.4		1.7	0.43	ng/L	1		1633	Total/NA

Client Sample ID: EB-01132025 — Lab Sample ID: 320-118263-9

No Detections.

Client Sample ID: FB-01132025 — Lab Sample ID: 320-118263-10

No Detections.

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118263-1

Client Sample ID: GCF-MW-5D-N-01132025
Date Collected: 01/13/25 12:40
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118263-1
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.8**		3.7	0.92	ng/L		01/17/25 07:48	01/18/25 12:04	1
Perfluoropentanoic acid (PFPeA)	**4.7**		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:04	1
Perfluorohexanoic acid (PFHxA)	**3.0**		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:04	1
Perfluoroheptanoic acid (PFHpA)	**2.0**		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:04	1
Perfluorooctanoic acid (PFOA)	**4.6**		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:04	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:04	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:04	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:04	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.51	ng/L		01/17/25 07:48	01/18/25 12:04	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.53	ng/L		01/17/25 07:48	01/18/25 12:04	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.8	0.74	ng/L		01/17/25 07:48	01/18/25 12:04	1
Perfluoropentanesulfonic acid (PFPeS)	**0.97**	**J**	1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:04	1
Perfluorohexanesulfonic acid (PFHxS)	**11**		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:04	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:04	1
Perfluorooctanesulfonic acid (PFOS)	**11**		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:04	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:04	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:04	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.49	ng/L		01/17/25 07:48	01/18/25 12:04	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.7	0.92	ng/L		01/17/25 07:48	01/18/25 12:04	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.7	0.92	ng/L		01/17/25 07:48	01/18/25 12:04	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.7	0.92	ng/L		01/17/25 07:48	01/18/25 12:04	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:04	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:04	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:04	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:04	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:04	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		9.2	2.3	ng/L		01/17/25 07:48	01/18/25 12:04	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		9.2	2.3	ng/L		01/17/25 07:48	01/18/25 12:04	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.4	0.36	ng/L		01/17/25 07:48	01/18/25 12:04	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:04	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:04	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:04	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.8	0.66	ng/L		01/17/25 07:48	01/18/25 12:04	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.8	0.53	ng/L		01/17/25 07:48	01/18/25 12:04	1

Client Sample ID: GCF-MW-5D-N-01132025

Lab Sample ID: 320-118263-1

Date Collected: 01/13/25 12:40
Matrix: Water
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:04	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:04	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.7	0.92	ng/L		01/17/25 07:48	01/18/25 12:04	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		9.2	2.3	ng/L		01/17/25 07:48	01/18/25 12:04	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		9.2	2.3	ng/L		01/17/25 07:48	01/18/25 12:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*111*		*5 - 130*	*01/17/25 07:48*	*01/18/25 12:04*	*1*
13C5 PFPeA	*106*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:04*	*1*
13C5 PFHxA	*98.5*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:04*	*1*
13C4 PFHpA	*97.2*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:04*	*1*
13C8 PFOA	*78.4*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:04*	*1*
13C9 PFNA	*94.2*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:04*	*1*
13C6 PFDA	*102*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:04*	*1*
13C7 PFUnA	*114*		*30 - 130*	*01/17/25 07:48*	*01/18/25 12:04*	*1*
13C2 PFDoA	*137*	**5+*	*10 - 130*	*01/17/25 07:48*	*01/18/25 12:04*	*1*
13C2 PFTeDA	*104*		*10 - 130*	*01/17/25 07:48*	*01/18/25 12:04*	*1*
13C3 PFBS	*88.8*		*40 - 135*	*01/17/25 07:48*	*01/18/25 12:04*	*1*
13C3 PFHxS	*95.0*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:04*	*1*
13C8 PFOS	*94.6*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:04*	*1*
13C8 FOSA	*83.6*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:04*	*1*
d3-NMeFOSAA	*105*		*40 - 170*	*01/17/25 07:48*	*01/18/25 12:04*	*1*
d5-NEtFOSAA	*112*		*25 - 135*	*01/17/25 07:48*	*01/18/25 12:04*	*1*
13C2 4:2 FTS	*104*		*40 - 200*	*01/17/25 07:48*	*01/18/25 12:04*	*1*
13C2 6:2 FTS	*101*		*40 - 200*	*01/17/25 07:48*	*01/18/25 12:04*	*1*
13C2 8:2 FTS	*85.8*		*40 - 300*	*01/17/25 07:48*	*01/18/25 12:04*	*1*
13C3 HFPO-DA	*82.9*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:04*	*1*
d7-N-MeFOSE-M	*80.8*		*10 - 130*	*01/17/25 07:48*	*01/18/25 12:04*	*1*
d9-N-EtFOSE-M	*80.5*		*10 - 130*	*01/17/25 07:48*	*01/18/25 12:04*	*1*
d5-NEtPFOSA	*80.5*		*10 - 130*	*01/17/25 07:48*	*01/18/25 12:04*	*1*
d3-NMePFOSA	*77.3*		*10 - 130*	*01/17/25 07:48*	*01/18/25 12:04*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	**1.3**	**J**	1.8	0.46	ng/L		01/17/25 07:48	01/20/25 23:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*107*		*40 - 135*	*01/17/25 07:48*	*01/20/25 23:41*	*1*

Client Sample ID: EA-MW-5B-N-01132025

Lab Sample ID: 320-118263-2

Date Collected: 01/13/25 15:30
Matrix: Water
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.8	0.95	ng/L		01/17/25 07:48	01/18/25 12:20	1
Perfluoropentanoic acid (PFPeA)	ND		1.9	0.48	ng/L		01/17/25 07:48	01/18/25 12:20	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118263-1

Client Sample ID: EA-MW-5B-N-01132025
Date Collected: 01/13/25 15:30
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118263-2
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		1.9	0.48	ng/L		01/17/25 07:48	01/18/25 12:20	1
Perfluoroheptanoic acid (PFHpA)	ND		1.9	0.48	ng/L		01/17/25 07:48	01/18/25 12:20	1
Perfluorooctanoic acid (PFOA)	ND		1.9	0.48	ng/L		01/17/25 07:48	01/18/25 12:20	1
Perfluorononanoic acid (PFNA)	ND		1.9	0.48	ng/L		01/17/25 07:48	01/18/25 12:20	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.48	ng/L		01/17/25 07:48	01/18/25 12:20	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	0.48	ng/L		01/17/25 07:48	01/18/25 12:20	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		01/17/25 07:48	01/18/25 12:20	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	0.55	ng/L		01/17/25 07:48	01/18/25 12:20	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.9	0.77	ng/L		01/17/25 07:48	01/18/25 12:20	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.9	0.48	ng/L		01/17/25 07:48	01/18/25 12:20	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.9	0.48	ng/L		01/17/25 07:48	01/18/25 12:20	1
Perfluorohexanesulfonic acid (PFHxS)	**0.99**	**J**	1.9	0.48	ng/L		01/17/25 07:48	01/18/25 12:20	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.48	ng/L		01/17/25 07:48	01/18/25 12:20	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.9	0.48	ng/L		01/17/25 07:48	01/18/25 12:20	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.48	ng/L		01/17/25 07:48	01/18/25 12:20	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.48	ng/L		01/17/25 07:48	01/18/25 12:20	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.50	ng/L		01/17/25 07:48	01/18/25 12:20	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.8	0.95	ng/L		01/17/25 07:48	01/18/25 12:20	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.8	0.95	ng/L		01/17/25 07:48	01/18/25 12:20	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.8	0.95	ng/L		01/17/25 07:48	01/18/25 12:20	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.9	0.48	ng/L		01/17/25 07:48	01/18/25 12:20	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.9	0.48	ng/L		01/17/25 07:48	01/18/25 12:20	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.9	0.48	ng/L		01/17/25 07:48	01/18/25 12:20	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.9	0.48	ng/L		01/17/25 07:48	01/18/25 12:20	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.9	0.48	ng/L		01/17/25 07:48	01/18/25 12:20	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		9.5	2.4	ng/L		01/17/25 07:48	01/18/25 12:20	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		9.5	2.4	ng/L		01/17/25 07:48	01/18/25 12:20	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.4	0.37	ng/L		01/17/25 07:48	01/18/25 12:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.48	ng/L		01/17/25 07:48	01/18/25 12:20	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.9	0.48	ng/L		01/17/25 07:48	01/18/25 12:20	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.9	0.48	ng/L		01/17/25 07:48	01/18/25 12:20	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.9	0.69	ng/L		01/17/25 07:48	01/18/25 12:20	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.9	0.55	ng/L		01/17/25 07:48	01/18/25 12:20	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.9	0.48	ng/L		01/17/25 07:48	01/18/25 12:20	1

Client Sample ID: EA-MW-5B-N-01132025

Lab Sample ID: 320-118263-2

Date Collected: 01/13/25 15:30

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.9	0.48	ng/L		01/17/25 07:48	01/18/25 12:20	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.8	0.95	ng/L		01/17/25 07:48	01/18/25 12:20	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		9.5	2.4	ng/L		01/17/25 07:48	01/18/25 12:20	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		9.5	2.4	ng/L		01/17/25 07:48	01/18/25 12:20	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*105*		*5 - 130*	*01/17/25 07:48*	*01/18/25 12:20*	*1*
13C5 PFPeA	*85.8*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:20*	*1*
13C5 PFHxA	*96.4*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:20*	*1*
13C4 PFHpA	*78.1*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:20*	*1*
13C8 PFOA	*92.9*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:20*	*1*
13C9 PFNA	*95.0*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:20*	*1*
13C6 PFDA	*95.0*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:20*	*1*
13C7 PFUnA	*78.2*		*30 - 130*	*01/17/25 07:48*	*01/18/25 12:20*	*1*
13C2 PFDoA	*70.8*		*10 - 130*	*01/17/25 07:48*	*01/18/25 12:20*	*1*
13C2 PFTeDA	*66.6*		*10 - 130*	*01/17/25 07:48*	*01/18/25 12:20*	*1*
13C3 PFBS	*106*		*40 - 135*	*01/17/25 07:48*	*01/18/25 12:20*	*1*
13C3 PFHxS	*102*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:20*	*1*
13C8 PFOS	*83.0*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:20*	*1*
13C8 FOSA	*72.3*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:20*	*1*
d3-NMeFOSAA	*89.3*		*40 - 170*	*01/17/25 07:48*	*01/18/25 12:20*	*1*
d5-NEtFOSAA	*93.3*		*25 - 135*	*01/17/25 07:48*	*01/18/25 12:20*	*1*
13C2 4:2 FTS	*103*		*40 - 200*	*01/17/25 07:48*	*01/18/25 12:20*	*1*
13C2 6:2 FTS	*114*		*40 - 200*	*01/17/25 07:48*	*01/18/25 12:20*	*1*
13C2 8:2 FTS	*113*		*40 - 300*	*01/17/25 07:48*	*01/18/25 12:20*	*1*
13C3 HFPO-DA	*78.7*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:20*	*1*
d7-N-MeFOSE-M	*68.0*		*10 - 130*	*01/17/25 07:48*	*01/18/25 12:20*	*1*
d9-N-EtFOSE-M	*68.2*		*10 - 130*	*01/17/25 07:48*	*01/18/25 12:20*	*1*
d5-NEtPFOSA	*66.0*		*10 - 130*	*01/17/25 07:48*	*01/18/25 12:20*	*1*
d3-NMePFOSA	*68.0*		*10 - 130*	*01/17/25 07:48*	*01/18/25 12:20*	*1*

Client Sample ID: GCF-MW-13-N-01132025

Lab Sample ID: 320-118263-3

Date Collected: 01/13/25 10:40

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**17**		3.6	0.91	ng/L		01/17/25 07:48	01/18/25 12:37	1
Perfluoropentanoic acid (PFPeA)	**13**		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:37	1
Perfluorohexanoic acid (PFHxA)	**12**		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:37	1
Perfluoroheptanoic acid (PFHpA)	**6.2**		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:37	1
Perfluorooctanoic acid (PFOA)	**30**		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:37	1
Perfluorononanoic acid (PFNA)	**6.3**	**I**	1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:37	1
Perfluorodecanoic acid (PFDA)	**24**		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:37	1
Perfluoroundecanoic acid (PFUnA)	**0.97**	**J**	1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:37	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		01/17/25 07:48	01/18/25 12:37	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.53	ng/L		01/17/25 07:48	01/18/25 12:37	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118263-1

Client Sample ID: GCF-MW-13-N-01132025
Date Collected: 01/13/25 10:40
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118263-3
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA)	ND		1.8	0.74	ng/L		01/17/25 07:48	01/18/25 12:37	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:37	1
Perfluorohexanesulfonic acid (PFHxS)	**1.7**	**J**	1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:37	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:37	1
Perfluorooctanesulfonic acid (PFOS)	**20**		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:37	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:37	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:37	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.48	ng/L		01/17/25 07:48	01/18/25 12:37	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.6	0.91	ng/L		01/17/25 07:48	01/18/25 12:37	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.6	0.91	ng/L		01/17/25 07:48	01/18/25 12:37	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.6	0.91	ng/L		01/17/25 07:48	01/18/25 12:37	1
Perfluorooctanesulfonamide (PFOSA)	**7.3**		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:37	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:37	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	**1.7**	**J**	1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:37	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:37	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**37**		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:37	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		9.1	2.3	ng/L		01/17/25 07:48	01/18/25 12:37	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		9.1	2.3	ng/L		01/17/25 07:48	01/18/25 12:37	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.4	0.36	ng/L		01/17/25 07:48	01/18/25 12:37	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:37	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:37	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:37	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.8	0.66	ng/L		01/17/25 07:48	01/18/25 12:37	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.8	0.53	ng/L		01/17/25 07:48	01/18/25 12:37	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:37	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.8	0.46	ng/L		01/17/25 07:48	01/18/25 12:37	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.6	0.91	ng/L		01/17/25 07:48	01/18/25 12:37	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		9.1	2.3	ng/L		01/17/25 07:48	01/18/25 12:37	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		9.1	2.3	ng/L		01/17/25 07:48	01/18/25 12:37	1

Client Sample ID: GCF-MW-13-N-01132025

Lab Sample ID: 320-118263-3

Date Collected: 01/13/25 10:40
Matrix: Water
Date Received: 01/15/25 09:45

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*106*		*5 - 130*	*01/17/25 07:48*	*01/18/25 12:37*	*1*
13C5 PFPeA	*95.8*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:37*	*1*
13C5 PFHxA	*95.1*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:37*	*1*
13C4 PFHpA	*113*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:37*	*1*
13C8 PFOA	*102*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:37*	*1*
13C9 PFNA	*89.7*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:37*	*1*
13C6 PFDA	*95.5*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:37*	*1*
13C7 PFUnA	*86.9*		*30 - 130*	*01/17/25 07:48*	*01/18/25 12:37*	*1*
13C2 PFDoA	*100*		*10 - 130*	*01/17/25 07:48*	*01/18/25 12:37*	*1*
13C2 PFTeDA	*91.2*		*10 - 130*	*01/17/25 07:48*	*01/18/25 12:37*	*1*
13C3 PFBS	*94.7*		*40 - 135*	*01/17/25 07:48*	*01/18/25 12:37*	*1*
13C3 PFHxS	*96.5*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:37*	*1*
13C8 PFOS	*98.9*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:37*	*1*
13C8 FOSA	*84.7*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:37*	*1*
d3-NMeFOSAA	*109*		*40 - 170*	*01/17/25 07:48*	*01/18/25 12:37*	*1*
d5-NEtFOSAA	*103*		*25 - 135*	*01/17/25 07:48*	*01/18/25 12:37*	*1*
13C2 4:2 FTS	*168*		*40 - 200*	*01/17/25 07:48*	*01/18/25 12:37*	*1*
13C2 6:2 FTS	*123*		*40 - 200*	*01/17/25 07:48*	*01/18/25 12:37*	*1*
13C2 8:2 FTS	*103*		*40 - 300*	*01/17/25 07:48*	*01/18/25 12:37*	*1*
13C3 HFPO-DA	*86.2*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:37*	*1*
d7-N-MeFOSE-M	*75.8*		*10 - 130*	*01/17/25 07:48*	*01/18/25 12:37*	*1*
d9-N-EtFOSE-M	*79.3*		*10 - 130*	*01/17/25 07:48*	*01/18/25 12:37*	*1*
d5-NEtPFOSA	*78.2*		*10 - 130*	*01/17/25 07:48*	*01/18/25 12:37*	*1*
d3-NMePFOSA	*79.5*		*10 - 130*	*01/17/25 07:48*	*01/18/25 12:37*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	**1.1**	**J**	1.8	0.46	ng/L		01/17/25 07:48	01/21/25 00:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*100*		*40 - 135*	*01/17/25 07:48*	*01/21/25 00:14*	*1*

Client Sample ID: GCF-MW-5-N-01132025

Lab Sample ID: 320-118263-4

Date Collected: 01/13/25 11:40
Matrix: Water
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.1**	**J**	3.1	0.79	ng/L		01/17/25 07:48	01/18/25 12:53	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.39	ng/L		01/17/25 07:48	01/18/25 12:53	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.39	ng/L		01/17/25 07:48	01/18/25 12:53	1
Perfluoroheptanoic acid (PFHpA)	**0.44**	**J**	1.6	0.39	ng/L		01/17/25 07:48	01/18/25 12:53	1
Perfluorooctanoic acid (PFOA)	**1.7**		1.6	0.39	ng/L		01/17/25 07:48	01/18/25 12:53	1
Perfluorononanoic acid (PFNA)	**0.53**	**J I**	1.6	0.39	ng/L		01/17/25 07:48	01/18/25 12:53	1
Perfluorodecanoic acid (PFDA)	**0.57**	**J**	1.6	0.39	ng/L		01/17/25 07:48	01/18/25 12:53	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.39	ng/L		01/17/25 07:48	01/18/25 12:53	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.43	ng/L		01/17/25 07:48	01/18/25 12:53	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.6	0.46	ng/L		01/17/25 07:48	01/18/25 12:53	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.6	0.64	ng/L		01/17/25 07:48	01/18/25 12:53	1
Perfluoropentanesulfonic acid (PFPeS)	**0.49**	**J**	1.6	0.39	ng/L		01/17/25 07:48	01/18/25 12:53	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118263-1

Client Sample ID: GCF-MW-5-N-01132025
Date Collected: 01/13/25 11:40
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118263-4
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**4.7**		1.6	0.39	ng/L		01/17/25 07:48	01/18/25 12:53	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.39	ng/L		01/17/25 07:48	01/18/25 12:53	1
Perfluorooctanesulfonic acid (PFOS)	**2.9**		1.6	0.39	ng/L		01/17/25 07:48	01/18/25 12:53	1
Perfluorononanesulfonic acid (PFNS)	ND		1.6	0.39	ng/L		01/17/25 07:48	01/18/25 12:53	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.39	ng/L		01/17/25 07:48	01/18/25 12:53	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.6	0.42	ng/L		01/17/25 07:48	01/18/25 12:53	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.1	0.79	ng/L		01/17/25 07:48	01/18/25 12:53	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.1	0.79	ng/L		01/17/25 07:48	01/18/25 12:53	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.1	0.79	ng/L		01/17/25 07:48	01/18/25 12:53	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.39	ng/L		01/17/25 07:48	01/18/25 12:53	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.6	0.39	ng/L		01/17/25 07:48	01/18/25 12:53	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.6	0.39	ng/L		01/17/25 07:48	01/18/25 12:53	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.6	0.39	ng/L		01/17/25 07:48	01/18/25 12:53	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.6	0.39	ng/L		01/17/25 07:48	01/18/25 12:53	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		7.9	2.0	ng/L		01/17/25 07:48	01/18/25 12:53	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		7.9	2.0	ng/L		01/17/25 07:48	01/18/25 12:53	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.2	0.31	ng/L		01/17/25 07:48	01/18/25 12:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.6	0.39	ng/L		01/17/25 07:48	01/18/25 12:53	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.6	0.39	ng/L		01/17/25 07:48	01/18/25 12:53	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.6	0.39	ng/L		01/17/25 07:48	01/18/25 12:53	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.6	0.57	ng/L		01/17/25 07:48	01/18/25 12:53	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.6	0.46	ng/L		01/17/25 07:48	01/18/25 12:53	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.6	0.39	ng/L		01/17/25 07:48	01/18/25 12:53	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.6	0.39	ng/L		01/17/25 07:48	01/18/25 12:53	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.1	0.79	ng/L		01/17/25 07:48	01/18/25 12:53	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		7.9	2.0	ng/L		01/17/25 07:48	01/18/25 12:53	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		7.9	2.0	ng/L		01/17/25 07:48	01/18/25 12:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*102*		*5 - 130*	*01/17/25 07:48*	*01/18/25 12:53*	*1*
13C5 PFPeA	*107*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:53*	*1*
13C5 PFHxA	*106*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:53*	*1*

Client Sample ID: GCF-MW-5-N-01132025

Lab Sample ID: 320-118263-4

Date Collected: 01/13/25 11:40
Matrix: Water
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFHpA	*114*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:53*	*1*
13C8 PFOA	*82.4*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:53*	*1*
13C9 PFNA	*89.5*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:53*	*1*
13C6 PFDA	*93.5*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:53*	*1*
13C7 PFUnA	*109*		*30 - 130*	*01/17/25 07:48*	*01/18/25 12:53*	*1*
13C2 PFDoA	*99.9*		*10 - 130*	*01/17/25 07:48*	*01/18/25 12:53*	*1*
13C2 PFTeDA	*110*		*10 - 130*	*01/17/25 07:48*	*01/18/25 12:53*	*1*
13C3 PFBS	*103*		*40 - 135*	*01/17/25 07:48*	*01/18/25 12:53*	*1*
13C3 PFHxS	*99.1*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:53*	*1*
13C8 PFOS	*91.0*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:53*	*1*
13C8 FOSA	*81.9*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:53*	*1*
d3-NMeFOSAA	*103*		*40 - 170*	*01/17/25 07:48*	*01/18/25 12:53*	*1*
d5-NEtFOSAA	*98.2*		*25 - 135*	*01/17/25 07:48*	*01/18/25 12:53*	*1*
13C2 4:2 FTS	*117*		*40 - 200*	*01/17/25 07:48*	*01/18/25 12:53*	*1*
13C2 6:2 FTS	*124*		*40 - 200*	*01/17/25 07:48*	*01/18/25 12:53*	*1*
13C2 8:2 FTS	*89.7*		*40 - 300*	*01/17/25 07:48*	*01/18/25 12:53*	*1*
13C3 HFPO-DA	*92.0*		*40 - 130*	*01/17/25 07:48*	*01/18/25 12:53*	*1*
d7-N-MeFOSE-M	*76.8*		*10 - 130*	*01/17/25 07:48*	*01/18/25 12:53*	*1*
d9-N-EtFOSE-M	*74.8*		*10 - 130*	*01/17/25 07:48*	*01/18/25 12:53*	*1*
d5-NEtPFOSA	*75.1*		*10 - 130*	*01/17/25 07:48*	*01/18/25 12:53*	*1*
d3-NMePFOSA	*75.4*		*10 - 130*	*01/17/25 07:48*	*01/18/25 12:53*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	**1.7**		1.6	0.39	ng/L		01/17/25 07:48	01/21/25 00:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*86.6*		*40 - 135*	*01/17/25 07:48*	*01/21/25 00:31*	*1*

Client Sample ID: GCF-MW-5-FD-01132025

Lab Sample ID: 320-118263-5

Date Collected: 01/13/25 12:10
Matrix: Water
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.1**	**J**	3.5	0.87	ng/L		01/17/25 07:48	01/18/25 13:10	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 13:10	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 13:10	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 13:10	1
Perfluorooctanoic acid (PFOA)	**1.3**	**J**	1.7	0.43	ng/L		01/17/25 07:48	01/18/25 13:10	1
Perfluorononanoic acid (PFNA)	**0.45**	**J**	1.7	0.43	ng/L		01/17/25 07:48	01/18/25 13:10	1
Perfluorodecanoic acid (PFDA)	**0.46**	**J**	1.7	0.43	ng/L		01/17/25 07:48	01/18/25 13:10	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 13:10	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.48	ng/L		01/17/25 07:48	01/18/25 13:10	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.50	ng/L		01/17/25 07:48	01/18/25 13:10	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.70	ng/L		01/17/25 07:48	01/18/25 13:10	1
Perfluoropentanesulfonic acid (PFPeS)	**0.43**	**J**	1.7	0.43	ng/L		01/17/25 07:48	01/18/25 13:10	1
Perfluorohexanesulfonic acid (PFHxS)	**5.1**		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 13:10	1

Client Sample ID: GCF-MW-5-FD-01132025
Date Collected: 01/13/25 12:10
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118263-5
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 13:10	1
Perfluorooctanesulfonic acid (PFOS)	**2.9**		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 13:10	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 13:10	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 13:10	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.46	ng/L		01/17/25 07:48	01/18/25 13:10	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.5	0.87	ng/L		01/17/25 07:48	01/18/25 13:10	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.5	0.87	ng/L		01/17/25 07:48	01/18/25 13:10	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.5	0.87	ng/L		01/17/25 07:48	01/18/25 13:10	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 13:10	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 13:10	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 13:10	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 13:10	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 13:10	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.7	2.2	ng/L		01/17/25 07:48	01/18/25 13:10	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.7	2.2	ng/L		01/17/25 07:48	01/18/25 13:10	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.34	ng/L		01/17/25 07:48	01/18/25 13:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 13:10	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 13:10	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 13:10	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.62	ng/L		01/17/25 07:48	01/18/25 13:10	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.50	ng/L		01/17/25 07:48	01/18/25 13:10	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 13:10	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 13:10	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.5	0.87	ng/L		01/17/25 07:48	01/18/25 13:10	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.7	2.2	ng/L		01/17/25 07:48	01/18/25 13:10	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.7	2.2	ng/L		01/17/25 07:48	01/18/25 13:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*102*		*5 - 130*	*01/17/25 07:48*	*01/18/25 13:10*	*1*
13C5 PFPeA	*90.8*		*40 - 130*	*01/17/25 07:48*	*01/18/25 13:10*	*1*
13C5 PFHxA	*87.4*		*40 - 130*	*01/17/25 07:48*	*01/18/25 13:10*	*1*
13C4 PFHpA	*84.1*		*40 - 130*	*01/17/25 07:48*	*01/18/25 13:10*	*1*
13C8 PFOA	*93.5*		*40 - 130*	*01/17/25 07:48*	*01/18/25 13:10*	*1*

Client Sample ID: GCF-MW-5-FD-01132025

Lab Sample ID: 320-118263-5

Date Collected: 01/13/25 12:10
Matrix: Water
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C9 PFNA	95.9		40 - 130	01/17/25 07:48	01/18/25 13:10	1
13C6 PFDA	93.6		40 - 130	01/17/25 07:48	01/18/25 13:10	1
13C7 PFUnA	107		30 - 130	01/17/25 07:48	01/18/25 13:10	1
13C2 PFDoA	122		10 - 130	01/17/25 07:48	01/18/25 13:10	1
13C2 PFTeDA	102		10 - 130	01/17/25 07:48	01/18/25 13:10	1
13C3 PFBS	92.8		40 - 135	01/17/25 07:48	01/18/25 13:10	1
13C3 PFHxS	94.8		40 - 130	01/17/25 07:48	01/18/25 13:10	1
13C8 PFOS	93.2		40 - 130	01/17/25 07:48	01/18/25 13:10	1
13C8 FOSA	81.9		40 - 130	01/17/25 07:48	01/18/25 13:10	1
d3-NMeFOSAA	101		40 - 170	01/17/25 07:48	01/18/25 13:10	1
d5-NEtFOSAA	94.0		25 - 135	01/17/25 07:48	01/18/25 13:10	1
13C2 4:2 FTS	110		40 - 200	01/17/25 07:48	01/18/25 13:10	1
13C2 6:2 FTS	97.6		40 - 200	01/17/25 07:48	01/18/25 13:10	1
13C2 8:2 FTS	115		40 - 300	01/17/25 07:48	01/18/25 13:10	1
13C3 HFPO-DA	79.0		40 - 130	01/17/25 07:48	01/18/25 13:10	1
d7-N-MeFOSE-M	74.6		10 - 130	01/17/25 07:48	01/18/25 13:10	1
d9-N-EtFOSE-M	75.5		10 - 130	01/17/25 07:48	01/18/25 13:10	1
d5-NEtPFOSA	77.6		10 - 130	01/17/25 07:48	01/18/25 13:10	1
d3-NMePFOSA	72.9		10 - 130	01/17/25 07:48	01/18/25 13:10	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	**1.8**		1.7	0.43	ng/L		01/17/25 07:48	01/21/25 00:47	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	93.8		40 - 135	01/17/25 07:48	01/21/25 00:47	1

Client Sample ID: GCF-MW-11-N-01132025

Lab Sample ID: 320-118263-6

Date Collected: 01/13/25 13:05
Matrix: Water
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.8**	**J**	3.7	0.93	ng/L		01/17/25 07:48	01/18/25 13:59	1
Perfluoropentanoic acid (PFPeA)	**1.4**	**J**	1.9	0.47	ng/L		01/17/25 07:48	01/18/25 13:59	1
Perfluorohexanoic acid (PFHxA)	**1.2**	**J**	1.9	0.47	ng/L		01/17/25 07:48	01/18/25 13:59	1
Perfluoroheptanoic acid (PFHpA)	**0.61**	**J**	1.9	0.47	ng/L		01/17/25 07:48	01/18/25 13:59	1
Perfluorooctanoic acid (PFOA)	**1.5**	**J**	1.9	0.47	ng/L		01/17/25 07:48	01/18/25 13:59	1
Perfluorononanoic acid (PFNA)	ND		1.9	0.47	ng/L		01/17/25 07:48	01/18/25 13:59	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.47	ng/L		01/17/25 07:48	01/18/25 13:59	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	0.47	ng/L		01/17/25 07:48	01/18/25 13:59	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.51	ng/L		01/17/25 07:48	01/18/25 13:59	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	0.54	ng/L		01/17/25 07:48	01/18/25 13:59	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.9	0.76	ng/L		01/17/25 07:48	01/18/25 13:59	1
Perfluoropentanesulfonic acid (PFPeS)	**0.71**	**J**	1.9	0.47	ng/L		01/17/25 07:48	01/18/25 13:59	1
Perfluorohexanesulfonic acid (PFHxS)	**3.9**		1.9	0.47	ng/L		01/17/25 07:48	01/18/25 13:59	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.47	ng/L		01/17/25 07:48	01/18/25 13:59	1

Client Sample ID: GCF-MW-11-N-01132025
Date Collected: 01/13/25 13:05
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118263-6
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**1.6**	**J I**	1.9	0.47	ng/L		01/17/25 07:48	01/18/25 13:59	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.47	ng/L		01/17/25 07:48	01/18/25 13:59	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.47	ng/L		01/17/25 07:48	01/18/25 13:59	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.49	ng/L		01/17/25 07:48	01/18/25 13:59	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.7	0.93	ng/L		01/17/25 07:48	01/18/25 13:59	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.7	0.93	ng/L		01/17/25 07:48	01/18/25 13:59	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.7	0.93	ng/L		01/17/25 07:48	01/18/25 13:59	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.9	0.47	ng/L		01/17/25 07:48	01/18/25 13:59	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.9	0.47	ng/L		01/17/25 07:48	01/18/25 13:59	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.9	0.47	ng/L		01/17/25 07:48	01/18/25 13:59	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.9	0.47	ng/L		01/17/25 07:48	01/18/25 13:59	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.9	0.47	ng/L		01/17/25 07:48	01/18/25 13:59	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		9.3	2.3	ng/L		01/17/25 07:48	01/18/25 13:59	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		9.3	2.3	ng/L		01/17/25 07:48	01/18/25 13:59	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.4	0.36	ng/L		01/17/25 07:48	01/18/25 13:59	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.47	ng/L		01/17/25 07:48	01/18/25 13:59	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.9	0.47	ng/L		01/17/25 07:48	01/18/25 13:59	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.9	0.47	ng/L		01/17/25 07:48	01/18/25 13:59	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.9	0.67	ng/L		01/17/25 07:48	01/18/25 13:59	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.9	0.54	ng/L		01/17/25 07:48	01/18/25 13:59	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.9	0.47	ng/L		01/17/25 07:48	01/18/25 13:59	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.9	0.47	ng/L		01/17/25 07:48	01/18/25 13:59	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.7	0.93	ng/L		01/17/25 07:48	01/18/25 13:59	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		9.3	2.3	ng/L		01/17/25 07:48	01/18/25 13:59	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		9.3	2.3	ng/L		01/17/25 07:48	01/18/25 13:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*109*		*5 - 130*	*01/17/25 07:48*	*01/18/25 13:59*	*1*
13C5 PFPeA	*80.4*		*40 - 130*	*01/17/25 07:48*	*01/18/25 13:59*	*1*
13C5 PFHxA	*101*		*40 - 130*	*01/17/25 07:48*	*01/18/25 13:59*	*1*
13C4 PFHpA	*94.1*		*40 - 130*	*01/17/25 07:48*	*01/18/25 13:59*	*1*
13C8 PFOA	*84.4*		*40 - 130*	*01/17/25 07:48*	*01/18/25 13:59*	*1*
13C9 PFNA	*88.6*		*40 - 130*	*01/17/25 07:48*	*01/18/25 13:59*	*1*
13C6 PFDA	*104*		*40 - 130*	*01/17/25 07:48*	*01/18/25 13:59*	*1*

Client Sample ID: GCF-MW-11-N-01132025

Lab Sample ID: 320-118263-6

Date Collected: 01/13/25 13:05
Matrix: Water
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C7 PFUnA	*95.3*		*30 - 130*	*01/17/25 07:48*	*01/18/25 13:59*	*1*
13C2 PFDoA	*97.8*		*10 - 130*	*01/17/25 07:48*	*01/18/25 13:59*	*1*
13C2 PFTeDA	*88.6*		*10 - 130*	*01/17/25 07:48*	*01/18/25 13:59*	*1*
13C3 PFBS	*98.3*		*40 - 135*	*01/17/25 07:48*	*01/18/25 13:59*	*1*
13C3 PFHxS	*108*		*40 - 130*	*01/17/25 07:48*	*01/18/25 13:59*	*1*
13C8 PFOS	*101*		*40 - 130*	*01/17/25 07:48*	*01/18/25 13:59*	*1*
13C8 FOSA	*93.8*		*40 - 130*	*01/17/25 07:48*	*01/18/25 13:59*	*1*
d3-NMeFOSAA	*96.8*		*40 - 170*	*01/17/25 07:48*	*01/18/25 13:59*	*1*
d5-NEtFOSAA	*104*		*25 - 135*	*01/17/25 07:48*	*01/18/25 13:59*	*1*
13C2 4:2 FTS	*96.8*		*40 - 200*	*01/17/25 07:48*	*01/18/25 13:59*	*1*
13C2 6:2 FTS	*141*		*40 - 200*	*01/17/25 07:48*	*01/18/25 13:59*	*1*
13C2 8:2 FTS	*118*		*40 - 300*	*01/17/25 07:48*	*01/18/25 13:59*	*1*
13C3 HFPO-DA	*86.3*		*40 - 130*	*01/17/25 07:48*	*01/18/25 13:59*	*1*
d7-N-MeFOSE-M	*84.0*		*10 - 130*	*01/17/25 07:48*	*01/18/25 13:59*	*1*
d9-N-EtFOSE-M	*83.1*		*10 - 130*	*01/17/25 07:48*	*01/18/25 13:59*	*1*
d5-NEtPFOSA	*80.6*		*10 - 130*	*01/17/25 07:48*	*01/18/25 13:59*	*1*
d3-NMePFOSA	*85.8*		*10 - 130*	*01/17/25 07:48*	*01/18/25 13:59*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	**2.5**		1.9	0.47	ng/L		01/17/25 07:48	01/21/25 01:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*90.4*		*40 - 135*	*01/17/25 07:48*	*01/21/25 01:36*	*1*

Client Sample ID: GCF-MW-7-N-01132025

Lab Sample ID: 320-118263-7

Date Collected: 01/13/25 14:45
Matrix: Water
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**13**		3.6	0.90	ng/L		01/17/25 07:48	01/18/25 14:15	1
Perfluoropentanoic acid (PFPeA)	**16**		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:15	1
Perfluorohexanoic acid (PFHxA)	**9.4**		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:15	1
Perfluoroheptanoic acid (PFHpA)	**4.2**		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:15	1
Perfluorooctanoic acid (PFOA)	**4.6**		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:15	1
Perfluorononanoic acid (PFNA)	**0.70**	**J I**	1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:15	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:15	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:15	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		01/17/25 07:48	01/18/25 14:15	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.52	ng/L		01/17/25 07:48	01/18/25 14:15	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.8	0.73	ng/L		01/17/25 07:48	01/18/25 14:15	1
Perfluoropentanesulfonic acid (PFPeS)	**0.57**	**J**	1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:15	1
Perfluorohexanesulfonic acid (PFHxS)	**6.3**		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:15	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:15	1
Perfluorooctanesulfonic acid (PFOS)	**11**		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:15	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:15	1

Client Sample ID: GCF-MW-7-N-01132025
Date Collected: 01/13/25 14:45
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118263-7
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:15	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.48	ng/L		01/17/25 07:48	01/18/25 14:15	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.6	0.90	ng/L		01/17/25 07:48	01/18/25 14:15	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.6	0.90	ng/L		01/17/25 07:48	01/18/25 14:15	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.6	0.90	ng/L		01/17/25 07:48	01/18/25 14:15	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:15	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:15	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:15	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:15	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:15	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		9.0	2.3	ng/L		01/17/25 07:48	01/18/25 14:15	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		9.0	2.3	ng/L		01/17/25 07:48	01/18/25 14:15	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.4	0.35	ng/L		01/17/25 07:48	01/18/25 14:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:15	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:15	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:15	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.8	0.65	ng/L		01/17/25 07:48	01/18/25 14:15	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.8	0.52	ng/L		01/17/25 07:48	01/18/25 14:15	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:15	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:15	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.6	0.90	ng/L		01/17/25 07:48	01/18/25 14:15	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		9.0	2.3	ng/L		01/17/25 07:48	01/18/25 14:15	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		9.0	2.3	ng/L		01/17/25 07:48	01/18/25 14:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*102*		*5 - 130*	*01/17/25 07:48*	*01/18/25 14:15*	*1*
13C5 PFPeA	*94.4*		*40 - 130*	*01/17/25 07:48*	*01/18/25 14:15*	*1*
13C5 PFHxA	*99.2*		*40 - 130*	*01/17/25 07:48*	*01/18/25 14:15*	*1*
13C4 PFHpA	*91.6*		*40 - 130*	*01/17/25 07:48*	*01/18/25 14:15*	*1*
13C8 PFOA	*96.2*		*40 - 130*	*01/17/25 07:48*	*01/18/25 14:15*	*1*
13C9 PFNA	*102*		*40 - 130*	*01/17/25 07:48*	*01/18/25 14:15*	*1*
13C6 PFDA	*86.7*		*40 - 130*	*01/17/25 07:48*	*01/18/25 14:15*	*1*
13C7 PFUnA	*84.6*		*30 - 130*	*01/17/25 07:48*	*01/18/25 14:15*	*1*
13C2 PFDoA	*102*		*10 - 130*	*01/17/25 07:48*	*01/18/25 14:15*	*1*

Client Sample ID: GCF-MW-7-N-01132025

Lab Sample ID: 320-118263-7

Date Collected: 01/13/25 14:45
Matrix: Water
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFTeDA	81.1		10 - 130	01/17/25 07:48	01/18/25 14:15	1
13C3 PFBS	119		40 - 135	01/17/25 07:48	01/18/25 14:15	1
13C3 PFHxS	109		40 - 130	01/17/25 07:48	01/18/25 14:15	1
13C8 PFOS	87.9		40 - 130	01/17/25 07:48	01/18/25 14:15	1
13C8 FOSA	76.2		40 - 130	01/17/25 07:48	01/18/25 14:15	1
d3-NMeFOSAA	80.6		40 - 170	01/17/25 07:48	01/18/25 14:15	1
d5-NEtFOSAA	84.7		25 - 135	01/17/25 07:48	01/18/25 14:15	1
13C2 4:2 FTS	121		40 - 200	01/17/25 07:48	01/18/25 14:15	1
13C2 6:2 FTS	113		40 - 200	01/17/25 07:48	01/18/25 14:15	1
13C2 8:2 FTS	118		40 - 300	01/17/25 07:48	01/18/25 14:15	1
13C3 HFPO-DA	89.7		40 - 130	01/17/25 07:48	01/18/25 14:15	1
d7-N-MeFOSE-M	71.6		10 - 130	01/17/25 07:48	01/18/25 14:15	1
d9-N-EtFOSE-M	68.9		10 - 130	01/17/25 07:48	01/18/25 14:15	1
d5-NEtPFOSA	75.0		10 - 130	01/17/25 07:48	01/18/25 14:15	1
d3-NMePFOSA	75.8		10 - 130	01/17/25 07:48	01/18/25 14:15	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	1.3	J	1.8	0.45	ng/L		01/17/25 07:48	01/21/25 01:53	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	93.0		40 - 135	01/17/25 07:48	01/21/25 01:53	1

Client Sample ID: GCF-MW-11B-N-01132025

Lab Sample ID: 320-118263-8

Date Collected: 01/13/25 16:10
Matrix: Water
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	5.6		3.4	0.86	ng/L		01/17/25 07:48	01/18/25 14:32	1
Perfluoropentanoic acid (PFPeA)	15		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 14:32	1
Perfluorohexanoic acid (PFHxA)	12		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 14:32	1
Perfluoroheptanoic acid (PFHpA)	6.0		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 14:32	1
Perfluorooctanoic acid (PFOA)	9.0		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 14:32	1
Perfluorononanoic acid (PFNA)	0.60	J	1.7	0.43	ng/L		01/17/25 07:48	01/18/25 14:32	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 14:32	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 14:32	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		01/17/25 07:48	01/18/25 14:32	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.50	ng/L		01/17/25 07:48	01/18/25 14:32	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.70	ng/L		01/17/25 07:48	01/18/25 14:32	1
Perfluoropentanesulfonic acid (PFPeS)	3.4		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 14:32	1
Perfluorohexanesulfonic acid (PFHxS)	27		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 14:32	1
Perfluoroheptanesulfonic acid (PFHpS)	3.1		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 14:32	1
Perfluorooctanesulfonic acid (PFOS)	32		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 14:32	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 14:32	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 14:32	1

Client Sample ID: GCF-MW-11B-N-01132025
Date Collected: 01/13/25 16:10
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118263-8
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.46	ng/L		01/17/25 07:48	01/18/25 14:32	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.4	0.86	ng/L		01/17/25 07:48	01/18/25 14:32	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.4	0.86	ng/L		01/17/25 07:48	01/18/25 14:32	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.4	0.86	ng/L		01/17/25 07:48	01/18/25 14:32	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 14:32	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 14:32	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 14:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 14:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 14:32	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.6	2.1	ng/L		01/17/25 07:48	01/18/25 14:32	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.6	2.1	ng/L		01/17/25 07:48	01/18/25 14:32	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/17/25 07:48	01/18/25 14:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 14:32	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 14:32	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 14:32	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.62	ng/L		01/17/25 07:48	01/18/25 14:32	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.50	ng/L		01/17/25 07:48	01/18/25 14:32	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 14:32	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.43	ng/L		01/17/25 07:48	01/18/25 14:32	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.4	0.86	ng/L		01/17/25 07:48	01/18/25 14:32	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.6	2.1	ng/L		01/17/25 07:48	01/18/25 14:32	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.6	2.1	ng/L		01/17/25 07:48	01/18/25 14:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*108*		*5 - 130*	*01/17/25 07:48*	*01/18/25 14:32*	*1*
13C5 PFPeA	*105*		*40 - 130*	*01/17/25 07:48*	*01/18/25 14:32*	*1*
13C5 PFHxA	*97.1*		*40 - 130*	*01/17/25 07:48*	*01/18/25 14:32*	*1*
13C4 PFHpA	*99.0*		*40 - 130*	*01/17/25 07:48*	*01/18/25 14:32*	*1*
13C8 PFOA	*101*		*40 - 130*	*01/17/25 07:48*	*01/18/25 14:32*	*1*
13C9 PFNA	*80.7*		*40 - 130*	*01/17/25 07:48*	*01/18/25 14:32*	*1*
13C6 PFDA	*93.8*		*40 - 130*	*01/17/25 07:48*	*01/18/25 14:32*	*1*
13C7 PFUnA	*85.9*		*30 - 130*	*01/17/25 07:48*	*01/18/25 14:32*	*1*
13C2 PFDoA	*110*		*10 - 130*	*01/17/25 07:48*	*01/18/25 14:32*	*1*
13C2 PFTeDA	*81.1*		*10 - 130*	*01/17/25 07:48*	*01/18/25 14:32*	*1*

Client Sample ID: GCF-MW-11B-N-01132025

Lab Sample ID: 320-118263-8

Date Collected: 01/13/25 16:10

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*103*		*40 - 135*	*01/17/25 07:48*	*01/18/25 14:32*	*1*
13C3 PFHxS	*103*		*40 - 130*	*01/17/25 07:48*	*01/18/25 14:32*	*1*
13C8 PFOS	*98.8*		*40 - 130*	*01/17/25 07:48*	*01/18/25 14:32*	*1*
13C8 FOSA	*93.2*		*40 - 130*	*01/17/25 07:48*	*01/18/25 14:32*	*1*
d3-NMeFOSAA	*109*		*40 - 170*	*01/17/25 07:48*	*01/18/25 14:32*	*1*
d5-NEtFOSAA	*113*		*25 - 135*	*01/17/25 07:48*	*01/18/25 14:32*	*1*
13C2 4:2 FTS	*82.1*		*40 - 200*	*01/17/25 07:48*	*01/18/25 14:32*	*1*
13C2 6:2 FTS	*106*		*40 - 200*	*01/17/25 07:48*	*01/18/25 14:32*	*1*
13C2 8:2 FTS	*92.3*		*40 - 300*	*01/17/25 07:48*	*01/18/25 14:32*	*1*
13C3 HFPO-DA	*96.7*		*40 - 130*	*01/17/25 07:48*	*01/18/25 14:32*	*1*
d7-N-MeFOSE-M	*87.5*		*10 - 130*	*01/17/25 07:48*	*01/18/25 14:32*	*1*
d9-N-EtFOSE-M	*80.9*		*10 - 130*	*01/17/25 07:48*	*01/18/25 14:32*	*1*
d5-NEtPFOSA	*81.7*		*10 - 130*	*01/17/25 07:48*	*01/18/25 14:32*	*1*
d3-NMePFOSA	*86.1*		*10 - 130*	*01/17/25 07:48*	*01/18/25 14:32*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	**3.4**		1.7	0.43	ng/L		01/17/25 07:48	01/21/25 02:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*97.0*		*40 - 135*	*01/17/25 07:48*	*01/21/25 02:09*	*1*

Client Sample ID: EB-01132025

Lab Sample ID: 320-118263-9

Date Collected: 01/13/25 16:40

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.6	0.90	ng/L		01/17/25 07:48	01/18/25 14:48	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:48	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:48	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:48	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:48	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:48	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:48	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:48	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		01/17/25 07:48	01/18/25 14:48	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.52	ng/L		01/17/25 07:48	01/18/25 14:48	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.8	0.73	ng/L		01/17/25 07:48	01/18/25 14:48	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:48	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:48	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:48	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:48	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:48	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:48	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:48	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.48	ng/L		01/17/25 07:48	01/18/25 14:48	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118263-1

Client Sample ID: EB-01132025
Date Collected: 01/13/25 16:40
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118263-9
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.6	0.90	ng/L		01/17/25 07:48	01/18/25 14:48	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.6	0.90	ng/L		01/17/25 07:48	01/18/25 14:48	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.6	0.90	ng/L		01/17/25 07:48	01/18/25 14:48	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:48	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:48	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:48	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:48	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:48	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		9.0	2.3	ng/L		01/17/25 07:48	01/18/25 14:48	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		9.0	2.3	ng/L		01/17/25 07:48	01/18/25 14:48	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.4	0.35	ng/L		01/17/25 07:48	01/18/25 14:48	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:48	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:48	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:48	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.8	0.65	ng/L		01/17/25 07:48	01/18/25 14:48	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.8	0.52	ng/L		01/17/25 07:48	01/18/25 14:48	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:48	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.8	0.45	ng/L		01/17/25 07:48	01/18/25 14:48	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.6	0.90	ng/L		01/17/25 07:48	01/18/25 14:48	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		9.0	2.3	ng/L		01/17/25 07:48	01/18/25 14:48	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		9.0	2.3	ng/L		01/17/25 07:48	01/18/25 14:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*106*		*5 - 130*	*01/17/25 07:48*	*01/18/25 14:48*	*1*
13C5 PFPeA	*102*		*40 - 130*	*01/17/25 07:48*	*01/18/25 14:48*	*1*
13C5 PFHxA	*105*		*40 - 130*	*01/17/25 07:48*	*01/18/25 14:48*	*1*
13C4 PFHpA	*105*		*40 - 130*	*01/17/25 07:48*	*01/18/25 14:48*	*1*
13C8 PFOA	*91.2*		*40 - 130*	*01/17/25 07:48*	*01/18/25 14:48*	*1*
13C9 PFNA	*102*		*40 - 130*	*01/17/25 07:48*	*01/18/25 14:48*	*1*
13C6 PFDA	*80.6*		*40 - 130*	*01/17/25 07:48*	*01/18/25 14:48*	*1*
13C7 PFUnA	*83.1*		*30 - 130*	*01/17/25 07:48*	*01/18/25 14:48*	*1*
13C2 PFDoA	*80.6*		*10 - 130*	*01/17/25 07:48*	*01/18/25 14:48*	*1*
13C2 PFTeDA	*83.2*		*10 - 130*	*01/17/25 07:48*	*01/18/25 14:48*	*1*
13C3 PFBS	*109*		*40 - 135*	*01/17/25 07:48*	*01/18/25 14:48*	*1*
13C3 PFHxS	*106*		*40 - 130*	*01/17/25 07:48*	*01/18/25 14:48*	*1*

Client Sample ID: EB-01132025

Lab Sample ID: 320-118263-9

Date Collected: 01/13/25 16:40

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	91.1		40 - 130	01/17/25 07:48	01/18/25 14:48	1
13C8 FOSA	85.8		40 - 130	01/17/25 07:48	01/18/25 14:48	1
d3-NMeFOSAA	97.7		40 - 170	01/17/25 07:48	01/18/25 14:48	1
d5-NEtFOSAA	108		25 - 135	01/17/25 07:48	01/18/25 14:48	1
13C2 4:2 FTS	105		40 - 200	01/17/25 07:48	01/18/25 14:48	1
13C2 6:2 FTS	121		40 - 200	01/17/25 07:48	01/18/25 14:48	1
13C2 8:2 FTS	105		40 - 300	01/17/25 07:48	01/18/25 14:48	1
13C3 HFPO-DA	94.9		40 - 130	01/17/25 07:48	01/18/25 14:48	1
d7-N-MeFOSE-M	83.3		10 - 130	01/17/25 07:48	01/18/25 14:48	1
d9-N-EtFOSE-M	76.1		10 - 130	01/17/25 07:48	01/18/25 14:48	1
d5-NEtPFOSA	80.0		10 - 130	01/17/25 07:48	01/18/25 14:48	1
d3-NMePFOSA	82.2		10 - 130	01/17/25 07:48	01/18/25 14:48	1

Client Sample ID: FB-01132025

Lab Sample ID: 320-118263-10

Date Collected: 01/13/25 00:00

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.1	0.76	ng/L		01/17/25 07:48	01/18/25 15:05	1
Perfluoropentanoic acid (PFPeA)	ND		1.5	0.38	ng/L		01/17/25 07:48	01/18/25 15:05	1
Perfluorohexanoic acid (PFHxA)	ND		1.5	0.38	ng/L		01/17/25 07:48	01/18/25 15:05	1
Perfluoroheptanoic acid (PFHpA)	ND		1.5	0.38	ng/L		01/17/25 07:48	01/18/25 15:05	1
Perfluorooctanoic acid (PFOA)	ND		1.5	0.38	ng/L		01/17/25 07:48	01/18/25 15:05	1
Perfluorononanoic acid (PFNA)	ND		1.5	0.38	ng/L		01/17/25 07:48	01/18/25 15:05	1
Perfluorodecanoic acid (PFDA)	ND		1.5	0.38	ng/L		01/17/25 07:48	01/18/25 15:05	1
Perfluoroundecanoic acid (PFUnA)	ND		1.5	0.38	ng/L		01/17/25 07:48	01/18/25 15:05	1
Perfluorododecanoic acid (PFDoA)	ND		1.5	0.42	ng/L		01/17/25 07:48	01/18/25 15:05	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.5	0.44	ng/L		01/17/25 07:48	01/18/25 15:05	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.5	0.62	ng/L		01/17/25 07:48	01/18/25 15:05	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.5	0.38	ng/L		01/17/25 07:48	01/18/25 15:05	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.5	0.38	ng/L		01/17/25 07:48	01/18/25 15:05	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.5	0.38	ng/L		01/17/25 07:48	01/18/25 15:05	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.5	0.38	ng/L		01/17/25 07:48	01/18/25 15:05	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.5	0.38	ng/L		01/17/25 07:48	01/18/25 15:05	1
Perfluorononanesulfonic acid (PFNS)	ND		1.5	0.38	ng/L		01/17/25 07:48	01/18/25 15:05	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.5	0.38	ng/L		01/17/25 07:48	01/18/25 15:05	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.5	0.40	ng/L		01/17/25 07:48	01/18/25 15:05	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.1	0.76	ng/L		01/17/25 07:48	01/18/25 15:05	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.1	0.76	ng/L		01/17/25 07:48	01/18/25 15:05	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.1	0.76	ng/L		01/17/25 07:48	01/18/25 15:05	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.5	0.38	ng/L		01/17/25 07:48	01/18/25 15:05	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.5	0.38	ng/L		01/17/25 07:48	01/18/25 15:05	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.5	0.38	ng/L		01/17/25 07:48	01/18/25 15:05	1

Client Sample ID: FB-01132025
Date Collected: 01/13/25 00:00
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118263-10
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.5	0.38	ng/L		01/17/25 07:48	01/18/25 15:05	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.5	0.38	ng/L		01/17/25 07:48	01/18/25 15:05	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		7.6	1.9	ng/L		01/17/25 07:48	01/18/25 15:05	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		7.6	1.9	ng/L		01/17/25 07:48	01/18/25 15:05	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.1	0.30	ng/L		01/17/25 07:48	01/18/25 15:05	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.5	0.38	ng/L		01/17/25 07:48	01/18/25 15:05	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.5	0.38	ng/L		01/17/25 07:48	01/18/25 15:05	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.5	0.38	ng/L		01/17/25 07:48	01/18/25 15:05	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.5	0.55	ng/L		01/17/25 07:48	01/18/25 15:05	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.5	0.44	ng/L		01/17/25 07:48	01/18/25 15:05	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.5	0.38	ng/L		01/17/25 07:48	01/18/25 15:05	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.5	0.38	ng/L		01/17/25 07:48	01/18/25 15:05	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.1	0.76	ng/L		01/17/25 07:48	01/18/25 15:05	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		7.6	1.9	ng/L		01/17/25 07:48	01/18/25 15:05	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		7.6	1.9	ng/L		01/17/25 07:48	01/18/25 15:05	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*106*		*5 - 130*	*01/17/25 07:48*	*01/18/25 15:05*	*1*
13C5 PFPeA	*119*		*40 - 130*	*01/17/25 07:48*	*01/18/25 15:05*	*1*
13C5 PFHxA	*101*		*40 - 130*	*01/17/25 07:48*	*01/18/25 15:05*	*1*
13C4 PFHpA	*106*		*40 - 130*	*01/17/25 07:48*	*01/18/25 15:05*	*1*
13C8 PFOA	*96.5*		*40 - 130*	*01/17/25 07:48*	*01/18/25 15:05*	*1*
13C9 PFNA	*103*		*40 - 130*	*01/17/25 07:48*	*01/18/25 15:05*	*1*
13C6 PFDA	*94.3*		*40 - 130*	*01/17/25 07:48*	*01/18/25 15:05*	*1*
13C7 PFUnA	*122*		*30 - 130*	*01/17/25 07:48*	*01/18/25 15:05*	*1*
13C2 PFDoA	*140*	**5+*	*10 - 130*	*01/17/25 07:48*	*01/18/25 15:05*	*1*
13C2 PFTeDA	*104*		*10 - 130*	*01/17/25 07:48*	*01/18/25 15:05*	*1*
13C3 PFBS	*93.2*		*40 - 135*	*01/17/25 07:48*	*01/18/25 15:05*	*1*
13C3 PFHxS	*97.2*		*40 - 130*	*01/17/25 07:48*	*01/18/25 15:05*	*1*
13C8 PFOS	*49.1*		*40 - 130*	*01/17/25 07:48*	*01/18/25 15:05*	*1*
13C8 FOSA	*77.0*		*40 - 130*	*01/17/25 07:48*	*01/18/25 15:05*	*1*
d3-NMeFOSAA	*94.2*		*40 - 170*	*01/17/25 07:48*	*01/18/25 15:05*	*1*
d5-NEtFOSAA	*88.7*		*25 - 135*	*01/17/25 07:48*	*01/18/25 15:05*	*1*
13C2 4:2 FTS	*92.1*		*40 - 200*	*01/17/25 07:48*	*01/18/25 15:05*	*1*
13C2 6:2 FTS	*122*		*40 - 200*	*01/17/25 07:48*	*01/18/25 15:05*	*1*
13C2 8:2 FTS	*104*		*40 - 300*	*01/17/25 07:48*	*01/18/25 15:05*	*1*
13C3 HFPO-DA	*96.8*		*40 - 130*	*01/17/25 07:48*	*01/18/25 15:05*	*1*
d7-N-MeFOSE-M	*69.7*		*10 - 130*	*01/17/25 07:48*	*01/18/25 15:05*	*1*
d9-N-EtFOSE-M	*61.3*		*10 - 130*	*01/17/25 07:48*	*01/18/25 15:05*	*1*

Client Sample ID: FB-01132025
Lab Sample ID: 320-118263-10
Date Collected: 01/13/25 00:00
Matrix: Water
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtPFOSA	66.0		10 - 130	01/17/25 07:48	01/18/25 15:05	1
d3-NMePFOSA	66.6		10 - 130	01/17/25 07:48	01/18/25 15:05	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118263-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (5-130)	PFPeA (40-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (30-130)
320-118263-1	GCF-MW-5D-N-01132025	111	106	98.5	97.2	78.4	94.2	102	114
320-118263-1 - RA	GCF-MW-5D-N-01132025								
320-118263-2	EA-MW-5B-N-01132025	105	85.8	96.4	78.1	92.9	95.0	95.0	78.2
320-118263-3	GCF-MW-13-N-01132025	106	95.8	95.1	113	102	89.7	95.5	86.9
320-118263-3 - RA	GCF-MW-13-N-01132025								
320-118263-4	GCF-MW-5-N-01132025	102	107	106	114	82.4	89.5	93.5	109
320-118263-4 - RA	GCF-MW-5-N-01132025								
320-118263-5	GCF-MW-5-FD-01132025	102	90.8	87.4	84.1	93.5	95.9	93.6	107
320-118263-5 - RA	GCF-MW-5-FD-01132025								
320-118263-6	GCF-MW-11-N-01132025	109	80.4	101	94.1	84.4	88.6	104	95.3
320-118263-6 - RA	GCF-MW-11-N-01132025								
320-118263-7	GCF-MW-7-N-01132025	102	94.4	99.2	91.6	96.2	102	86.7	84.6
320-118263-7 - RA	GCF-MW-7-N-01132025								
320-118263-8	GCF-MW-11B-N-01132025	108	105	97.1	99.0	101	80.7	93.8	85.9
320-118263-8 - RA	GCF-MW-11B-N-01132025								
320-118263-9	EB-01132025	106	102	105	105	91.2	102	80.6	83.1
320-118263-10	FB-01132025	106	119	101	106	96.5	103	94.3	122
LCS 320-827982/3-A	Lab Control Sample	96.1	103	103	107	98.1	93.8	92.4	86.3
LCSD 320-827982/4-A	Lab Control Sample Dup	103	103	98.4	99.1	104	86.7	86.4	82.2
LLCS 320-827982/2-A	Lab Control Sample	103	104	100	112	96.1	98.1	95.2	95.6
MB 320-827982/1-A	Method Blank	106	98.1	97.5	100	95.2	87.9	86.5	84.7

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (10-130)	PFTDA (10-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-170)	d5NEFOS (25-135)
320-118263-1	GCF-MW-5D-N-01132025	137 *5+	104	88.8	95.0	94.6	83.6	105	112
320-118263-1 - RA	GCF-MW-5D-N-01132025			107					
320-118263-2	EA-MW-5B-N-01132025	70.8	66.6	106	102	83.0	72.3	89.3	93.3
320-118263-3	GCF-MW-13-N-01132025	100	91.2	94.7	96.5	98.9	84.7	109	103
320-118263-3 - RA	GCF-MW-13-N-01132025			100					
320-118263-4	GCF-MW-5-N-01132025	99.9	110	103	99.1	91.0	81.9	103	98.2
320-118263-4 - RA	GCF-MW-5-N-01132025			86.6					
320-118263-5	GCF-MW-5-FD-01132025	122	102	92.8	94.8	93.2	81.9	101	94.0
320-118263-5 - RA	GCF-MW-5-FD-01132025			93.8					
320-118263-6	GCF-MW-11-N-01132025	97.8	88.6	98.3	108	101	93.8	96.8	104
320-118263-6 - RA	GCF-MW-11-N-01132025			90.4					
320-118263-7	GCF-MW-7-N-01132025	102	81.1	119	109	87.9	76.2	80.6	84.7
320-118263-7 - RA	GCF-MW-7-N-01132025			93.0					
320-118263-8	GCF-MW-11B-N-01132025	110	81.1	103	103	98.8	93.2	109	113
320-118263-8 - RA	GCF-MW-11B-N-01132025			97.0					
320-118263-9	EB-01132025	80.6	83.2	109	106	91.1	85.8	97.7	108
320-118263-10	FB-01132025	140 *5+	104	93.2	97.2	49.1	77.0	94.2	88.7
LCS 320-827982/3-A	Lab Control Sample	93.1	82.3	93.5	89.2	87.6	83.3	96.3	94.0
LCSD 320-827982/4-A	Lab Control Sample Dup	85.1	76.4	103	101	89.0	87.0	89.7	85.2
LLCS 320-827982/2-A	Lab Control Sample	95.3	90.5	92.8	102	90.6	93.3	103	101
MB 320-827982/1-A	Method Blank	90.0	83.0	94.2	93.9	88.2	90.8	95.2	89.3

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-200)	M262FTS (40-200)	M282FTS (40-300)	HFPODA (40-130)	NMFM (10-130)	NEFM (10-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118263-1	GCF-MW-5D-N-01132025	104	101	85.8	82.9	80.8	80.5	80.5	77.3

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118263-1
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-200)	M262FTS (40-200)	M282FTS (40-300)	HFPODA (40-130)	NMFM (10-130)	NEFM (10-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118263-1 - RA	GCF-MW-5D-N-01132025								
320-118263-2	EA-MW-5B-N-01132025	103	114	113	78.7	68.0	68.2	66.0	68.0
320-118263-3	GCF-MW-13-N-01132025	168	123	103	86.2	75.8	79.3	78.2	79.5
320-118263-3 - RA	GCF-MW-13-N-01132025								
320-118263-4	GCF-MW-5-N-01132025	117	124	89.7	92.0	76.8	74.8	75.1	75.4
320-118263-4 - RA	GCF-MW-5-N-01132025								
320-118263-5	GCF-MW-5-FD-01132025	110	97.6	115	79.0	74.6	75.5	77.6	72.9
320-118263-5 - RA	GCF-MW-5-FD-01132025								
320-118263-6	GCF-MW-11-N-01132025	96.8	141	118	86.3	84.0	83.1	80.6	85.8
320-118263-6 - RA	GCF-MW-11-N-01132025								
320-118263-7	GCF-MW-7-N-01132025	121	113	118	89.7	71.6	68.9	75.0	75.8
320-118263-7 - RA	GCF-MW-7-N-01132025								
320-118263-8	GCF-MW-11B-N-01132025	82.1	106	92.3	96.7	87.5	80.9	81.7	86.1
320-118263-8 - RA	GCF-MW-11B-N-01132025								
320-118263-9	EB-01132025	105	121	105	94.9	83.3	76.1	80.0	82.2
320-118263-10	FB-01132025	92.1	122	104	96.8	69.7	61.3	66.0	66.6
LCS 320-827982/3-A	Lab Control Sample	73.7	90.5	67.2	89.3	74.5	71.1	69.9	73.4
LCSD 320-827982/4-A	Lab Control Sample Dup	93.1	101	74.7	93.4	83.0	77.0	70.4	75.4
LLCS 320-827982/2-A	Lab Control Sample	87.4	97.9	80.2	95.3	79.5	84.0	83.6	86.5
MB 320-827982/1-A	Method Blank	84.5	84.8	78.0	86.5	88.5	78.9	80.1	86.5

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-827982/1-A
Matrix: Water
Analysis Batch: 828432

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 827982

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.0	1.0	ng/L		01/17/25 07:48	01/20/25 22:19	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.50	ng/L		01/17/25 07:48	01/20/25 22:19	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		01/17/25 07:48	01/20/25 22:19	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		01/17/25 07:48	01/20/25 22:19	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		01/17/25 07:48	01/20/25 22:19	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		01/17/25 07:48	01/20/25 22:19	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		01/17/25 07:48	01/20/25 22:19	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		01/17/25 07:48	01/20/25 22:19	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		01/17/25 07:48	01/20/25 22:19	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.58	ng/L		01/17/25 07:48	01/20/25 22:19	1
Perfluorotetradecanoic acid (PFTeDA)	ND		2.0	0.81	ng/L		01/17/25 07:48	01/20/25 22:19	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		01/17/25 07:48	01/20/25 22:19	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		01/17/25 07:48	01/20/25 22:19	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		01/17/25 07:48	01/20/25 22:19	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.50	ng/L		01/17/25 07:48	01/20/25 22:19	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		01/17/25 07:48	01/20/25 22:19	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		01/17/25 07:48	01/20/25 22:19	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		01/17/25 07:48	01/20/25 22:19	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.53	ng/L		01/17/25 07:48	01/20/25 22:19	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		4.0	1.0	ng/L		01/17/25 07:48	01/20/25 22:19	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		4.0	1.0	ng/L		01/17/25 07:48	01/20/25 22:19	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		4.0	1.0	ng/L		01/17/25 07:48	01/20/25 22:19	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		01/17/25 07:48	01/20/25 22:19	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		2.0	0.50	ng/L		01/17/25 07:48	01/20/25 22:19	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		2.0	0.50	ng/L		01/17/25 07:48	01/20/25 22:19	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ng/L		01/17/25 07:48	01/20/25 22:19	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.50	ng/L		01/17/25 07:48	01/20/25 22:19	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		10	2.5	ng/L		01/17/25 07:48	01/20/25 22:19	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		10	2.5	ng/L		01/17/25 07:48	01/20/25 22:19	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.5	0.39	ng/L		01/17/25 07:48	01/20/25 22:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.50	ng/L		01/17/25 07:48	01/20/25 22:19	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	0.50	ng/L		01/17/25 07:48	01/20/25 22:19	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	0.50	ng/L		01/17/25 07:48	01/20/25 22:19	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	0.72	ng/L		01/17/25 07:48	01/20/25 22:19	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		2.0	0.58	ng/L		01/17/25 07:48	01/20/25 22:19	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-827982/1-A
Matrix: Water
Analysis Batch: 828432

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 827982

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	0.50	ng/L		01/17/25 07:48	01/20/25 22:19	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	0.50	ng/L		01/17/25 07:48	01/20/25 22:19	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		4.0	1.0	ng/L		01/17/25 07:48	01/20/25 22:19	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		10	2.5	ng/L		01/17/25 07:48	01/20/25 22:19	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		10	2.5	ng/L		01/17/25 07:48	01/20/25 22:19	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*106*		*5 - 130*	*01/17/25 07:48*	*01/20/25 22:19*	*1*
13C5 PFPeA	*98.1*		*40 - 130*	*01/17/25 07:48*	*01/20/25 22:19*	*1*
13C5 PFHxA	*97.5*		*40 - 130*	*01/17/25 07:48*	*01/20/25 22:19*	*1*
13C4 PFHpA	*100*		*40 - 130*	*01/17/25 07:48*	*01/20/25 22:19*	*1*
13C8 PFOA	*95.2*		*40 - 130*	*01/17/25 07:48*	*01/20/25 22:19*	*1*
13C9 PFNA	*87.9*		*40 - 130*	*01/17/25 07:48*	*01/20/25 22:19*	*1*
13C6 PFDA	*86.5*		*40 - 130*	*01/17/25 07:48*	*01/20/25 22:19*	*1*
13C7 PFUnA	*84.7*		*30 - 130*	*01/17/25 07:48*	*01/20/25 22:19*	*1*
13C2 PFDoA	*90.0*		*10 - 130*	*01/17/25 07:48*	*01/20/25 22:19*	*1*
13C2 PFTeDA	*83.0*		*10 - 130*	*01/17/25 07:48*	*01/20/25 22:19*	*1*
13C3 PFBS	*94.2*		*40 - 135*	*01/17/25 07:48*	*01/20/25 22:19*	*1*
13C3 PFHxS	*93.9*		*40 - 130*	*01/17/25 07:48*	*01/20/25 22:19*	*1*
13C8 PFOS	*88.2*		*40 - 130*	*01/17/25 07:48*	*01/20/25 22:19*	*1*
13C8 FOSA	*90.8*		*40 - 130*	*01/17/25 07:48*	*01/20/25 22:19*	*1*
d3-NMeFOSAA	*95.2*		*40 - 170*	*01/17/25 07:48*	*01/20/25 22:19*	*1*
d5-NEtFOSAA	*89.3*		*25 - 135*	*01/17/25 07:48*	*01/20/25 22:19*	*1*
13C2 4:2 FTS	*84.5*		*40 - 200*	*01/17/25 07:48*	*01/20/25 22:19*	*1*
13C2 6:2 FTS	*84.8*		*40 - 200*	*01/17/25 07:48*	*01/20/25 22:19*	*1*
13C2 8:2 FTS	*78.0*		*40 - 300*	*01/17/25 07:48*	*01/20/25 22:19*	*1*
13C3 HFPO-DA	*86.5*		*40 - 130*	*01/17/25 07:48*	*01/20/25 22:19*	*1*
d7-N-MeFOSE-M	*88.5*		*10 - 130*	*01/17/25 07:48*	*01/20/25 22:19*	*1*
d9-N-EtFOSE-M	*78.9*		*10 - 130*	*01/17/25 07:48*	*01/20/25 22:19*	*1*
d5-NEtPFOSA	*80.1*		*10 - 130*	*01/17/25 07:48*	*01/20/25 22:19*	*1*
d3-NMePFOSA	*86.5*		*10 - 130*	*01/17/25 07:48*	*01/20/25 22:19*	*1*

Lab Sample ID: LCS 320-827982/3-A
Matrix: Water
Analysis Batch: 828432

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827982

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	82.9		ng/L		104	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	39.1		ng/L		98	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	37.2		ng/L		93	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	41.8		ng/L		105	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	39.3		ng/L		98	70 - 150
Perfluorononanoic acid (PFNA)	40.0	38.1		ng/L		95	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	36.8		ng/L		92	70 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-827982/3-A
Matrix: Water
Analysis Batch: 828432

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827982

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	40.0	42.5		ng/L		106	70 - 145
Perfluorododecanoic acid (PFDoA)	40.0	36.6		ng/L		91	70 - 140
Perfluorotridecanoic acid (PFTrDA)	40.0	40.3		ng/L		101	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	40.0	37.1		ng/L		93	60 - 140
Perfluorobutanesulfonic acid (PFBS)	35.5	38.6		ng/L		109	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	39.6		ng/L		105	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	36.1		ng/L		99	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	35.4		ng/L		93	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	34.8		ng/L		93	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	35.4		ng/L		92	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	35.2		ng/L		91	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	32.5		ng/L		84	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	77.0		ng/L		103	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	77.0		ng/L		101	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	91.8		ng/L		119	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	37.5		ng/L		94	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	38.6		ng/L		97	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	40.7		ng/L		102	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	40.0		ng/L		100	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	40.4		ng/L		101	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	195		ng/L		98	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	199		ng/L		99	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	28.6		ng/L		95	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	45.4		ng/L		120	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	40.9		ng/L		102	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	39.0		ng/L		98	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	36.0		ng/L		90	50 - 150

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-827982/3-A
Matrix: Water
Analysis Batch: 828432

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827982

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	34.4		ng/L		92	70 - 155		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	36.2		ng/L		96	55 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	32.4		ng/L		91	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	86.1		ng/L		108	65 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	189		ng/L		95	70 - 135		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	161		ng/L		80	50 - 145		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*96.1*		*5 - 130*
13C5 PFPeA	*103*		*40 - 130*
13C5 PFHxA	*103*		*40 - 130*
13C4 PFHpA	*107*		*40 - 130*
13C8 PFOA	*98.1*		*40 - 130*
13C9 PFNA	*93.8*		*40 - 130*
13C6 PFDA	*92.4*		*40 - 130*
13C7 PFUnA	*86.3*		*30 - 130*
13C2 PFDoA	*93.1*		*10 - 130*
13C2 PFTeDA	*82.3*		*10 - 130*
13C3 PFBS	*93.5*		*40 - 135*
13C3 PFHxS	*89.2*		*40 - 130*
13C8 PFOS	*87.6*		*40 - 130*
13C8 FOSA	*83.3*		*40 - 130*
d3-NMeFOSAA	*96.3*		*40 - 170*
d5-NEtFOSAA	*94.0*		*25 - 135*
13C2 4:2 FTS	*73.7*		*40 - 200*
13C2 6:2 FTS	*90.5*		*40 - 200*
13C2 8:2 FTS	*67.2*		*40 - 300*
13C3 HFPO-DA	*89.3*		*40 - 130*
d7-N-MeFOSE-M	*74.5*		*10 - 130*
d9-N-EtFOSE-M	*71.1*		*10 - 130*
d5-NEtPFOSA	*69.9*		*10 - 130*
d3-NMePFOSA	*73.4*		*10 - 130*

Lab Sample ID: LCSD 320-827982/4-A
Matrix: Water
Analysis Batch: 828432

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 827982

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			80.0	75.0		ng/L		94	70 - 140	1	30
Perfluoropentanoic acid (PFPeA)			40.0	40.9		ng/L		102	65 - 135	0	30
Perfluorohexanoic acid (PFHxA)			40.0	42.1		ng/L		105	70 - 145	8	30
Perfluoroheptanoic acid (PFHpA)			40.0	40.0		ng/L		100	70 - 150	15	30
Perfluorooctanoic acid (PFOA)			40.0	40.5		ng/L		101	70 - 150	12	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-827982/4-A
Matrix: Water
Analysis Batch: 828432

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 827982

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	40.0	38.9		ng/L		97	70 - 150	2	30
Perfluorodecanoic acid (PFDA)	40.0	38.4		ng/L		96	70 - 140	4	30
Perfluoroundecanoic acid (PFUnA)	40.0	42.6		ng/L		107	70 - 145	12	30
Perfluorododecanoic acid (PFDoA)	40.0	37.7		ng/L		94	70 - 140	7	30
Perfluorotridecanoic acid (PFTrDA)	40.0	38.7		ng/L		97	65 - 140	19	30
Perfluorotetradecanoic acid (PFTeDA)	40.0	35.9		ng/L		90	60 - 140	18	30
Perfluorobutanesulfonic acid (PFBS)	35.5	38.4		ng/L		108	60 - 145	10	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	39.9		ng/L		106	65 - 140	8	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	32.9		ng/L		90	65 - 145	7	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	39.4		ng/L		103	70 - 150	0	30
Perfluorooctanesulfonic acid (PFOS)	37.2	35.4		ng/L		95	55 - 150	6	30
Perfluorononanesulfonic acid (PFNS)	38.5	38.5		ng/L		100	65 - 145	17	30
Perfluorodecanesulfonic acid (PFDS)	38.6	38.4		ng/L		100	60 - 145	1	30
Perfluorododecanesulfonic acid (PFDoS)	38.8	32.9		ng/L		85	50 - 145	6	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	71.5		ng/L		95	70 - 145	4	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	68.2		ng/L		89	65 - 155	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	79.8		ng/L		104	60 - 150	16	30
Perfluorooctanesulfonamide (PFOSA)	40.0	38.5		ng/L		96	70 - 145	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	41.6		ng/L		104	60 - 150	1	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	42.6		ng/L		106	65 - 145	3	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	41.3		ng/L		103	50 - 140	6	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	40.9		ng/L		102	70 - 145	5	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	181		ng/L		90	70 - 145	6	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	192		ng/L		96	70 - 135	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	27.6		ng/L		92	70 - 140	6	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	42.7		ng/L		113	65 - 145	13	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	45.0		ng/L		113	55 - 140	13	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	40.8		ng/L		102	60 - 150	13	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-827982/4-A
Matrix: Water
Analysis Batch: 828432

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 827982

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			40.0	46.8		ng/L		117	50 - 150	28	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	35.0		ng/L		94	70 - 155	8	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	33.9		ng/L		90	55 - 160	22	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	36.0		ng/L		101	70 - 140	16	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	86.8		ng/L		109	65 - 130	23	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	198		ng/L		99	70 - 135	4	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	165		ng/L		82	50 - 145	10	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*103*		*5 - 130*
13C5 PFPeA	*103*		*40 - 130*
13C5 PFHxA	*98.4*		*40 - 130*
13C4 PFHpA	*99.1*		*40 - 130*
13C8 PFOA	*104*		*40 - 130*
13C9 PFNA	*86.7*		*40 - 130*
13C6 PFDA	*86.4*		*40 - 130*
13C7 PFUnA	*82.2*		*30 - 130*
13C2 PFDoA	*85.1*		*10 - 130*
13C2 PFTeDA	*76.4*		*10 - 130*
13C3 PFBS	*103*		*40 - 135*
13C3 PFHxS	*101*		*40 - 130*
13C8 PFOS	*89.0*		*40 - 130*
13C8 FOSA	*87.0*		*40 - 130*
d3-NMeFOSAA	*89.7*		*40 - 170*
d5-NEtFOSAA	*85.2*		*25 - 135*
13C2 4:2 FTS	*93.1*		*40 - 200*
13C2 6:2 FTS	*101*		*40 - 200*
13C2 8:2 FTS	*74.7*		*40 - 300*
13C3 HFPO-DA	*93.4*		*40 - 130*
d7-N-MeFOSE-M	*83.0*		*10 - 130*
d9-N-EtFOSE-M	*77.0*		*10 - 130*
d5-NEtPFOSA	*70.4*		*10 - 130*
d3-NMePFOSA	*75.4*		*10 - 130*

Lab Sample ID: LLCS 320-827982/2-A
Matrix: Water
Analysis Batch: 828432

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827982

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			8.00	7.90		ng/L		99	70 - 140
Perfluoropentanoic acid (PFPeA)			4.00	3.85		ng/L		96	65 - 135
Perfluorohexanoic acid (PFHxA)			4.00	4.29		ng/L		107	70 - 145

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-827982/2-A
Matrix: Water
Analysis Batch: 828432

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827982

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	4.00	4.12		ng/L		103	70 - 150
Perfluorooctanoic acid (PFOA)	4.00	4.61		ng/L		115	70 - 150
Perfluorononanoic acid (PFNA)	4.00	3.98		ng/L		100	70 - 150
Perfluorodecanoic acid (PFDA)	4.00	3.67		ng/L		92	70 - 140
Perfluoroundecanoic acid (PFUnA)	4.00	4.16		ng/L		104	70 - 145
Perfluorododecanoic acid (PFDoA)	4.00	3.91		ng/L		98	70 - 140
Perfluorotridecanoic acid (PFTrDA)	4.00	4.10		ng/L		102	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	4.00	3.75		ng/L		94	60 - 140
Perfluorobutanesulfonic acid (PFBS)	3.55	3.67		ng/L		103	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.76	3.57		ng/L		95	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	3.65	3.50		ng/L		96	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.82	3.85		ng/L		101	70 - 150
Perfluorooctanesulfonic acid (PFOS)	3.72	3.70		ng/L		99	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.85	3.67		ng/L		95	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.86	3.63		ng/L		94	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.88	3.59		ng/L		92	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	7.50	7.39		ng/L		99	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.62	7.92		ng/L		104	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.68	7.17		ng/L		93	60 - 150
Perfluorooctanesulfonamide (PFOSA)	4.00	3.81		ng/L		95	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	4.00	3.80		ng/L		95	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	4.00	3.93		ng/L		98	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.00	3.91		ng/L		98	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.00	4.19		ng/L		105	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	20.0	20.2		ng/L		101	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	20.0	19.6		ng/L		98	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.00	2.90		ng/L		97	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	4.36		ng/L		115	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.00	4.26		ng/L		106	55 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-827982/2-A
Matrix: Water
Analysis Batch: 828432

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827982

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.00	3.88		ng/L		97	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.00	2.69		ng/L		67	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	3.74	3.52		ng/L		94	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	3.78	3.77		ng/L		100	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	3.57	3.58		ng/L		100	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	8.00	8.78		ng/L		110	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	20.0	19.8		ng/L		99	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	20.0	17.6		ng/L		88	50 - 145

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*103*		*5 - 130*
13C5 PFPeA	*104*		*40 - 130*
13C5 PFHxA	*100*		*40 - 130*
13C4 PFHpA	*112*		*40 - 130*
13C8 PFOA	*96.1*		*40 - 130*
13C9 PFNA	*98.1*		*40 - 130*
13C6 PFDA	*95.2*		*40 - 130*
13C7 PFUnA	*95.6*		*30 - 130*
13C2 PFDoA	*95.3*		*10 - 130*
13C2 PFTeDA	*90.5*		*10 - 130*
13C3 PFBS	*92.8*		*40 - 135*
13C3 PFHxS	*102*		*40 - 130*
13C8 PFOS	*90.6*		*40 - 130*
13C8 FOSA	*93.3*		*40 - 130*
d3-NMeFOSAA	*103*		*40 - 170*
d5-NEtFOSAA	*101*		*25 - 135*
13C2 4:2 FTS	*87.4*		*40 - 200*
13C2 6:2 FTS	*97.9*		*40 - 200*
13C2 8:2 FTS	*80.2*		*40 - 300*
13C3 HFPO-DA	*95.3*		*40 - 130*
d7-N-MeFOSE-M	*79.5*		*10 - 130*
d9-N-EtFOSE-M	*84.0*		*10 - 130*
d5-NEtPFOSA	*83.6*		*10 - 130*
d3-NMePFOSA	*86.5*		*10 - 130*

LCMS

Prep Batch: 827982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118263-1	GCF-MW-5D-N-01132025	Total/NA	Water	1633	
320-118263-1 - RA	GCF-MW-5D-N-01132025	Total/NA	Water	1633	
320-118263-2	EA-MW-5B-N-01132025	Total/NA	Water	1633	
320-118263-3	GCF-MW-13-N-01132025	Total/NA	Water	1633	
320-118263-3 - RA	GCF-MW-13-N-01132025	Total/NA	Water	1633	
320-118263-4	GCF-MW-5-N-01132025	Total/NA	Water	1633	
320-118263-4 - RA	GCF-MW-5-N-01132025	Total/NA	Water	1633	
320-118263-5	GCF-MW-5-FD-01132025	Total/NA	Water	1633	
320-118263-5 - RA	GCF-MW-5-FD-01132025	Total/NA	Water	1633	
320-118263-6	GCF-MW-11-N-01132025	Total/NA	Water	1633	
320-118263-6 - RA	GCF-MW-11-N-01132025	Total/NA	Water	1633	
320-118263-7	GCF-MW-7-N-01132025	Total/NA	Water	1633	
320-118263-7 - RA	GCF-MW-7-N-01132025	Total/NA	Water	1633	
320-118263-8	GCF-MW-11B-N-01132025	Total/NA	Water	1633	
320-118263-8 - RA	GCF-MW-11B-N-01132025	Total/NA	Water	1633	
320-118263-9	EB-01132025	Total/NA	Water	1633	
320-118263-10	FB-01132025	Total/NA	Water	1633	
MB 320-827982/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-827982/3-A	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-827982/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-827982/2-A	Lab Control Sample	Total/NA	Water	1633	

Analysis Batch: 828189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118263-1	GCF-MW-5D-N-01132025	Total/NA	Water	1633	827982
320-118263-2	EA-MW-5B-N-01132025	Total/NA	Water	1633	827982
320-118263-3	GCF-MW-13-N-01132025	Total/NA	Water	1633	827982
320-118263-4	GCF-MW-5-N-01132025	Total/NA	Water	1633	827982
320-118263-5	GCF-MW-5-FD-01132025	Total/NA	Water	1633	827982
320-118263-6	GCF-MW-11-N-01132025	Total/NA	Water	1633	827982
320-118263-7	GCF-MW-7-N-01132025	Total/NA	Water	1633	827982
320-118263-8	GCF-MW-11B-N-01132025	Total/NA	Water	1633	827982
320-118263-9	EB-01132025	Total/NA	Water	1633	827982
320-118263-10	FB-01132025	Total/NA	Water	1633	827982

Analysis Batch: 828432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118263-1 - RA	GCF-MW-5D-N-01132025	Total/NA	Water	1633	827982
320-118263-3 - RA	GCF-MW-13-N-01132025	Total/NA	Water	1633	827982
320-118263-4 - RA	GCF-MW-5-N-01132025	Total/NA	Water	1633	827982
320-118263-5 - RA	GCF-MW-5-FD-01132025	Total/NA	Water	1633	827982
320-118263-6 - RA	GCF-MW-11-N-01132025	Total/NA	Water	1633	827982
320-118263-7 - RA	GCF-MW-7-N-01132025	Total/NA	Water	1633	827982
320-118263-8 - RA	GCF-MW-11B-N-01132025	Total/NA	Water	1633	827982
MB 320-827982/1-A	Method Blank	Total/NA	Water	1633	827982
LCS 320-827982/3-A	Lab Control Sample	Total/NA	Water	1633	827982
LCSD 320-827982/4-A	Lab Control Sample Dup	Total/NA	Water	1633	827982
LLCS 320-827982/2-A	Lab Control Sample	Total/NA	Water	1633	827982

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118263-1
Project/Site: Spokane International Airport

Client Sample ID: GCF-MW-5D-N-01132025
Lab Sample ID: 320-118263-1
Date Collected: 01/13/25 12:40
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			136 mL	5.0 mL	827982	01/17/25 07:48	NMF	EET SAC
Total/NA	Analysis	1633		1			828189	01/18/25 12:04	S1M	EET SAC
Total/NA	Prep	1633	RA		136 mL	5.0 mL	827982	01/17/25 07:48	NMF	EET SAC
Total/NA	Analysis	1633	RA	1			828432	01/20/25 23:41	K1S	EET SAC

Client Sample ID: EA-MW-5B-N-01132025
Lab Sample ID: 320-118263-2
Date Collected: 01/13/25 15:30
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			131.3 mL	5.0 mL	827982	01/17/25 07:48	NMF	EET SAC
Total/NA	Analysis	1633		1			828189	01/18/25 12:20	S1M	EET SAC

Client Sample ID: GCF-MW-13-N-01132025
Lab Sample ID: 320-118263-3
Date Collected: 01/13/25 10:40
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			137 mL	5.0 mL	827982	01/17/25 07:48	NMF	EET SAC
Total/NA	Analysis	1633		1			828189	01/18/25 12:37	S1M	EET SAC
Total/NA	Prep	1633	RA		137 mL	5.0 mL	827982	01/17/25 07:48	NMF	EET SAC
Total/NA	Analysis	1633	RA	1			828432	01/21/25 00:14	K1S	EET SAC

Client Sample ID: GCF-MW-5-N-01132025
Lab Sample ID: 320-118263-4
Date Collected: 01/13/25 11:40
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			159.1 mL	5.0 mL	827982	01/17/25 07:48	NMF	EET SAC
Total/NA	Analysis	1633		1			828189	01/18/25 12:53	S1M	EET SAC
Total/NA	Prep	1633	RA		159.1 mL	5.0 mL	827982	01/17/25 07:48	NMF	EET SAC
Total/NA	Analysis	1633	RA	1			828432	01/21/25 00:31	K1S	EET SAC

Client Sample ID: GCF-MW-5-FD-01132025
Lab Sample ID: 320-118263-5
Date Collected: 01/13/25 12:10
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			144.3 mL	5.0 mL	827982	01/17/25 07:48	NMF	EET SAC
Total/NA	Analysis	1633		1			828189	01/18/25 13:10	S1M	EET SAC
Total/NA	Prep	1633	RA		144.3 mL	5.0 mL	827982	01/17/25 07:48	NMF	EET SAC
Total/NA	Analysis	1633	RA	1			828432	01/21/25 00:47	K1S	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118263-1
Project/Site: Spokane International Airport

Client Sample ID: GCF-MW-11-N-01132025
Lab Sample ID: 320-118263-6
Date Collected: 01/13/25 13:05
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			134 mL	5.0 mL	827982	01/17/25 07:48	NMF	EET SAC
Total/NA	Analysis	1633		1			828189	01/18/25 13:59	S1M	EET SAC
Total/NA	Prep	1633	RA		134 mL	5.0 mL	827982	01/17/25 07:48	NMF	EET SAC
Total/NA	Analysis	1633	RA	1			828432	01/21/25 01:36	K1S	EET SAC

Client Sample ID: GCF-MW-7-N-01132025
Lab Sample ID: 320-118263-7
Date Collected: 01/13/25 14:45
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			138.7 mL	5.0 mL	827982	01/17/25 07:48	NMF	EET SAC
Total/NA	Analysis	1633		1			828189	01/18/25 14:15	S1M	EET SAC
Total/NA	Prep	1633	RA		138.7 mL	5.0 mL	827982	01/17/25 07:48	NMF	EET SAC
Total/NA	Analysis	1633	RA	1			828432	01/21/25 01:53	K1S	EET SAC

Client Sample ID: GCF-MW-11B-N-01132025
Lab Sample ID: 320-118263-8
Date Collected: 01/13/25 16:10
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			145.6 mL	5.0 mL	827982	01/17/25 07:48	NMF	EET SAC
Total/NA	Analysis	1633		1			828189	01/18/25 14:32	S1M	EET SAC
Total/NA	Prep	1633	RA		145.6 mL	5.0 mL	827982	01/17/25 07:48	NMF	EET SAC
Total/NA	Analysis	1633	RA	1			828432	01/21/25 02:09	K1S	EET SAC

Client Sample ID: EB-01132025
Lab Sample ID: 320-118263-9
Date Collected: 01/13/25 16:40
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			138.2 mL	5.0 mL	827982	01/17/25 07:48	NMF	EET SAC
Total/NA	Analysis	1633		1			828189	01/18/25 14:48	S1M	EET SAC

Client Sample ID: FB-01132025
Lab Sample ID: 320-118263-10
Date Collected: 01/13/25 00:00
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			163.6 mL	5.0 mL	827982	01/17/25 07:48	NMF	EET SAC
Total/NA	Analysis	1633		1			828189	01/18/25 15:05	S1M	EET SAC

Laboratory References:
EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118263-1
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118263-1

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Solid-Phase Extraction (SPE)	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118263-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118263-1	GCF-MW-5D-N-01132025	Water	01/13/25 12:40	01/15/25 09:45
320-118263-2	EA-MW-5B-N-01132025	Water	01/13/25 15:30	01/15/25 09:45
320-118263-3	GCF-MW-13-N-01132025	Water	01/13/25 10:40	01/15/25 09:45
320-118263-4	GCF-MW-5-N-01132025	Water	01/13/25 11:40	01/15/25 09:45
320-118263-5	GCF-MW-5-FD-01132025	Water	01/13/25 12:10	01/15/25 09:45
320-118263-6	GCF-MW-11-N-01132025	Water	01/13/25 13:05	01/15/25 09:45
320-118263-7	GCF-MW-7-N-01132025	Water	01/13/25 14:45	01/15/25 09:45
320-118263-8	GCF-MW-11B-N-01132025	Water	01/13/25 16:10	01/15/25 09:45
320-118263-9	EB-01132025	Water	01/13/25 16:40	01/15/25 09:45
320-118263-10	FB-01132025	Water	01/13/25 00:00	01/15/25 09:45

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE		TURNAROUND TIME	
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	PFAS EPA 1633	Cations EPA 200.7	Anions EPA 300.0	Bromide EPA 300.0	Alkalinity SM 2320 B	Number of Containers
GCF-MW-3D-N-[illegible]	1/13/25	12 40	H_2O	X					3 [illegible]
EA-MW-3B-N-[illegible]	1/13/25	15 30		X					
GCF-MW-13-N-[illegible]	1/13/25	10 40		X					
GCF MW-5 N-[illegible]	1/13/25	11 40		X					
GCF MW-3 FD [illegible]	1/13/25	12 10		X					
GCF MW-11 N [illegible]	1/13/25	13 05		X					
GCF-MW-2 N [illegible]	1/13/25	14 45		X					
GCF-MW-[illegible]	1/13/25	14 10		X					
EB-[illegible]	1/13/25	16 10		X					
EB-[illegible]	1/13/25	—		X					

320-118263 Chain of Custody

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– Cations to be analyzed: Ca, Mg, K, Na
– Anions to be analyzed: Cl, NO_3, SO_4^{2-}
– Alkilinity to be mesaured by titration

2.8, 3.2 confirmed

Sampled and Relinquished by	Received by
Sign	Sign
Print Breeyn Greer	Print Macky Morris
Firm HA	Firm EETSPO
Date 1/14/25 Time 0950	Date 1/14/25 950
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print [illegible]
Firm EETSPO	Firm EKTDen
Date 1/14/25 Time 1514	Date 1/15/25 0945
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections·

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
_____ This Chain of Custody Record (specify) _____includes _____does not include samples defined as Drinking Water Samples.
_____
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ RC-S2 ☐ RC-GW1 ☐ RC-GW2
☐ S1 ☐ S2 ☐ S3
☐ GW1 ☐ GW2 ☐ GW3

WHITE - Laboratory CANARY - Project Manager PINK Haley & Aldrich Laboratory

1.5 C

November 2024

Form 3003

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118263

Tracking # 4242 5692 9743

Job _____ _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID: 104 Corr Factor: (+ / -) N/A °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal 2287432

Cooler ID _____

Temp Observed 1.5 °C Corrected 1.5 °C

From: Temp Blank ☒ Sandwich ☐ Sidewall ☐

SO 1/15/25

Opening/Processing The Shipment	**Yes**	**No**	**NA**
Cooler compromised/tampered with?	☐	☒	☐
Cooler Temperature is acceptable?	☒	☐	☐
Frozen samples show signs of thaw?	☐	☐	☒

Initials SO Date 1/15/25

Unpacking/Labeling The Samples	**Yes**	**No**	**NA**
Containers are not broken or leaking?	☒	☐	☐
Samples compromised/tampered with?	☐	☒	☐
COC is complete w/o discrepancies	☒	☐	☐
Sample custody seal?	☐	☐	☒
Sample containers have legible labels?	☒	☐	☐
Sample date/times are provided?	☒	☐	☐
Appropriate containers are used?	☒	☐	☐
Sample bottles are completely filled?	☒	☐	☐
Sample preservatives verified?	☐	☐	☒
Is the Field Sampler's name on COC?	☒	☐	☐
Samples w/o discrepancies?	☐	☒	☐
Zero headspace?*	☐	☐	☒
Alkalinity has no headspace?	☐	☐	☒
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☒
Multiphasic samples are not present?	☒	☐	☐

Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials SO Date 1/15/25

Notes:
(1) Rec'd Container

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s) _____

Login Completion	**Yes**	**No**	**NA**
Receipt Temperature on COC?	☒	☐	☐
NCM Filed?	☒	☐	☐
Samples received within hold time?	☒	☐	☐
Log Release checked in TALS?	☒	☐	☐

Initials SO Date 1/15/25

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 1/22/2025 11:16:44 AM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118256-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Job Notes

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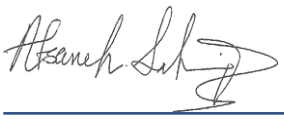
The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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1/22/2025 11:16:44 AM

Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118256-1
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-118256-1

Receipt
The samples were received on 1/15/2025 9:45 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.3º C.

LCMS
Method 1633: The continuing calibration verification (CCV) associated with batch 320-828192 recovered above the upper control limit for isotope dilution analyte (IDA) 13C2 PFTeDA, The associated target analytes, Perfluorotetradecanoic acid (PFTeDA) and Perfluorotridecanoic acid (PFTrDA) were within control limits in the CCV, therefore the data is reported: SWN-MW-7-N-01092025 (320-118256-1), SWN-MW-7-FD-01092025 (320-118256-2), SWN-MW-14-N-01092025 (320-118256-5), SWN-MW-13-N-01092025 (320-118256-6), FGF-MW-18-N-01092025 (320-118256-7) and (CCV 320-828192/4).

Method 1633: The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. The associated analytes have been flagged: GDF-GR-8-N-01102025 (320-118256-17) and GDF-GR-7S-N-01102025 (320-118256-19).

Method 1633: The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. The associated analytes have been flagged: (CCVL 320-828092/5).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 1633: Due to the matrix, the initial volumes used for the following samples deviated from the standard procedure: SWN-MW-4-N-01092025 (320-118256-3) and SWN-MW-3-N-01092025 (320-118256-10). A 2x dilution was made on the sample, then fortified with Isotope Dilution Analyte (IDA) and extracted. The reporting limits (RLs) have been adjusted proportionately.

Method 1633: The following samples in preparation batch 320-828247 were light brown in color observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction: SWN-MW-4-N-01092025 (320-118256-3) and SWN-MW-3-N-01092025 (320-118256-10).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118256-1

Client Sample ID: SWN-MW-7-N-01092025 — Lab Sample ID: 320-118256-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	9.0		3.4	0.86	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	20		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	18		1.7	0.43	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	8.7		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	33		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	4.5		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorodecanoic acid (PFDA)	5.5		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.5		1.7	0.43	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	3.3		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	32		1.7	0.43	ng/L	1		1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.73	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	23		1.7	0.43	ng/L	1		1633	Total/NA

Client Sample ID: SWN-MW-7-FD-01092025 — Lab Sample ID: 320-118256-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	8.9		3.6	0.89	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	23		1.8	0.44	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	21		1.8	0.44	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	11		1.8	0.44	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	32		1.8	0.44	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	4.1		1.8	0.44	ng/L	1		1633	Total/NA
Perfluorodecanoic acid (PFDA)	6.1		1.8	0.44	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.4		1.8	0.44	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	3.0		1.8	0.44	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	34		1.8	0.44	ng/L	1		1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.75	J	1.8	0.44	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	22		1.8	0.44	ng/L	1		1633	Total/NA

Client Sample ID: SWN-MW-4-N-01092025 — Lab Sample ID: 320-118256-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	26		8.0	2.0	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	45		4.0	1.0	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	48		4.0	1.0	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	40		4.0	1.0	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	100		4.0	1.0	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	26		4.0	1.0	ng/L	1		1633	Total/NA
Perfluorodecanoic acid (PFDA)	170		4.0	1.0	ng/L	1		1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	3.2	J	4.0	1.0	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.6	J	4.0	1.0	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	2.2	J	4.0	1.0	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	18		4.0	1.0	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	62		4.0	1.0	ng/L	1		1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	3.9	J	8.0	2.0	ng/L	1		1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	2.5	J	4.0	1.0	ng/L	1		1633	Total/NA
3-Perfluoropropylpropanoic acid (3:3 FTCA)	4.5	J	8.0	2.0	ng/L	1		1633	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Client Sample ID: SWN-MW-4-N-01092025 (Continued) — Lab Sample ID: 320-118256-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
3-Perfluoropentylpropanoic acid (5:3 FTCA)	8.7	J	20	5.0	ng/L	1		1633	Total/NA

Client Sample ID: SWN-MW-6-N-01092025 — Lab Sample ID: 320-118256-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	14		3.4	0.85	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	27		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	42		1.7	0.42	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	14		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	52		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	12		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorodecanoic acid (PFDA)	31		1.7	0.42	ng/L	1		1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	5.1		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorododecanoic acid (PFDoA)	5.9		1.7	0.47	ng/L	1		1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	1.2	J	1.7	0.69	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.8		1.7	0.42	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	2.6		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	65		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	21		1.7	0.42	ng/L	1		1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	3.7		3.4	0.85	ng/L	1		1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.6	J	3.4	0.85	ng/L	1		1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.47	J	1.7	0.42	ng/L	1		1633	Total/NA
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.94	J	3.4	0.85	ng/L	1		1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	5.7	J	8.5	2.1	ng/L	1		1633	Total/NA

Client Sample ID: SWN-MW-14-N-01092025 — Lab Sample ID: 320-118256-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	45		3.5	0.89	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	170		1.8	0.44	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	130		1.8	0.44	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	60		1.8	0.44	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	300		1.8	0.44	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	16		1.8	0.44	ng/L	1		1633	Total/NA
Perfluorodecanoic acid (PFDA)	1.5	J	1.8	0.44	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	10		1.8	0.44	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	11		1.8	0.44	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	140		1.8	0.44	ng/L	1		1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	2.0		1.8	0.44	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	49		1.8	0.44	ng/L	1		1633	Total/NA

Client Sample ID: SWN-MW-13-N-01092025 — Lab Sample ID: 320-118256-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	10		3.4	0.86	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	20		1.7	0.43	ng/L	1		1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SWN-MW-13-N-01092025 (Continued) — Lab Sample ID: 320-118256-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	28		1.7	0.43	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	9.2		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	33		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	4.2		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorodecanoic acid (PFDA)	6.5		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	15		1.7	0.43	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	11		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	100		1.7	0.43	ng/L	1		1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.57	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	19		1.7	0.43	ng/L	1		1633	Total/NA

Client Sample ID: FGF-MW-18-N-01092025 — Lab Sample ID: 320-118256-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	3.1	J	3.5	0.87	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	5.9		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	6.2		1.7	0.43	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.7		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	3.2		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.73	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.63	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	7.8		1.7	0.43	ng/L	1		1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.55	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	17		1.7	0.43	ng/L	1		1633	Total/NA

Client Sample ID: EB-1-01092025 — Lab Sample ID: 320-118256-8

No Detections.

Client Sample ID: SWN-MW-A-N-01092025 — Lab Sample ID: 320-118256-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	48		3.5	0.87	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	46		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	60		1.7	0.43	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	35		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	95		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	39		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorodecanoic acid (PFDA)	32		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	16		1.7	0.43	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	4.2		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	110		1.7	0.43	ng/L	1		1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	1.8		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	66		1.7	0.43	ng/L	1		1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.2		3.5	0.87	ng/L	1		1633	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118256-1

Client Sample ID: SWN-MW-3-N-01092025 — Lab Sample ID: 320-118256-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	71		8.0	2.0	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	160		4.0	1.0	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	150		4.0	1.0	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	110		4.0	1.0	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	370		4.0	1.0	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	53		4.0	1.0	ng/L	1		1633	Total/NA
Perfluorodecanoic acid (PFDA)	98		4.0	1.0	ng/L	1		1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	8.9		4.0	1.0	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.3		4.0	1.0	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	6.4		4.0	1.0	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	68		4.0	1.0	ng/L	1		1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	1.2	J	4.0	1.0	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	60		4.0	1.0	ng/L	1		1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	3.9	J	8.0	2.0	ng/L	1		1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	1.9	J	4.0	1.0	ng/L	1		1633	Total/NA

Client Sample ID: SWN-MW-1-N-01092025 — Lab Sample ID: 320-118256-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	23		3.6	0.89	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	48		1.8	0.45	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	96		1.8	0.45	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	23		1.8	0.45	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	58		1.8	0.45	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	9.7		1.8	0.45	ng/L	1		1633	Total/NA
Perfluorodecanoic acid (PFDA)	2.3		1.8	0.45	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	14		1.8	0.45	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	12		1.8	0.45	ng/L	1		1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	1.7	J	1.8	0.45	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	58		1.8	0.45	ng/L	1		1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.3	J	3.6	0.89	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - RA	300		1.8	0.45	ng/L	1		1633	Total/NA

Client Sample ID: SWN-MW-2-N-01092025 — Lab Sample ID: 320-118256-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	14		3.7	0.93	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	20		1.9	0.47	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	29		1.9	0.47	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	8.4		1.9	0.47	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	22		1.9	0.47	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	17		1.9	0.47	ng/L	1		1633	Total/NA
Perfluorodecanoic acid (PFDA)	11		1.9	0.47	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.5	J	1.9	0.47	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	1.8	J	1.9	0.47	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	100		1.9	0.47	ng/L	1		1633	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample ID: SWN-MW-2-N-01092025 (Continued) — Lab Sample ID: 320-118256-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanesulfonic acid (PFHpS)	3.1		1.9	0.47	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	93		1.9	0.47	ng/L	1		1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	11		3.7	0.93	ng/L	1		1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.2	J	3.7	0.93	ng/L	1		1633	Total/NA

Client Sample ID: EB-2-01092025 — Lab Sample ID: 320-118256-13

No Detections.

Client Sample ID: FB-01092025 — Lab Sample ID: 320-118256-14

No Detections.

Client Sample ID: SWN-MW-5-N-01102025 — Lab Sample ID: 320-118256-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	21		3.5	0.88	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	48		1.8	0.44	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	51		1.8	0.44	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	22		1.8	0.44	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	70		1.8	0.44	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	13		1.8	0.44	ng/L	1		1633	Total/NA
Perfluorodecanoic acid (PFDA)	26		1.8	0.44	ng/L	1		1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	1.3	J	1.8	0.44	ng/L	1		1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.56	J	1.8	0.48	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.7		1.8	0.44	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	3.0		1.8	0.44	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	100		1.8	0.44	ng/L	1		1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.99	J	1.8	0.44	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	35		1.8	0.44	ng/L	1		1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	3.3	J	3.5	0.88	ng/L	1		1633	Total/NA

Client Sample ID: PD-MW-1A-N-01102025 — Lab Sample ID: 320-118256-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	3.6	J	3.7	0.92	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	2.7		1.8	0.46	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.8		1.8	0.46	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	5.4		1.8	0.46	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.0		1.8	0.46	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	4.2		1.8	0.46	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	26		1.8	0.46	ng/L	1		1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	1.3	J	1.8	0.46	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	29		1.8	0.46	ng/L	1		1633	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118256-1

Client Sample ID: GDF-GR-8-N-01102025 — Lab Sample ID: 320-118256-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	4.1		4.0	1.0	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.3	J	2.0	0.50	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	2.2		2.0	0.50	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.5	J	2.0	0.50	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.1	J	2.0	0.50	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.9	I	2.0	0.50	ng/L	1		1633	Total/NA

Client Sample ID: GDF-GR-7D-N-01102025 — Lab Sample ID: 320-118256-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	3.3		3.3	0.84	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	1.6	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.89	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	2.5		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.9		1.7	0.42	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.45	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.6		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.1		1.7	0.42	ng/L	1		1633	Total/NA

Client Sample ID: GDF-GR-7S-N-01102025 — Lab Sample ID: 320-118256-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	19		3.6	0.89	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.48	J	1.8	0.45	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.3	I	1.8	0.45	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.65	J	1.8	0.45	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.71	J	1.8	0.45	ng/L	1		1633	Total/NA

Client Sample ID: EB-1-01102025 — Lab Sample ID: 320-118256-20

No Detections.

Client Sample ID: EB-2-01102025 — Lab Sample ID: 320-118256-21

No Detections.

Client Sample ID: FB-01102025 — Lab Sample ID: 320-118256-22

No Detections.

Client Sample ID: SWN-MW-5-FD-01102025 — Lab Sample ID: 320-118256-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	20		3.6	0.90	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	46		1.8	0.45	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	53		1.8	0.45	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	21		1.8	0.45	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	70		1.8	0.45	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	12		1.8	0.45	ng/L	1		1633	Total/NA
Perfluorodecanoic acid (PFDA)	26		1.8	0.45	ng/L	1		1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	1.2	J	1.8	0.45	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.4		1.8	0.45	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	2.8		1.8	0.45	ng/L	1		1633	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample ID: SWN-MW-5-FD-01102025 (Continued)

Lab Sample ID: 320-118256-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	97		1.8	0.45	ng/L	1		1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.97	J	1.8	0.45	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	35		1.8	0.45	ng/L	1		1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	3.1	J	3.6	0.90	ng/L	1		1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118256-1

Client Sample ID: SWN-MW-7-N-01092025
Date Collected: 01/09/25 09:45
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-1
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**9.0**		3.4	0.86	ng/L		01/17/25 07:36	01/18/25 04:26	1
Perfluoropentanoic acid (PFPeA)	**20**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 04:26	1
Perfluorohexanoic acid (PFHxA)	**18**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 04:26	1
Perfluoroheptanoic acid (PFHpA)	**8.7**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 04:26	1
Perfluorooctanoic acid (PFOA)	**33**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 04:26	1
Perfluorononanoic acid (PFNA)	**4.5**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 04:26	1
Perfluorodecanoic acid (PFDA)	**5.5**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 04:26	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 04:26	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		01/17/25 07:36	01/18/25 04:26	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.50	ng/L		01/17/25 07:36	01/18/25 04:26	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.70	ng/L		01/17/25 07:36	01/18/25 04:26	1
Perfluorobutanesulfonic acid (PFBS)	**3.5**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 04:26	1
Perfluoropentanesulfonic acid (PFPeS)	**3.3**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 04:26	1
Perfluorohexanesulfonic acid (PFHxS)	**32**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 04:26	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.73**	**J**	1.7	0.43	ng/L		01/17/25 07:36	01/18/25 04:26	1
Perfluorooctanesulfonic acid (PFOS)	**23**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 04:26	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 04:26	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 04:26	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.46	ng/L		01/17/25 07:36	01/18/25 04:26	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.4	0.86	ng/L		01/17/25 07:36	01/18/25 04:26	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.4	0.86	ng/L		01/17/25 07:36	01/18/25 04:26	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.4	0.86	ng/L		01/17/25 07:36	01/18/25 04:26	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 04:26	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 04:26	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 04:26	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 04:26	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 04:26	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.6	2.1	ng/L		01/17/25 07:36	01/18/25 04:26	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.6	2.1	ng/L		01/17/25 07:36	01/18/25 04:26	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.34	ng/L		01/17/25 07:36	01/18/25 04:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 04:26	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 04:26	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 04:26	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.62	ng/L		01/17/25 07:36	01/18/25 04:26	1

Client Sample ID: SWN-MW-7-N-01092025

Lab Sample ID: 320-118256-1

Date Collected: 01/09/25 09:45

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.50	ng/L		01/17/25 07:36	01/18/25 04:26	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 04:26	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 04:26	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.4	0.86	ng/L		01/17/25 07:36	01/18/25 04:26	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.6	2.1	ng/L		01/17/25 07:36	01/18/25 04:26	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.6	2.1	ng/L		01/17/25 07:36	01/18/25 04:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*105*		*5 - 130*	*01/17/25 07:36*	*01/18/25 04:26*	*1*
13C5 PFPeA	*87.9*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:26*	*1*
13C5 PFHxA	*97.2*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:26*	*1*
13C4 PFHpA	*110*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:26*	*1*
13C8 PFOA	*97.1*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:26*	*1*
13C9 PFNA	*87.9*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:26*	*1*
13C6 PFDA	*100*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:26*	*1*
13C7 PFUnA	*98.5*		*30 - 130*	*01/17/25 07:36*	*01/18/25 04:26*	*1*
13C2 PFDoA	*119*		*10 - 130*	*01/17/25 07:36*	*01/18/25 04:26*	*1*
13C2 PFTeDA	*114*		*10 - 130*	*01/17/25 07:36*	*01/18/25 04:26*	*1*
13C3 PFBS	*85.0*		*40 - 135*	*01/17/25 07:36*	*01/18/25 04:26*	*1*
13C3 PFHxS	*95.7*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:26*	*1*
13C8 PFOS	*94.7*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:26*	*1*
13C8 FOSA	*84.6*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:26*	*1*
d3-NMeFOSAA	*92.1*		*40 - 170*	*01/17/25 07:36*	*01/18/25 04:26*	*1*
d5-NEtFOSAA	*87.2*		*25 - 135*	*01/17/25 07:36*	*01/18/25 04:26*	*1*
13C2 4:2 FTS	*86.9*		*40 - 200*	*01/17/25 07:36*	*01/18/25 04:26*	*1*
13C2 6:2 FTS	*86.6*		*40 - 200*	*01/17/25 07:36*	*01/18/25 04:26*	*1*
13C2 8:2 FTS	*69.8*		*40 - 300*	*01/17/25 07:36*	*01/18/25 04:26*	*1*
13C3 HFPO-DA	*83.0*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:26*	*1*
d7-N-MeFOSE-M	*92.2*		*10 - 130*	*01/17/25 07:36*	*01/18/25 04:26*	*1*
d9-N-EtFOSE-M	*83.7*		*10 - 130*	*01/17/25 07:36*	*01/18/25 04:26*	*1*
d5-NEtPFOSA	*68.9*		*10 - 130*	*01/17/25 07:36*	*01/18/25 04:26*	*1*
d3-NMePFOSA	*70.0*		*10 - 130*	*01/17/25 07:36*	*01/18/25 04:26*	*1*

Client Sample ID: SWN-MW-7-FD-01092025

Lab Sample ID: 320-118256-2

Date Collected: 01/09/25 10:15

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**8.9**		3.6	0.89	ng/L		01/17/25 07:36	01/18/25 04:42	1
Perfluoropentanoic acid (PFPeA)	**23**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:42	1
Perfluorohexanoic acid (PFHxA)	**21**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:42	1
Perfluoroheptanoic acid (PFHpA)	**11**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:42	1
Perfluorooctanoic acid (PFOA)	**32**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:42	1
Perfluorononanoic acid (PFNA)	**4.1**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:42	1
Perfluorodecanoic acid (PFDA)	**6.1**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:42	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118256-1

Client Sample ID: SWN-MW-7-FD-01092025
Date Collected: 01/09/25 10:15
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-2
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:42	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		01/17/25 07:36	01/18/25 04:42	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.51	ng/L		01/17/25 07:36	01/18/25 04:42	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.8	0.72	ng/L		01/17/25 07:36	01/18/25 04:42	1
Perfluorobutanesulfonic acid (PFBS)	**3.4**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:42	1
Perfluoropentanesulfonic acid (PFPeS)	**3.0**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:42	1
Perfluorohexanesulfonic acid (PFHxS)	**34**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:42	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.75**	**J**	1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:42	1
Perfluorooctanesulfonic acid (PFOS)	**22**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:42	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:42	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:42	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.47	ng/L		01/17/25 07:36	01/18/25 04:42	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.6	0.89	ng/L		01/17/25 07:36	01/18/25 04:42	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.6	0.89	ng/L		01/17/25 07:36	01/18/25 04:42	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.6	0.89	ng/L		01/17/25 07:36	01/18/25 04:42	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:42	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:42	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:42	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:42	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:42	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.9	2.2	ng/L		01/17/25 07:36	01/18/25 04:42	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.9	2.2	ng/L		01/17/25 07:36	01/18/25 04:42	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.35	ng/L		01/17/25 07:36	01/18/25 04:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:42	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:42	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:42	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.8	0.64	ng/L		01/17/25 07:36	01/18/25 04:42	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.8	0.51	ng/L		01/17/25 07:36	01/18/25 04:42	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:42	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:42	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.6	0.89	ng/L		01/17/25 07:36	01/18/25 04:42	1

Client Sample ID: SWN-MW-7-FD-01092025

Lab Sample ID: 320-118256-2

Date Collected: 01/09/25 10:15
Matrix: Water
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.9	2.2	ng/L		01/17/25 07:36	01/18/25 04:42	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.9	2.2	ng/L		01/17/25 07:36	01/18/25 04:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*97.7*		*5 - 130*	*01/17/25 07:36*	*01/18/25 04:42*	*1*
13C5 PFPeA	*88.0*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:42*	*1*
13C5 PFHxA	*95.2*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:42*	*1*
13C4 PFHpA	*106*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:42*	*1*
13C8 PFOA	*93.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:42*	*1*
13C9 PFNA	*88.3*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:42*	*1*
13C6 PFDA	*79.9*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:42*	*1*
13C7 PFUnA	*92.5*		*30 - 130*	*01/17/25 07:36*	*01/18/25 04:42*	*1*
13C2 PFDoA	*101*		*10 - 130*	*01/17/25 07:36*	*01/18/25 04:42*	*1*
13C2 PFTeDA	*102*		*10 - 130*	*01/17/25 07:36*	*01/18/25 04:42*	*1*
13C3 PFBS	*83.7*		*40 - 135*	*01/17/25 07:36*	*01/18/25 04:42*	*1*
13C3 PFHxS	*94.7*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:42*	*1*
13C8 PFOS	*93.3*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:42*	*1*
13C8 FOSA	*85.3*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:42*	*1*
d3-NMeFOSAA	*76.2*		*40 - 170*	*01/17/25 07:36*	*01/18/25 04:42*	*1*
d5-NEtFOSAA	*91.9*		*25 - 135*	*01/17/25 07:36*	*01/18/25 04:42*	*1*
13C2 4:2 FTS	*96.1*		*40 - 200*	*01/17/25 07:36*	*01/18/25 04:42*	*1*
13C2 6:2 FTS	*99.1*		*40 - 200*	*01/17/25 07:36*	*01/18/25 04:42*	*1*
13C2 8:2 FTS	*74.8*		*40 - 300*	*01/17/25 07:36*	*01/18/25 04:42*	*1*
13C3 HFPO-DA	*116*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:42*	*1*
d7-N-MeFOSE-M	*95.4*		*10 - 130*	*01/17/25 07:36*	*01/18/25 04:42*	*1*
d9-N-EtFOSE-M	*91.1*		*10 - 130*	*01/17/25 07:36*	*01/18/25 04:42*	*1*
d5-NEtPFOSA	*78.5*		*10 - 130*	*01/17/25 07:36*	*01/18/25 04:42*	*1*
d3-NMePFOSA	*76.0*		*10 - 130*	*01/17/25 07:36*	*01/18/25 04:42*	*1*

Client Sample ID: SWN-MW-4-N-01092025

Lab Sample ID: 320-118256-3

Date Collected: 01/09/25 11:15
Matrix: Water
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**26**		8.0	2.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
Perfluoropentanoic acid (PFPeA)	**45**		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
Perfluorohexanoic acid (PFHxA)	**48**		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
Perfluoroheptanoic acid (PFHpA)	**40**		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
Perfluorooctanoic acid (PFOA)	**100**		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
Perfluorononanoic acid (PFNA)	**26**		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
Perfluorodecanoic acid (PFDA)	**170**		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
Perfluoroundecanoic acid (PFUnA)	**3.2**	**J**	4.0	1.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
Perfluorododecanoic acid (PFDoA)	ND		4.0	1.1	ng/L		01/20/25 05:26	01/20/25 18:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		4.0	1.2	ng/L		01/20/25 05:26	01/20/25 18:45	1
Perfluorotetradecanoic acid (PFTeDA)	ND		4.0	1.6	ng/L		01/20/25 05:26	01/20/25 18:45	1
Perfluorobutanesulfonic acid (PFBS)	**1.6**	**J**	4.0	1.0	ng/L		01/20/25 05:26	01/20/25 18:45	1

Client Sample ID: SWN-MW-4-N-01092025
Date Collected: 01/09/25 11:15
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-3
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	**2.2**	**J**	4.0	1.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
Perfluorohexanesulfonic acid (PFHxS)	**18**		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
Perfluorooctanesulfonic acid (PFOS)	**62**		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
Perfluorononanesulfonic acid (PFNS)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		4.0	1.1	ng/L		01/20/25 05:26	01/20/25 18:45	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		8.0	2.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**3.9**	**J**	8.0	2.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		8.0	2.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
Perfluorooctanesulfonamide (PFOSA)	**2.5**	**J**	4.0	1.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		20	5.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		20	5.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.0	0.78	ng/L		01/20/25 05:26	01/20/25 18:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		4.0	1.4	ng/L		01/20/25 05:26	01/20/25 18:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		4.0	1.2	ng/L		01/20/25 05:26	01/20/25 18:45	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	**4.5**	**J**	8.0	2.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**8.7**	**J**	20	5.0	ng/L		01/20/25 05:26	01/20/25 18:45	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		20	5.0	ng/L		01/20/25 05:26	01/20/25 18:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*104*		*5 - 130*	*01/20/25 05:26*	*01/20/25 18:45*	*1*

Client Sample ID: SWN-MW-4-N-01092025

Lab Sample ID: 320-118256-3

Date Collected: 01/09/25 11:15

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	113		40 - 130	01/20/25 05:26	01/20/25 18:45	1
13C5 PFHxA	106		40 - 130	01/20/25 05:26	01/20/25 18:45	1
13C4 PFHpA	105		40 - 130	01/20/25 05:26	01/20/25 18:45	1
13C8 PFOA	109		40 - 130	01/20/25 05:26	01/20/25 18:45	1
13C9 PFNA	96.6		40 - 130	01/20/25 05:26	01/20/25 18:45	1
13C6 PFDA	101		40 - 130	01/20/25 05:26	01/20/25 18:45	1
13C7 PFUnA	96.6		30 - 130	01/20/25 05:26	01/20/25 18:45	1
13C2 PFDoA	105		10 - 130	01/20/25 05:26	01/20/25 18:45	1
13C2 PFTeDA	97.1		10 - 130	01/20/25 05:26	01/20/25 18:45	1
13C3 PFBS	101		40 - 135	01/20/25 05:26	01/20/25 18:45	1
13C3 PFHxS	102		40 - 130	01/20/25 05:26	01/20/25 18:45	1
13C8 PFOS	104		40 - 130	01/20/25 05:26	01/20/25 18:45	1
13C8 FOSA	101		40 - 130	01/20/25 05:26	01/20/25 18:45	1
d3-NMeFOSAA	104		40 - 170	01/20/25 05:26	01/20/25 18:45	1
d5-NEtFOSAA	105		25 - 135	01/20/25 05:26	01/20/25 18:45	1
13C2 4:2 FTS	82.4		40 - 200	01/20/25 05:26	01/20/25 18:45	1
13C2 6:2 FTS	103		40 - 200	01/20/25 05:26	01/20/25 18:45	1
13C2 8:2 FTS	88.2		40 - 300	01/20/25 05:26	01/20/25 18:45	1
13C3 HFPO-DA	97.7		40 - 130	01/20/25 05:26	01/20/25 18:45	1
d7-N-MeFOSE-M	103		10 - 130	01/20/25 05:26	01/20/25 18:45	1
d9-N-EtFOSE-M	101		10 - 130	01/20/25 05:26	01/20/25 18:45	1
d5-NEtPFOSA	89.3		10 - 130	01/20/25 05:26	01/20/25 18:45	1
d3-NMePFOSA	91.6		10 - 130	01/20/25 05:26	01/20/25 18:45	1

Client Sample ID: SWN-MW-6-N-01092025

Lab Sample ID: 320-118256-4

Date Collected: 01/09/25 12:15

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**14**		3.4	0.85	ng/L		01/20/25 05:26	01/20/25 19:02	1
Perfluoropentanoic acid (PFPeA)	**27**		1.7	0.42	ng/L		01/20/25 05:26	01/20/25 19:02	1
Perfluorohexanoic acid (PFHxA)	**42**		1.7	0.42	ng/L		01/20/25 05:26	01/20/25 19:02	1
Perfluoroheptanoic acid (PFHpA)	**14**		1.7	0.42	ng/L		01/20/25 05:26	01/20/25 19:02	1
Perfluorooctanoic acid (PFOA)	**52**		1.7	0.42	ng/L		01/20/25 05:26	01/20/25 19:02	1
Perfluorononanoic acid (PFNA)	**12**		1.7	0.42	ng/L		01/20/25 05:26	01/20/25 19:02	1
Perfluorodecanoic acid (PFDA)	**31**		1.7	0.42	ng/L		01/20/25 05:26	01/20/25 19:02	1
Perfluoroundecanoic acid (PFUnA)	**5.1**		1.7	0.42	ng/L		01/20/25 05:26	01/20/25 19:02	1
Perfluorododecanoic acid (PFDoA)	**5.9**		1.7	0.47	ng/L		01/20/25 05:26	01/20/25 19:02	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.49	ng/L		01/20/25 05:26	01/20/25 19:02	1
Perfluorotetradecanoic acid (PFTeDA)	**1.2**	**J**	1.7	0.69	ng/L		01/20/25 05:26	01/20/25 19:02	1
Perfluorobutanesulfonic acid (PFBS)	**2.8**		1.7	0.42	ng/L		01/20/25 05:26	01/20/25 19:02	1
Perfluoropentanesulfonic acid (PFPeS)	**2.6**		1.7	0.42	ng/L		01/20/25 05:26	01/20/25 19:02	1
Perfluorohexanesulfonic acid (PFHxS)	**65**		1.7	0.42	ng/L		01/20/25 05:26	01/20/25 19:02	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.42	ng/L		01/20/25 05:26	01/20/25 19:02	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118256-1

Client Sample ID: SWN-MW-6-N-01092025
Date Collected: 01/09/25 12:15
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-4
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**21**		1.7	0.42	ng/L		01/20/25 05:26	01/20/25 19:02	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.42	ng/L		01/20/25 05:26	01/20/25 19:02	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.42	ng/L		01/20/25 05:26	01/20/25 19:02	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.45	ng/L		01/20/25 05:26	01/20/25 19:02	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.4	0.85	ng/L		01/20/25 05:26	01/20/25 19:02	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**3.7**		3.4	0.85	ng/L		01/20/25 05:26	01/20/25 19:02	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**1.6**	**J**	3.4	0.85	ng/L		01/20/25 05:26	01/20/25 19:02	1
Perfluorooctanesulfonamide (PFOSA)	**0.47**	**J**	1.7	0.42	ng/L		01/20/25 05:26	01/20/25 19:02	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.42	ng/L		01/20/25 05:26	01/20/25 19:02	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.42	ng/L		01/20/25 05:26	01/20/25 19:02	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.42	ng/L		01/20/25 05:26	01/20/25 19:02	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.42	ng/L		01/20/25 05:26	01/20/25 19:02	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.5	2.1	ng/L		01/20/25 05:26	01/20/25 19:02	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.5	2.1	ng/L		01/20/25 05:26	01/20/25 19:02	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/20/25 05:26	01/20/25 19:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.42	ng/L		01/20/25 05:26	01/20/25 19:02	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.42	ng/L		01/20/25 05:26	01/20/25 19:02	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.42	ng/L		01/20/25 05:26	01/20/25 19:02	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.61	ng/L		01/20/25 05:26	01/20/25 19:02	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.49	ng/L		01/20/25 05:26	01/20/25 19:02	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.42	ng/L		01/20/25 05:26	01/20/25 19:02	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.42	ng/L		01/20/25 05:26	01/20/25 19:02	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	**0.94**	**J**	3.4	0.85	ng/L		01/20/25 05:26	01/20/25 19:02	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**5.7**	**J**	8.5	2.1	ng/L		01/20/25 05:26	01/20/25 19:02	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.5	2.1	ng/L		01/20/25 05:26	01/20/25 19:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99.5*		*5 - 130*	*01/20/25 05:26*	*01/20/25 19:02*	*1*
13C5 PFPeA	*106*		*40 - 130*	*01/20/25 05:26*	*01/20/25 19:02*	*1*
13C5 PFHxA	*103*		*40 - 130*	*01/20/25 05:26*	*01/20/25 19:02*	*1*
13C4 PFHpA	*107*		*40 - 130*	*01/20/25 05:26*	*01/20/25 19:02*	*1*
13C8 PFOA	*96.6*		*40 - 130*	*01/20/25 05:26*	*01/20/25 19:02*	*1*
13C9 PFNA	*103*		*40 - 130*	*01/20/25 05:26*	*01/20/25 19:02*	*1*

Client Sample ID: SWN-MW-6-N-01092025

Lab Sample ID: 320-118256-4

Date Collected: 01/09/25 12:15

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C6 PFDA	89.7		40 - 130	01/20/25 05:26	01/20/25 19:02	1
13C7 PFUnA	82.1		30 - 130	01/20/25 05:26	01/20/25 19:02	1
13C2 PFDoA	77.9		10 - 130	01/20/25 05:26	01/20/25 19:02	1
13C2 PFTeDA	55.0		10 - 130	01/20/25 05:26	01/20/25 19:02	1
13C3 PFBS	94.3		40 - 135	01/20/25 05:26	01/20/25 19:02	1
13C3 PFHxS	84.7		40 - 130	01/20/25 05:26	01/20/25 19:02	1
13C8 PFOS	74.5		40 - 130	01/20/25 05:26	01/20/25 19:02	1
13C8 FOSA	83.8		40 - 130	01/20/25 05:26	01/20/25 19:02	1
d3-NMeFOSAA	92.8		40 - 170	01/20/25 05:26	01/20/25 19:02	1
d5-NEtFOSAA	91.3		25 - 135	01/20/25 05:26	01/20/25 19:02	1
13C2 4:2 FTS	117		40 - 200	01/20/25 05:26	01/20/25 19:02	1
13C2 6:2 FTS	119		40 - 200	01/20/25 05:26	01/20/25 19:02	1
13C2 8:2 FTS	86.3		40 - 300	01/20/25 05:26	01/20/25 19:02	1
13C3 HFPO-DA	99.6		40 - 130	01/20/25 05:26	01/20/25 19:02	1
d7-N-MeFOSE-M	81.0		10 - 130	01/20/25 05:26	01/20/25 19:02	1
d9-N-EtFOSE-M	61.7		10 - 130	01/20/25 05:26	01/20/25 19:02	1
d5-NEtPFOSA	70.4		10 - 130	01/20/25 05:26	01/20/25 19:02	1
d3-NMePFOSA	80.5		10 - 130	01/20/25 05:26	01/20/25 19:02	1

Client Sample ID: SWN-MW-14-N-01092025

Lab Sample ID: 320-118256-5

Date Collected: 01/09/25 13:10

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**45**		3.5	0.89	ng/L		01/17/25 07:36	01/18/25 04:59	1
Perfluoropentanoic acid (PFPeA)	**170**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:59	1
Perfluorohexanoic acid (PFHxA)	**130**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:59	1
Perfluoroheptanoic acid (PFHpA)	**60**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:59	1
Perfluorooctanoic acid (PFOA)	**300**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:59	1
Perfluorononanoic acid (PFNA)	**16**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:59	1
Perfluorodecanoic acid (PFDA)	**1.5**	**J**	1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:59	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:59	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		01/17/25 07:36	01/18/25 04:59	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.51	ng/L		01/17/25 07:36	01/18/25 04:59	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.8	0.72	ng/L		01/17/25 07:36	01/18/25 04:59	1
Perfluorobutanesulfonic acid (PFBS)	**10**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:59	1
Perfluoropentanesulfonic acid (PFPeS)	**11**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:59	1
Perfluorohexanesulfonic acid (PFHxS)	**140**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:59	1
Perfluoroheptanesulfonic acid (PFHpS)	**2.0**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:59	1
Perfluorooctanesulfonic acid (PFOS)	**49**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:59	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:59	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:59	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.47	ng/L		01/17/25 07:36	01/18/25 04:59	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.5	0.89	ng/L		01/17/25 07:36	01/18/25 04:59	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118256-1

Client Sample ID: SWN-MW-14-N-01092025
Date Collected: 01/09/25 13:10
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-5
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.5	0.89	ng/L		01/17/25 07:36	01/18/25 04:59	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.5	0.89	ng/L		01/17/25 07:36	01/18/25 04:59	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:59	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:59	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:59	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:59	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:59	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.9	2.2	ng/L		01/17/25 07:36	01/18/25 04:59	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.9	2.2	ng/L		01/17/25 07:36	01/18/25 04:59	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.35	ng/L		01/17/25 07:36	01/18/25 04:59	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:59	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:59	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:59	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.8	0.64	ng/L		01/17/25 07:36	01/18/25 04:59	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.8	0.51	ng/L		01/17/25 07:36	01/18/25 04:59	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:59	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 04:59	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.5	0.89	ng/L		01/17/25 07:36	01/18/25 04:59	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.9	2.2	ng/L		01/17/25 07:36	01/18/25 04:59	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.9	2.2	ng/L		01/17/25 07:36	01/18/25 04:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*108*		*5 - 130*	*01/17/25 07:36*	*01/18/25 04:59*	*1*
13C5 PFPeA	*83.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:59*	*1*
13C5 PFHxA	*96.2*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:59*	*1*
13C4 PFHpA	*97.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:59*	*1*
13C8 PFOA	*92.0*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:59*	*1*
13C9 PFNA	*91.4*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:59*	*1*
13C6 PFDA	*90.1*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:59*	*1*
13C7 PFUnA	*93.5*		*30 - 130*	*01/17/25 07:36*	*01/18/25 04:59*	*1*
13C2 PFDoA	*102*		*10 - 130*	*01/17/25 07:36*	*01/18/25 04:59*	*1*
13C2 PFTeDA	*93.7*		*10 - 130*	*01/17/25 07:36*	*01/18/25 04:59*	*1*
13C3 PFBS	*93.3*		*40 - 135*	*01/17/25 07:36*	*01/18/25 04:59*	*1*
13C3 PFHxS	*103*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:59*	*1*
13C8 PFOS	*79.7*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:59*	*1*
13C8 FOSA	*79.0*		*40 - 130*	*01/17/25 07:36*	*01/18/25 04:59*	*1*

Client Sample ID: SWN-MW-14-N-01092025

Lab Sample ID: 320-118256-5

Date Collected: 01/09/25 13:10

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMeFOSAA	79.4		40 - 170	01/17/25 07:36	01/18/25 04:59	1
d5-NEtFOSAA	85.9		25 - 135	01/17/25 07:36	01/18/25 04:59	1
13C2 4:2 FTS	109		40 - 200	01/17/25 07:36	01/18/25 04:59	1
13C2 6:2 FTS	105		40 - 200	01/17/25 07:36	01/18/25 04:59	1
13C2 8:2 FTS	70.9		40 - 300	01/17/25 07:36	01/18/25 04:59	1
13C3 HFPO-DA	86.0		40 - 130	01/17/25 07:36	01/18/25 04:59	1
d7-N-MeFOSE-M	89.0		10 - 130	01/17/25 07:36	01/18/25 04:59	1
d9-N-EtFOSE-M	86.2		10 - 130	01/17/25 07:36	01/18/25 04:59	1
d5-NEtPFOSA	71.4		10 - 130	01/17/25 07:36	01/18/25 04:59	1
d3-NMePFOSA	70.8		10 - 130	01/17/25 07:36	01/18/25 04:59	1

Client Sample ID: SWN-MW-13-N-01092025

Lab Sample ID: 320-118256-6

Date Collected: 01/09/25 14:10

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**10**		3.4	0.86	ng/L		01/17/25 07:36	01/18/25 05:16	1
Perfluoropentanoic acid (PFPeA)	**20**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:16	1
Perfluorohexanoic acid (PFHxA)	**28**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:16	1
Perfluoroheptanoic acid (PFHpA)	**9.2**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:16	1
Perfluorooctanoic acid (PFOA)	**33**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:16	1
Perfluorononanoic acid (PFNA)	**4.2**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:16	1
Perfluorodecanoic acid (PFDA)	**6.5**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:16	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:16	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		01/17/25 07:36	01/18/25 05:16	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.50	ng/L		01/17/25 07:36	01/18/25 05:16	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.70	ng/L		01/17/25 07:36	01/18/25 05:16	1
Perfluorobutanesulfonic acid (PFBS)	**15**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:16	1
Perfluoropentanesulfonic acid (PFPeS)	**11**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:16	1
Perfluorohexanesulfonic acid (PFHxS)	**100**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:16	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.57**	**J**	1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:16	1
Perfluorooctanesulfonic acid (PFOS)	**19**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:16	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:16	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:16	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.46	ng/L		01/17/25 07:36	01/18/25 05:16	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.4	0.86	ng/L		01/17/25 07:36	01/18/25 05:16	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.4	0.86	ng/L		01/17/25 07:36	01/18/25 05:16	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.4	0.86	ng/L		01/17/25 07:36	01/18/25 05:16	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:16	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:16	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:16	1

Client Sample ID: SWN-MW-13-N-01092025
Date Collected: 01/09/25 14:10
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-6
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:16	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:16	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.6	2.2	ng/L		01/17/25 07:36	01/18/25 05:16	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.6	2.2	ng/L		01/17/25 07:36	01/18/25 05:16	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.34	ng/L		01/17/25 07:36	01/18/25 05:16	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:16	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:16	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:16	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.62	ng/L		01/17/25 07:36	01/18/25 05:16	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.50	ng/L		01/17/25 07:36	01/18/25 05:16	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:16	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:16	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.4	0.86	ng/L		01/17/25 07:36	01/18/25 05:16	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.6	2.2	ng/L		01/17/25 07:36	01/18/25 05:16	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.6	2.2	ng/L		01/17/25 07:36	01/18/25 05:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*103*		*5 - 130*	*01/17/25 07:36*	*01/18/25 05:16*	*1*
13C5 PFPeA	*90.6*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:16*	*1*
13C5 PFHxA	*96.1*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:16*	*1*
13C4 PFHpA	*108*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:16*	*1*
13C8 PFOA	*87.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:16*	*1*
13C9 PFNA	*88.2*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:16*	*1*
13C6 PFDA	*87.7*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:16*	*1*
13C7 PFUnA	*89.9*		*30 - 130*	*01/17/25 07:36*	*01/18/25 05:16*	*1*
13C2 PFDoA	*103*		*10 - 130*	*01/17/25 07:36*	*01/18/25 05:16*	*1*
13C2 PFTeDA	*95.9*		*10 - 130*	*01/17/25 07:36*	*01/18/25 05:16*	*1*
13C3 PFBS	*82.6*		*40 - 135*	*01/17/25 07:36*	*01/18/25 05:16*	*1*
13C3 PFHxS	*92.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:16*	*1*
13C8 PFOS	*87.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:16*	*1*
13C8 FOSA	*84.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:16*	*1*
d3-NMeFOSAA	*80.8*		*40 - 170*	*01/17/25 07:36*	*01/18/25 05:16*	*1*
d5-NEtFOSAA	*94.4*		*25 - 135*	*01/17/25 07:36*	*01/18/25 05:16*	*1*
13C2 4:2 FTS	*95.1*		*40 - 200*	*01/17/25 07:36*	*01/18/25 05:16*	*1*
13C2 6:2 FTS	*94.0*		*40 - 200*	*01/17/25 07:36*	*01/18/25 05:16*	*1*
13C2 8:2 FTS	*69.9*		*40 - 300*	*01/17/25 07:36*	*01/18/25 05:16*	*1*
13C3 HFPO-DA	*77.5*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:16*	*1*
d7-N-MeFOSE-M	*85.2*		*10 - 130*	*01/17/25 07:36*	*01/18/25 05:16*	*1*
d9-N-EtFOSE-M	*85.1*		*10 - 130*	*01/17/25 07:36*	*01/18/25 05:16*	*1*

Client Sample ID: SWN-MW-13-N-01092025

Lab Sample ID: 320-118256-6

Date Collected: 01/09/25 14:10

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtPFOSA	84.4		10 - 130	01/17/25 07:36	01/18/25 05:16	1
d3-NMePFOSA	77.2		10 - 130	01/17/25 07:36	01/18/25 05:16	1

Client Sample ID: FGF-MW-18-N-01092025

Lab Sample ID: 320-118256-7

Date Collected: 01/09/25 15:30

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.1**	**J**	3.5	0.87	ng/L		01/17/25 07:36	01/18/25 05:32	1
Perfluoropentanoic acid (PFPeA)	**5.9**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:32	1
Perfluorohexanoic acid (PFHxA)	**6.2**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:32	1
Perfluoroheptanoic acid (PFHpA)	**2.7**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:32	1
Perfluorooctanoic acid (PFOA)	**3.2**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:32	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:32	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:32	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:32	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.48	ng/L		01/17/25 07:36	01/18/25 05:32	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.50	ng/L		01/17/25 07:36	01/18/25 05:32	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.70	ng/L		01/17/25 07:36	01/18/25 05:32	1
Perfluorobutanesulfonic acid (PFBS)	**0.73**	**J**	1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:32	1
Perfluoropentanesulfonic acid (PFPeS)	**0.63**	**J**	1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:32	1
Perfluorohexanesulfonic acid (PFHxS)	**7.8**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:32	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.55**	**J**	1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:32	1
Perfluorooctanesulfonic acid (PFOS)	**17**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:32	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:32	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:32	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.46	ng/L		01/17/25 07:36	01/18/25 05:32	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.5	0.87	ng/L		01/17/25 07:36	01/18/25 05:32	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.5	0.87	ng/L		01/17/25 07:36	01/18/25 05:32	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.5	0.87	ng/L		01/17/25 07:36	01/18/25 05:32	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:32	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:32	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:32	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.7	2.2	ng/L		01/17/25 07:36	01/18/25 05:32	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.7	2.2	ng/L		01/17/25 07:36	01/18/25 05:32	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118256-1

Client Sample ID: FGF-MW-18-N-01092025
Date Collected: 01/09/25 15:30
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-7
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.34	ng/L		01/17/25 07:36	01/18/25 05:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:32	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:32	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:32	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.63	ng/L		01/17/25 07:36	01/18/25 05:32	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.50	ng/L		01/17/25 07:36	01/18/25 05:32	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:32	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 05:32	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.5	0.87	ng/L		01/17/25 07:36	01/18/25 05:32	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.7	2.2	ng/L		01/17/25 07:36	01/18/25 05:32	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.7	2.2	ng/L		01/17/25 07:36	01/18/25 05:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*102*		*5 - 130*	*01/17/25 07:36*	*01/18/25 05:32*	*1*
13C5 PFPeA	*90.7*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:32*	*1*
13C5 PFHxA	*103*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:32*	*1*
13C4 PFHpA	*108*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:32*	*1*
13C8 PFOA	*94.6*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:32*	*1*
13C9 PFNA	*92.4*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:32*	*1*
13C6 PFDA	*79.4*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:32*	*1*
13C7 PFUnA	*78.2*		*30 - 130*	*01/17/25 07:36*	*01/18/25 05:32*	*1*
13C2 PFDoA	*92.5*		*10 - 130*	*01/17/25 07:36*	*01/18/25 05:32*	*1*
13C2 PFTeDA	*94.6*		*10 - 130*	*01/17/25 07:36*	*01/18/25 05:32*	*1*
13C3 PFBS	*78.7*		*40 - 135*	*01/17/25 07:36*	*01/18/25 05:32*	*1*
13C3 PFHxS	*95.4*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:32*	*1*
13C8 PFOS	*95.0*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:32*	*1*
13C8 FOSA	*87.6*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:32*	*1*
d3-NMeFOSAA	*81.1*		*40 - 170*	*01/17/25 07:36*	*01/18/25 05:32*	*1*
d5-NEtFOSAA	*86.1*		*25 - 135*	*01/17/25 07:36*	*01/18/25 05:32*	*1*
13C2 4:2 FTS	*83.1*		*40 - 200*	*01/17/25 07:36*	*01/18/25 05:32*	*1*
13C2 6:2 FTS	*93.5*		*40 - 200*	*01/17/25 07:36*	*01/18/25 05:32*	*1*
13C2 8:2 FTS	*67.1*		*40 - 300*	*01/17/25 07:36*	*01/18/25 05:32*	*1*
13C3 HFPO-DA	*87.6*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:32*	*1*
d7-N-MeFOSE-M	*98.3*		*10 - 130*	*01/17/25 07:36*	*01/18/25 05:32*	*1*
d9-N-EtFOSE-M	*86.5*		*10 - 130*	*01/17/25 07:36*	*01/18/25 05:32*	*1*
d5-NEtPFOSA	*73.4*		*10 - 130*	*01/17/25 07:36*	*01/18/25 05:32*	*1*
d3-NMePFOSA	*78.6*		*10 - 130*	*01/17/25 07:36*	*01/18/25 05:32*	*1*

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118256-1

Client Sample ID: EB-1-01092025
Date Collected: 01/09/25 15:45
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-8
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.4	0.84	ng/L		01/17/25 07:36	01/18/25 05:49	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 05:49	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 05:49	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 05:49	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 05:49	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 05:49	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 05:49	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 05:49	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		01/17/25 07:36	01/18/25 05:49	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.49	ng/L		01/17/25 07:36	01/18/25 05:49	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.68	ng/L		01/17/25 07:36	01/18/25 05:49	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 05:49	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 05:49	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 05:49	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 05:49	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 05:49	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 05:49	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 05:49	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.45	ng/L		01/17/25 07:36	01/18/25 05:49	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.4	0.84	ng/L		01/17/25 07:36	01/18/25 05:49	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.4	0.84	ng/L		01/17/25 07:36	01/18/25 05:49	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.4	0.84	ng/L		01/17/25 07:36	01/18/25 05:49	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 05:49	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 05:49	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 05:49	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 05:49	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 05:49	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.4	2.1	ng/L		01/17/25 07:36	01/18/25 05:49	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.4	2.1	ng/L		01/17/25 07:36	01/18/25 05:49	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/17/25 07:36	01/18/25 05:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 05:49	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 05:49	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 05:49	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.61	ng/L		01/17/25 07:36	01/18/25 05:49	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.49	ng/L		01/17/25 07:36	01/18/25 05:49	1

Client Sample ID: EB-1-01092025

Lab Sample ID: 320-118256-8

Date Collected: 01/09/25 15:45

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 05:49	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 05:49	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.4	0.84	ng/L		01/17/25 07:36	01/18/25 05:49	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.4	2.1	ng/L		01/17/25 07:36	01/18/25 05:49	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.4	2.1	ng/L		01/17/25 07:36	01/18/25 05:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*105*		*5 - 130*	*01/17/25 07:36*	*01/18/25 05:49*	*1*
13C5 PFPeA	*80.2*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:49*	*1*
13C5 PFHxA	*104*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:49*	*1*
13C4 PFHpA	*109*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:49*	*1*
13C8 PFOA	*96.1*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:49*	*1*
13C9 PFNA	*91.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:49*	*1*
13C6 PFDA	*88.5*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:49*	*1*
13C7 PFUnA	*92.5*		*30 - 130*	*01/17/25 07:36*	*01/18/25 05:49*	*1*
13C2 PFDoA	*104*		*10 - 130*	*01/17/25 07:36*	*01/18/25 05:49*	*1*
13C2 PFTeDA	*93.5*		*10 - 130*	*01/17/25 07:36*	*01/18/25 05:49*	*1*
13C3 PFBS	*77.3*		*40 - 135*	*01/17/25 07:36*	*01/18/25 05:49*	*1*
13C3 PFHxS	*89.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:49*	*1*
13C8 PFOS	*83.9*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:49*	*1*
13C8 FOSA	*88.5*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:49*	*1*
d3-NMeFOSAA	*84.2*		*40 - 170*	*01/17/25 07:36*	*01/18/25 05:49*	*1*
d5-NEtFOSAA	*93.2*		*25 - 135*	*01/17/25 07:36*	*01/18/25 05:49*	*1*
13C2 4:2 FTS	*95.8*		*40 - 200*	*01/17/25 07:36*	*01/18/25 05:49*	*1*
13C2 6:2 FTS	*97.4*		*40 - 200*	*01/17/25 07:36*	*01/18/25 05:49*	*1*
13C2 8:2 FTS	*70.6*		*40 - 300*	*01/17/25 07:36*	*01/18/25 05:49*	*1*
13C3 HFPO-DA	*96.0*		*40 - 130*	*01/17/25 07:36*	*01/18/25 05:49*	*1*
d7-N-MeFOSE-M	*99.1*		*10 - 130*	*01/17/25 07:36*	*01/18/25 05:49*	*1*
d9-N-EtFOSE-M	*99.6*		*10 - 130*	*01/17/25 07:36*	*01/18/25 05:49*	*1*
d5-NEtPFOSA	*86.5*		*10 - 130*	*01/17/25 07:36*	*01/18/25 05:49*	*1*
d3-NMePFOSA	*78.6*		*10 - 130*	*01/17/25 07:36*	*01/18/25 05:49*	*1*

Client Sample ID: SWN-MW-A-N-01092025

Lab Sample ID: 320-118256-9

Date Collected: 01/09/25 10:20

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**48**		3.5	0.87	ng/L		01/17/25 07:36	01/18/25 06:39	1
Perfluoropentanoic acid (PFPeA)	**46**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 06:39	1
Perfluorohexanoic acid (PFHxA)	**60**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 06:39	1
Perfluoroheptanoic acid (PFHpA)	**35**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 06:39	1
Perfluorooctanoic acid (PFOA)	**95**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 06:39	1
Perfluorononanoic acid (PFNA)	**39**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 06:39	1
Perfluorodecanoic acid (PFDA)	**32**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 06:39	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 06:39	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.48	ng/L		01/17/25 07:36	01/18/25 06:39	1

Client Sample ID: SWN-MW-A-N-01092025
Date Collected: 01/09/25 10:20
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-9
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.50	ng/L		01/17/25 07:36	01/18/25 06:39	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.70	ng/L		01/17/25 07:36	01/18/25 06:39	1
Perfluorobutanesulfonic acid (PFBS)	**16**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 06:39	1
Perfluoropentanesulfonic acid (PFPeS)	**4.2**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 06:39	1
Perfluorohexanesulfonic acid (PFHxS)	**110**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 06:39	1
Perfluoroheptanesulfonic acid (PFHpS)	**1.8**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 06:39	1
Perfluorooctanesulfonic acid (PFOS)	**66**		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 06:39	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 06:39	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 06:39	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.46	ng/L		01/17/25 07:36	01/18/25 06:39	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.5	0.87	ng/L		01/17/25 07:36	01/18/25 06:39	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**4.2**		3.5	0.87	ng/L		01/17/25 07:36	01/18/25 06:39	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.5	0.87	ng/L		01/17/25 07:36	01/18/25 06:39	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 06:39	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 06:39	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 06:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 06:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 06:39	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.7	2.2	ng/L		01/17/25 07:36	01/18/25 06:39	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.7	2.2	ng/L		01/17/25 07:36	01/18/25 06:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 06:39	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 06:39	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 06:39	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.63	ng/L		01/17/25 07:36	01/18/25 06:39	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.50	ng/L		01/17/25 07:36	01/18/25 06:39	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 06:39	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.43	ng/L		01/17/25 07:36	01/18/25 06:39	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.5	0.87	ng/L		01/17/25 07:36	01/18/25 06:39	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.7	2.2	ng/L		01/17/25 07:36	01/18/25 06:39	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.7	2.2	ng/L		01/17/25 07:36	01/18/25 06:39	1

Client Sample ID: SWN-MW-A-N-01092025

Lab Sample ID: 320-118256-9

Date Collected: 01/09/25 10:20

Matrix: Water

Date Received: 01/15/25 09:45

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*104*		*5 - 130*	*01/17/25 07:36*	*01/18/25 06:39*	*1*
13C5 PFPeA	*81.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 06:39*	*1*
13C5 PFHxA	*83.4*		*40 - 130*	*01/17/25 07:36*	*01/18/25 06:39*	*1*
13C4 PFHpA	*106*		*40 - 130*	*01/17/25 07:36*	*01/18/25 06:39*	*1*
13C8 PFOA	*105*		*40 - 130*	*01/17/25 07:36*	*01/18/25 06:39*	*1*
13C9 PFNA	*83.3*		*40 - 130*	*01/17/25 07:36*	*01/18/25 06:39*	*1*
13C6 PFDA	*89.0*		*40 - 130*	*01/17/25 07:36*	*01/18/25 06:39*	*1*
13C7 PFUnA	*77.0*		*30 - 130*	*01/17/25 07:36*	*01/18/25 06:39*	*1*
13C2 PFDoA	*91.7*		*10 - 130*	*01/17/25 07:36*	*01/18/25 06:39*	*1*
13C2 PFTeDA	*93.3*		*10 - 130*	*01/17/25 07:36*	*01/18/25 06:39*	*1*
13C3 PFBS	*78.9*		*40 - 135*	*01/17/25 07:36*	*01/18/25 06:39*	*1*
13C3 PFHxS	*92.3*		*40 - 130*	*01/17/25 07:36*	*01/18/25 06:39*	*1*
13C8 PFOS	*85.9*		*40 - 130*	*01/17/25 07:36*	*01/18/25 06:39*	*1*
13C8 FOSA	*76.6*		*40 - 130*	*01/17/25 07:36*	*01/18/25 06:39*	*1*
d3-NMeFOSAA	*81.2*		*40 - 170*	*01/17/25 07:36*	*01/18/25 06:39*	*1*
d5-NEtFOSAA	*74.7*		*25 - 135*	*01/17/25 07:36*	*01/18/25 06:39*	*1*
13C2 4:2 FTS	*106*		*40 - 200*	*01/17/25 07:36*	*01/18/25 06:39*	*1*
13C2 6:2 FTS	*101*		*40 - 200*	*01/17/25 07:36*	*01/18/25 06:39*	*1*
13C2 8:2 FTS	*63.0*		*40 - 300*	*01/17/25 07:36*	*01/18/25 06:39*	*1*
13C3 HFPO-DA	*67.1*		*40 - 130*	*01/17/25 07:36*	*01/18/25 06:39*	*1*
d7-N-MeFOSE-M	*85.6*		*10 - 130*	*01/17/25 07:36*	*01/18/25 06:39*	*1*
d9-N-EtFOSE-M	*82.4*		*10 - 130*	*01/17/25 07:36*	*01/18/25 06:39*	*1*
d5-NEtPFOSA	*67.3*		*10 - 130*	*01/17/25 07:36*	*01/18/25 06:39*	*1*
d3-NMePFOSA	*73.3*		*10 - 130*	*01/17/25 07:36*	*01/18/25 06:39*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.34	ng/L		01/17/25 07:36	01/20/25 12:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*115*		*40 - 130*	*01/17/25 07:36*	*01/20/25 12:51*	*1*

Client Sample ID: SWN-MW-3-N-01092025

Lab Sample ID: 320-118256-10

Date Collected: 01/09/25 12:25

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**71**		8.0	2.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
Perfluoropentanoic acid (PFPeA)	**160**		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
Perfluorohexanoic acid (PFHxA)	**150**		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
Perfluoroheptanoic acid (PFHpA)	**110**		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
Perfluorooctanoic acid (PFOA)	**370**		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
Perfluorononanoic acid (PFNA)	**53**		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
Perfluorodecanoic acid (PFDA)	**98**		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
Perfluoroundecanoic acid (PFUnA)	**8.9**		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
Perfluorododecanoic acid (PFDoA)	ND		4.0	1.1	ng/L		01/20/25 05:26	01/20/25 19:18	1
Perfluorotridecanoic acid (PFTrDA)	ND		4.0	1.2	ng/L		01/20/25 05:26	01/20/25 19:18	1
Perfluorotetradecanoic acid (PFTeDA)	ND		4.0	1.6	ng/L		01/20/25 05:26	01/20/25 19:18	1
Perfluorobutanesulfonic acid (PFBS)	**5.3**		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 19:18	1

Client Sample ID: SWN-MW-3-N-01092025
Date Collected: 01/09/25 12:25
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-10
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	**6.4**		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
Perfluorohexanesulfonic acid (PFHxS)	**68**		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
Perfluoroheptanesulfonic acid (PFHpS)	**1.2**	**J**	4.0	1.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
Perfluorooctanesulfonic acid (PFOS)	**60**		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
Perfluorononanesulfonic acid (PFNS)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
Perfluorodecanesulfonic acid (PFDS)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
Perfluorododecanesulfonic acid (PFDoS)	ND		4.0	1.1	ng/L		01/20/25 05:26	01/20/25 19:18	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		8.0	2.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**3.9**	**J**	8.0	2.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		8.0	2.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
Perfluorooctanesulfonamide (PFOSA)	**1.9**	**J**	4.0	1.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		20	5.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		20	5.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.0	0.78	ng/L		01/20/25 05:26	01/20/25 19:18	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		4.0	1.4	ng/L		01/20/25 05:26	01/20/25 19:18	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		4.0	1.2	ng/L		01/20/25 05:26	01/20/25 19:18	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		8.0	2.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		20	5.0	ng/L		01/20/25 05:26	01/20/25 19:18	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		20	5.0	ng/L		01/20/25 05:26	01/20/25 19:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*107*		*5 - 130*	*01/20/25 05:26*	*01/20/25 19:18*	*1*

Client Sample ID: SWN-MW-3-N-01092025

Date Collected: 01/09/25 12:25
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-10
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	126		40 - 130	01/20/25 05:26	01/20/25 19:18	1
13C5 PFHxA	109		40 - 130	01/20/25 05:26	01/20/25 19:18	1
13C4 PFHpA	116		40 - 130	01/20/25 05:26	01/20/25 19:18	1
13C8 PFOA	100		40 - 130	01/20/25 05:26	01/20/25 19:18	1
13C9 PFNA	99.6		40 - 130	01/20/25 05:26	01/20/25 19:18	1
13C6 PFDA	96.0		40 - 130	01/20/25 05:26	01/20/25 19:18	1
13C7 PFUnA	101		30 - 130	01/20/25 05:26	01/20/25 19:18	1
13C2 PFDoA	102		10 - 130	01/20/25 05:26	01/20/25 19:18	1
13C2 PFTeDA	85.2		10 - 130	01/20/25 05:26	01/20/25 19:18	1
13C3 PFBS	110		40 - 135	01/20/25 05:26	01/20/25 19:18	1
13C3 PFHxS	111		40 - 130	01/20/25 05:26	01/20/25 19:18	1
13C8 PFOS	98.3		40 - 130	01/20/25 05:26	01/20/25 19:18	1
13C8 FOSA	101		40 - 130	01/20/25 05:26	01/20/25 19:18	1
d3-NMeFOSAA	105		40 - 170	01/20/25 05:26	01/20/25 19:18	1
d5-NEtFOSAA	105		25 - 135	01/20/25 05:26	01/20/25 19:18	1
13C2 4:2 FTS	97.6		40 - 200	01/20/25 05:26	01/20/25 19:18	1
13C2 6:2 FTS	102		40 - 200	01/20/25 05:26	01/20/25 19:18	1
13C2 8:2 FTS	89.6		40 - 300	01/20/25 05:26	01/20/25 19:18	1
13C3 HFPO-DA	106		40 - 130	01/20/25 05:26	01/20/25 19:18	1
d7-N-MeFOSE-M	105		10 - 130	01/20/25 05:26	01/20/25 19:18	1
d9-N-EtFOSE-M	103		10 - 130	01/20/25 05:26	01/20/25 19:18	1
d5-NEtPFOSA	93.6		10 - 130	01/20/25 05:26	01/20/25 19:18	1
d3-NMePFOSA	97.2		10 - 130	01/20/25 05:26	01/20/25 19:18	1

Client Sample ID: SWN-MW-1-N-01092025

Date Collected: 01/09/25 14:30
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-11
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**23**		3.6	0.89	ng/L		01/17/25 07:36	01/18/25 06:56	1
Perfluoropentanoic acid (PFPeA)	**48**		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 06:56	1
Perfluorohexanoic acid (PFHxA)	**96**		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 06:56	1
Perfluoroheptanoic acid (PFHpA)	**23**		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 06:56	1
Perfluorooctanoic acid (PFOA)	**58**		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 06:56	1
Perfluorononanoic acid (PFNA)	**9.7**		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 06:56	1
Perfluorodecanoic acid (PFDA)	**2.3**		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 06:56	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 06:56	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		01/17/25 07:36	01/18/25 06:56	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.52	ng/L		01/17/25 07:36	01/18/25 06:56	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.8	0.72	ng/L		01/17/25 07:36	01/18/25 06:56	1
Perfluorobutanesulfonic acid (PFBS)	**14**		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 06:56	1
Perfluoropentanesulfonic acid (PFPeS)	**12**		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 06:56	1
Perfluoroheptanesulfonic acid (PFHpS)	**1.7**	**J**	1.8	0.45	ng/L		01/17/25 07:36	01/18/25 06:56	1
Perfluorooctanesulfonic acid (PFOS)	**58**		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 06:56	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 06:56	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 06:56	1

Client Sample ID: SWN-MW-1-N-01092025
Date Collected: 01/09/25 14:30
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-11
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.47	ng/L		01/17/25 07:36	01/18/25 06:56	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.6	0.89	ng/L		01/17/25 07:36	01/18/25 06:56	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**2.3**	**J**	3.6	0.89	ng/L		01/17/25 07:36	01/18/25 06:56	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.6	0.89	ng/L		01/17/25 07:36	01/18/25 06:56	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 06:56	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 06:56	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 06:56	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 06:56	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 06:56	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.9	2.2	ng/L		01/17/25 07:36	01/18/25 06:56	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.9	2.2	ng/L		01/17/25 07:36	01/18/25 06:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 06:56	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 06:56	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 06:56	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.8	0.64	ng/L		01/17/25 07:36	01/18/25 06:56	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.8	0.52	ng/L		01/17/25 07:36	01/18/25 06:56	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 06:56	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 06:56	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.6	0.89	ng/L		01/17/25 07:36	01/18/25 06:56	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.9	2.2	ng/L		01/17/25 07:36	01/18/25 06:56	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.9	2.2	ng/L		01/17/25 07:36	01/18/25 06:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*106*		*5 - 130*	*01/17/25 07:36*	*01/18/25 06:56*	*1*
13C5 PFPeA	*79.1*		*40 - 130*	*01/17/25 07:36*	*01/18/25 06:56*	*1*
13C5 PFHxA	*88.7*		*40 - 130*	*01/17/25 07:36*	*01/18/25 06:56*	*1*
13C4 PFHpA	*83.5*		*40 - 130*	*01/17/25 07:36*	*01/18/25 06:56*	*1*
13C8 PFOA	*94.1*		*40 - 130*	*01/17/25 07:36*	*01/18/25 06:56*	*1*
13C9 PFNA	*95.6*		*40 - 130*	*01/17/25 07:36*	*01/18/25 06:56*	*1*
13C6 PFDA	*90.9*		*40 - 130*	*01/17/25 07:36*	*01/18/25 06:56*	*1*
13C7 PFUnA	*98.3*		*30 - 130*	*01/17/25 07:36*	*01/18/25 06:56*	*1*
13C2 PFDoA	*101*		*10 - 130*	*01/17/25 07:36*	*01/18/25 06:56*	*1*
13C2 PFTeDA	*95.7*		*10 - 130*	*01/17/25 07:36*	*01/18/25 06:56*	*1*
13C3 PFBS	*89.2*		*40 - 135*	*01/17/25 07:36*	*01/18/25 06:56*	*1*
13C3 PFHxS	*95.3*		*40 - 130*	*01/17/25 07:36*	*01/18/25 06:56*	*1*

Client Sample ID: SWN-MW-1-N-01092025

Lab Sample ID: 320-118256-11
Matrix: Water
Date Collected: 01/09/25 14:30
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	85.7		40 - 130	01/17/25 07:36	01/18/25 06:56	1
13C8 FOSA	81.1		40 - 130	01/17/25 07:36	01/18/25 06:56	1
d3-NMeFOSAA	69.6		40 - 170	01/17/25 07:36	01/18/25 06:56	1
d5-NEtFOSAA	80.3		25 - 135	01/17/25 07:36	01/18/25 06:56	1
13C2 4:2 FTS	105		40 - 200	01/17/25 07:36	01/18/25 06:56	1
13C2 6:2 FTS	94.3		40 - 200	01/17/25 07:36	01/18/25 06:56	1
13C2 8:2 FTS	71.6		40 - 300	01/17/25 07:36	01/18/25 06:56	1
13C3 HFPO-DA	72.6		40 - 130	01/17/25 07:36	01/18/25 06:56	1
d7-N-MeFOSE-M	85.1		10 - 130	01/17/25 07:36	01/18/25 06:56	1
d9-N-EtFOSE-M	74.0		10 - 130	01/17/25 07:36	01/18/25 06:56	1
d5-NEtPFOSA	64.2		10 - 130	01/17/25 07:36	01/18/25 06:56	1
d3-NMePFOSA	74.2		10 - 130	01/17/25 07:36	01/18/25 06:56	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**300**		1.8	0.45	ng/L		01/17/25 07:36	01/20/25 13:07	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.35	ng/L		01/17/25 07:36	01/20/25 13:07	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	93.2		40 - 130	01/17/25 07:36	01/20/25 13:07	1
13C3 HFPO-DA	99.3		40 - 130	01/17/25 07:36	01/20/25 13:07	1

Client Sample ID: SWN-MW-2-N-01092025

Lab Sample ID: 320-118256-12
Matrix: Water
Date Collected: 01/09/25 15:40
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**14**		3.7	0.93	ng/L		01/17/25 07:36	01/18/25 07:12	1
Perfluoropentanoic acid (PFPeA)	**20**		1.9	0.47	ng/L		01/17/25 07:36	01/18/25 07:12	1
Perfluorohexanoic acid (PFHxA)	**29**		1.9	0.47	ng/L		01/17/25 07:36	01/18/25 07:12	1
Perfluoroheptanoic acid (PFHpA)	**8.4**		1.9	0.47	ng/L		01/17/25 07:36	01/18/25 07:12	1
Perfluorooctanoic acid (PFOA)	**22**		1.9	0.47	ng/L		01/17/25 07:36	01/18/25 07:12	1
Perfluorononanoic acid (PFNA)	**17**		1.9	0.47	ng/L		01/17/25 07:36	01/18/25 07:12	1
Perfluorodecanoic acid (PFDA)	**11**		1.9	0.47	ng/L		01/17/25 07:36	01/18/25 07:12	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	0.47	ng/L		01/17/25 07:36	01/18/25 07:12	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.51	ng/L		01/17/25 07:36	01/18/25 07:12	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	0.54	ng/L		01/17/25 07:36	01/18/25 07:12	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.9	0.76	ng/L		01/17/25 07:36	01/18/25 07:12	1
Perfluorobutanesulfonic acid (PFBS)	**1.5**	**J**	1.9	0.47	ng/L		01/17/25 07:36	01/18/25 07:12	1
Perfluoropentanesulfonic acid (PFPeS)	**1.8**	**J**	1.9	0.47	ng/L		01/17/25 07:36	01/18/25 07:12	1
Perfluorohexanesulfonic acid (PFHxS)	**100**		1.9	0.47	ng/L		01/17/25 07:36	01/18/25 07:12	1
Perfluoroheptanesulfonic acid (PFHpS)	**3.1**		1.9	0.47	ng/L		01/17/25 07:36	01/18/25 07:12	1
Perfluorooctanesulfonic acid (PFOS)	**93**		1.9	0.47	ng/L		01/17/25 07:36	01/18/25 07:12	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.47	ng/L		01/17/25 07:36	01/18/25 07:12	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.47	ng/L		01/17/25 07:36	01/18/25 07:12	1

Client Sample ID: SWN-MW-2-N-01092025
Date Collected: 01/09/25 15:40
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-12
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.49	ng/L		01/17/25 07:36	01/18/25 07:12	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.7	0.93	ng/L		01/17/25 07:36	01/18/25 07:12	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**11**		3.7	0.93	ng/L		01/17/25 07:36	01/18/25 07:12	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**1.2**	**J**	3.7	0.93	ng/L		01/17/25 07:36	01/18/25 07:12	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.9	0.47	ng/L		01/17/25 07:36	01/18/25 07:12	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.9	0.47	ng/L		01/17/25 07:36	01/18/25 07:12	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.9	0.47	ng/L		01/17/25 07:36	01/18/25 07:12	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.9	0.47	ng/L		01/17/25 07:36	01/18/25 07:12	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.9	0.47	ng/L		01/17/25 07:36	01/18/25 07:12	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		9.3	2.3	ng/L		01/17/25 07:36	01/18/25 07:12	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		9.3	2.3	ng/L		01/17/25 07:36	01/18/25 07:12	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.47	ng/L		01/17/25 07:36	01/18/25 07:12	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.9	0.47	ng/L		01/17/25 07:36	01/18/25 07:12	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.9	0.47	ng/L		01/17/25 07:36	01/18/25 07:12	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.9	0.67	ng/L		01/17/25 07:36	01/18/25 07:12	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.9	0.54	ng/L		01/17/25 07:36	01/18/25 07:12	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.9	0.47	ng/L		01/17/25 07:36	01/18/25 07:12	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.9	0.47	ng/L		01/17/25 07:36	01/18/25 07:12	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.7	0.93	ng/L		01/17/25 07:36	01/18/25 07:12	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		9.3	2.3	ng/L		01/17/25 07:36	01/18/25 07:12	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		9.3	2.3	ng/L		01/17/25 07:36	01/18/25 07:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*105*		*5 - 130*	*01/17/25 07:36*	*01/18/25 07:12*	*1*
13C5 PFPeA	*93.1*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:12*	*1*
13C5 PFHxA	*86.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:12*	*1*
13C4 PFHpA	*104*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:12*	*1*
13C8 PFOA	*86.0*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:12*	*1*
13C9 PFNA	*94.2*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:12*	*1*
13C6 PFDA	*90.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:12*	*1*
13C7 PFUnA	*82.6*		*30 - 130*	*01/17/25 07:36*	*01/18/25 07:12*	*1*
13C2 PFDoA	*92.2*		*10 - 130*	*01/17/25 07:36*	*01/18/25 07:12*	*1*
13C2 PFTeDA	*83.1*		*10 - 130*	*01/17/25 07:36*	*01/18/25 07:12*	*1*
13C3 PFBS	*86.9*		*40 - 135*	*01/17/25 07:36*	*01/18/25 07:12*	*1*
13C3 PFHxS	*93.2*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:12*	*1*

Client Sample ID: SWN-MW-2-N-01092025
Lab Sample ID: 320-118256-12
Date Collected: 01/09/25 15:40
Matrix: Water
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*84.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:12*	*1*
13C8 FOSA	*78.3*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:12*	*1*
d3-NMeFOSAA	*77.5*		*40 - 170*	*01/17/25 07:36*	*01/18/25 07:12*	*1*
d5-NEtFOSAA	*81.0*		*25 - 135*	*01/17/25 07:36*	*01/18/25 07:12*	*1*
13C2 4:2 FTS	*97.7*		*40 - 200*	*01/17/25 07:36*	*01/18/25 07:12*	*1*
13C2 6:2 FTS	*96.1*		*40 - 200*	*01/17/25 07:36*	*01/18/25 07:12*	*1*
13C2 8:2 FTS	*70.3*		*40 - 300*	*01/17/25 07:36*	*01/18/25 07:12*	*1*
13C3 HFPO-DA	*72.5*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:12*	*1*
d7-N-MeFOSE-M	*79.5*		*10 - 130*	*01/17/25 07:36*	*01/18/25 07:12*	*1*
d9-N-EtFOSE-M	*72.5*		*10 - 130*	*01/17/25 07:36*	*01/18/25 07:12*	*1*
d5-NEtPFOSA	*67.8*		*10 - 130*	*01/17/25 07:36*	*01/18/25 07:12*	*1*
d3-NMePFOSA	*69.2*		*10 - 130*	*01/17/25 07:36*	*01/18/25 07:12*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.4	0.36	ng/L		01/17/25 07:36	01/20/25 13:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*99.2*		*40 - 130*	*01/17/25 07:36*	*01/20/25 13:24*	*1*

Client Sample ID: EB-2-01092025
Lab Sample ID: 320-118256-13
Date Collected: 01/09/25 16:05
Matrix: Water
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.6	0.90	ng/L		01/17/25 07:36	01/18/25 07:29	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 07:29	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 07:29	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 07:29	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 07:29	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 07:29	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 07:29	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 07:29	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		01/17/25 07:36	01/18/25 07:29	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.52	ng/L		01/17/25 07:36	01/18/25 07:29	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.8	0.73	ng/L		01/17/25 07:36	01/18/25 07:29	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 07:29	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 07:29	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 07:29	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 07:29	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 07:29	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 07:29	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 07:29	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.48	ng/L		01/17/25 07:36	01/18/25 07:29	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.6	0.90	ng/L		01/17/25 07:36	01/18/25 07:29	1

Client Sample ID: EB-2-01092025
Date Collected: 01/09/25 16:05
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-13
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.6	0.90	ng/L		01/17/25 07:36	01/18/25 07:29	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.6	0.90	ng/L		01/17/25 07:36	01/18/25 07:29	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 07:29	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 07:29	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 07:29	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 07:29	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 07:29	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		9.0	2.3	ng/L		01/17/25 07:36	01/18/25 07:29	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		9.0	2.3	ng/L		01/17/25 07:36	01/18/25 07:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 07:29	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 07:29	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 07:29	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.8	0.65	ng/L		01/17/25 07:36	01/18/25 07:29	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.8	0.52	ng/L		01/17/25 07:36	01/18/25 07:29	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 07:29	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 07:29	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.6	0.90	ng/L		01/17/25 07:36	01/18/25 07:29	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		9.0	2.3	ng/L		01/17/25 07:36	01/18/25 07:29	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		9.0	2.3	ng/L		01/17/25 07:36	01/18/25 07:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*112*		*5 - 130*	*01/17/25 07:36*	*01/18/25 07:29*	*1*
13C5 PFPeA	*85.5*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:29*	*1*
13C5 PFHxA	*97.5*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:29*	*1*
13C4 PFHpA	*104*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:29*	*1*
13C8 PFOA	*91.9*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:29*	*1*
13C9 PFNA	*76.6*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:29*	*1*
13C6 PFDA	*89.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:29*	*1*
13C7 PFUnA	*88.9*		*30 - 130*	*01/17/25 07:36*	*01/18/25 07:29*	*1*
13C2 PFDoA	*112*		*10 - 130*	*01/17/25 07:36*	*01/18/25 07:29*	*1*
13C2 PFTeDA	*99.1*		*10 - 130*	*01/17/25 07:36*	*01/18/25 07:29*	*1*
13C3 PFBS	*78.6*		*40 - 135*	*01/17/25 07:36*	*01/18/25 07:29*	*1*
13C3 PFHxS	*85.3*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:29*	*1*
13C8 PFOS	*81.5*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:29*	*1*
13C8 FOSA	*83.2*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:29*	*1*
d3-NMeFOSAA	*82.1*		*40 - 170*	*01/17/25 07:36*	*01/18/25 07:29*	*1*
d5-NEtFOSAA	*92.0*		*25 - 135*	*01/17/25 07:36*	*01/18/25 07:29*	*1*

Client Sample ID: EB-2-01092025

Lab Sample ID: 320-118256-13

Date Collected: 01/09/25 16:05
Matrix: Water
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 4:2 FTS	*101*		*40 - 200*	*01/17/25 07:36*	*01/18/25 07:29*	*1*
13C2 6:2 FTS	*86.9*		*40 - 200*	*01/17/25 07:36*	*01/18/25 07:29*	*1*
13C2 8:2 FTS	*64.9*		*40 - 300*	*01/17/25 07:36*	*01/18/25 07:29*	*1*
13C3 HFPO-DA	*90.6*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:29*	*1*
d7-N-MeFOSE-M	*93.8*		*10 - 130*	*01/17/25 07:36*	*01/18/25 07:29*	*1*
d9-N-EtFOSE-M	*87.2*		*10 - 130*	*01/17/25 07:36*	*01/18/25 07:29*	*1*
d5-NEtPFOSA	*71.0*		*10 - 130*	*01/17/25 07:36*	*01/18/25 07:29*	*1*
d3-NMePFOSA	*78.9*		*10 - 130*	*01/17/25 07:36*	*01/18/25 07:29*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.4	0.35	ng/L		01/17/25 07:36	01/20/25 13:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*103*		*40 - 130*	*01/17/25 07:36*	*01/20/25 13:40*	*1*

Client Sample ID: FB-01092025

Lab Sample ID: 320-118256-14

Date Collected: 01/09/25 00:00
Matrix: Water
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.2	0.80	ng/L		01/17/25 07:36	01/18/25 07:45	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.40	ng/L		01/17/25 07:36	01/18/25 07:45	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.40	ng/L		01/17/25 07:36	01/18/25 07:45	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.40	ng/L		01/17/25 07:36	01/18/25 07:45	1
Perfluorooctanoic acid (PFOA)	ND		1.6	0.40	ng/L		01/17/25 07:36	01/18/25 07:45	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.40	ng/L		01/17/25 07:36	01/18/25 07:45	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.40	ng/L		01/17/25 07:36	01/18/25 07:45	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.40	ng/L		01/17/25 07:36	01/18/25 07:45	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.44	ng/L		01/17/25 07:36	01/18/25 07:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.6	0.47	ng/L		01/17/25 07:36	01/18/25 07:45	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.6	0.65	ng/L		01/17/25 07:36	01/18/25 07:45	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.40	ng/L		01/17/25 07:36	01/18/25 07:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.6	0.40	ng/L		01/17/25 07:36	01/18/25 07:45	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.40	ng/L		01/17/25 07:36	01/18/25 07:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.40	ng/L		01/17/25 07:36	01/18/25 07:45	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.40	ng/L		01/17/25 07:36	01/18/25 07:45	1
Perfluorononanesulfonic acid (PFNS)	ND		1.6	0.40	ng/L		01/17/25 07:36	01/18/25 07:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.40	ng/L		01/17/25 07:36	01/18/25 07:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.6	0.43	ng/L		01/17/25 07:36	01/18/25 07:45	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.2	0.80	ng/L		01/17/25 07:36	01/18/25 07:45	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.2	0.80	ng/L		01/17/25 07:36	01/18/25 07:45	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.2	0.80	ng/L		01/17/25 07:36	01/18/25 07:45	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.40	ng/L		01/17/25 07:36	01/18/25 07:45	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118256-1

Client Sample ID: FB-01092025
Date Collected: 01/09/25 00:00
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-14
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.6	0.40	ng/L		01/17/25 07:36	01/18/25 07:45	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.6	0.40	ng/L		01/17/25 07:36	01/18/25 07:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.6	0.40	ng/L		01/17/25 07:36	01/18/25 07:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.6	0.40	ng/L		01/17/25 07:36	01/18/25 07:45	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.0	2.0	ng/L		01/17/25 07:36	01/18/25 07:45	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.0	2.0	ng/L		01/17/25 07:36	01/18/25 07:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.6	0.40	ng/L		01/17/25 07:36	01/18/25 07:45	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.6	0.40	ng/L		01/17/25 07:36	01/18/25 07:45	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.6	0.40	ng/L		01/17/25 07:36	01/18/25 07:45	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.6	0.58	ng/L		01/17/25 07:36	01/18/25 07:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.6	0.47	ng/L		01/17/25 07:36	01/18/25 07:45	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.6	0.40	ng/L		01/17/25 07:36	01/18/25 07:45	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.6	0.40	ng/L		01/17/25 07:36	01/18/25 07:45	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.2	0.80	ng/L		01/17/25 07:36	01/18/25 07:45	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.0	2.0	ng/L		01/17/25 07:36	01/18/25 07:45	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.0	2.0	ng/L		01/17/25 07:36	01/18/25 07:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*109*		*5 - 130*	*01/17/25 07:36*	*01/18/25 07:45*	*1*
13C5 PFPeA	*91.4*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:45*	*1*
13C5 PFHxA	*101*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:45*	*1*
13C4 PFHpA	*127*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:45*	*1*
13C8 PFOA	*98.3*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:45*	*1*
13C9 PFNA	*85.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:45*	*1*
13C6 PFDA	*94.1*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:45*	*1*
13C7 PFUnA	*94.2*		*30 - 130*	*01/17/25 07:36*	*01/18/25 07:45*	*1*
13C2 PFDoA	*113*		*10 - 130*	*01/17/25 07:36*	*01/18/25 07:45*	*1*
13C2 PFTeDA	*105*		*10 - 130*	*01/17/25 07:36*	*01/18/25 07:45*	*1*
13C3 PFBS	*84.6*		*40 - 135*	*01/17/25 07:36*	*01/18/25 07:45*	*1*
13C3 PFHxS	*91.2*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:45*	*1*
13C8 PFOS	*93.2*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:45*	*1*
13C8 FOSA	*86.9*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:45*	*1*
d3-NMeFOSAA	*87.7*		*40 - 170*	*01/17/25 07:36*	*01/18/25 07:45*	*1*
d5-NEtFOSAA	*93.5*		*25 - 135*	*01/17/25 07:36*	*01/18/25 07:45*	*1*
13C2 4:2 FTS	*113*		*40 - 200*	*01/17/25 07:36*	*01/18/25 07:45*	*1*
13C2 6:2 FTS	*100*		*40 - 200*	*01/17/25 07:36*	*01/18/25 07:45*	*1*
13C2 8:2 FTS	*76.1*		*40 - 300*	*01/17/25 07:36*	*01/18/25 07:45*	*1*
13C3 HFPO-DA	*84.5*		*40 - 130*	*01/17/25 07:36*	*01/18/25 07:45*	*1*

Client Sample ID: FB-01092025

Lab Sample ID: 320-118256-14

Date Collected: 01/09/25 00:00

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d7-N-MeFOSE-M	93.2		10 - 130	01/17/25 07:36	01/18/25 07:45	1
d9-N-EtFOSE-M	86.4		10 - 130	01/17/25 07:36	01/18/25 07:45	1
d5-NEtPFOSA	75.6		10 - 130	01/17/25 07:36	01/18/25 07:45	1
d3-NMePFOSA	78.1		10 - 130	01/17/25 07:36	01/18/25 07:45	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.2	0.31	ng/L		01/17/25 07:36	01/20/25 13:57	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	104		40 - 130	01/17/25 07:36	01/20/25 13:57	1

Client Sample ID: SWN-MW-5-N-01102025

Lab Sample ID: 320-118256-15

Date Collected: 01/10/25 07:35

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**21**		3.5	0.88	ng/L		01/17/25 07:36	01/18/25 08:02	1
Perfluoropentanoic acid (PFPeA)	**48**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 08:02	1
Perfluorohexanoic acid (PFHxA)	**51**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 08:02	1
Perfluoroheptanoic acid (PFHpA)	**22**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 08:02	1
Perfluorooctanoic acid (PFOA)	**70**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 08:02	1
Perfluorononanoic acid (PFNA)	**13**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 08:02	1
Perfluorodecanoic acid (PFDA)	**26**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 08:02	1
Perfluoroundecanoic acid (PFUnA)	**1.3**	**J**	1.8	0.44	ng/L		01/17/25 07:36	01/18/25 08:02	1
Perfluorododecanoic acid (PFDoA)	**0.56**	**J**	1.8	0.48	ng/L		01/17/25 07:36	01/18/25 08:02	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.51	ng/L		01/17/25 07:36	01/18/25 08:02	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.8	0.71	ng/L		01/17/25 07:36	01/18/25 08:02	1
Perfluorobutanesulfonic acid (PFBS)	**2.7**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 08:02	1
Perfluoropentanesulfonic acid (PFPeS)	**3.0**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 08:02	1
Perfluorohexanesulfonic acid (PFHxS)	**100**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 08:02	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.99**	**J**	1.8	0.44	ng/L		01/17/25 07:36	01/18/25 08:02	1
Perfluorooctanesulfonic acid (PFOS)	**35**		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 08:02	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 08:02	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 08:02	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:02	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.5	0.88	ng/L		01/17/25 07:36	01/18/25 08:02	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**3.3**	**J**	3.5	0.88	ng/L		01/17/25 07:36	01/18/25 08:02	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.5	0.88	ng/L		01/17/25 07:36	01/18/25 08:02	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 08:02	1

Client Sample ID: SWN-MW-5-N-01102025
Date Collected: 01/10/25 07:35
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-15
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 08:02	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 08:02	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 08:02	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 08:02	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.8	2.2	ng/L		01/17/25 07:36	01/18/25 08:02	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.8	2.2	ng/L		01/17/25 07:36	01/18/25 08:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 08:02	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 08:02	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 08:02	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.8	0.63	ng/L		01/17/25 07:36	01/18/25 08:02	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.8	0.51	ng/L		01/17/25 07:36	01/18/25 08:02	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 08:02	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.8	0.44	ng/L		01/17/25 07:36	01/18/25 08:02	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.5	0.88	ng/L		01/17/25 07:36	01/18/25 08:02	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.8	2.2	ng/L		01/17/25 07:36	01/18/25 08:02	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.8	2.2	ng/L		01/17/25 07:36	01/18/25 08:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*111*		*5 - 130*	*01/17/25 07:36*	*01/18/25 08:02*	*1*
13C5 PFPeA	*79.7*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:02*	*1*
13C5 PFHxA	*89.4*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:02*	*1*
13C4 PFHpA	*91.5*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:02*	*1*
13C8 PFOA	*108*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:02*	*1*
13C9 PFNA	*88.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:02*	*1*
13C6 PFDA	*96.5*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:02*	*1*
13C7 PFUnA	*98.8*		*30 - 130*	*01/17/25 07:36*	*01/18/25 08:02*	*1*
13C2 PFDoA	*110*		*10 - 130*	*01/17/25 07:36*	*01/18/25 08:02*	*1*
13C2 PFTeDA	*104*		*10 - 130*	*01/17/25 07:36*	*01/18/25 08:02*	*1*
13C3 PFBS	*91.5*		*40 - 135*	*01/17/25 07:36*	*01/18/25 08:02*	*1*
13C3 PFHxS	*96.5*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:02*	*1*
13C8 PFOS	*91.3*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:02*	*1*
13C8 FOSA	*82.0*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:02*	*1*
d3-NMeFOSAA	*79.6*		*40 - 170*	*01/17/25 07:36*	*01/18/25 08:02*	*1*
d5-NEtFOSAA	*87.9*		*25 - 135*	*01/17/25 07:36*	*01/18/25 08:02*	*1*
13C2 4:2 FTS	*122*		*40 - 200*	*01/17/25 07:36*	*01/18/25 08:02*	*1*
13C2 6:2 FTS	*95.7*		*40 - 200*	*01/17/25 07:36*	*01/18/25 08:02*	*1*
13C2 8:2 FTS	*68.3*		*40 - 300*	*01/17/25 07:36*	*01/18/25 08:02*	*1*
13C3 HFPO-DA	*82.2*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:02*	*1*

Client Sample ID: SWN-MW-5-N-01102025

Lab Sample ID: 320-118256-15

Date Collected: 01/10/25 07:35
Matrix: Water
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d7-N-MeFOSE-M	86.6		10 - 130	01/17/25 07:36	01/18/25 08:02	1
d9-N-EtFOSE-M	83.9		10 - 130	01/17/25 07:36	01/18/25 08:02	1
d5-NEtPFOSA	74.7		10 - 130	01/17/25 07:36	01/18/25 08:02	1
d3-NMePFOSA	80.3		10 - 130	01/17/25 07:36	01/18/25 08:02	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.34	ng/L		01/17/25 07:36	01/20/25 14:13	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	111		40 - 130	01/17/25 07:36	01/20/25 14:13	1

Client Sample ID: PD-MW-1A-N-01102025

Lab Sample ID: 320-118256-16

Date Collected: 01/10/25 08:20
Matrix: Water
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.6**	**J**	3.7	0.92	ng/L		01/17/25 07:36	01/18/25 08:19	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:19	1
Perfluorohexanoic acid (PFHxA)	**2.7**		1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:19	1
Perfluoroheptanoic acid (PFHpA)	**2.8**		1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:19	1
Perfluorooctanoic acid (PFOA)	**5.4**		1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:19	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:19	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:19	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:19	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		01/17/25 07:36	01/18/25 08:19	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.53	ng/L		01/17/25 07:36	01/18/25 08:19	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.8	0.74	ng/L		01/17/25 07:36	01/18/25 08:19	1
Perfluorobutanesulfonic acid (PFBS)	**4.0**		1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:19	1
Perfluoropentanesulfonic acid (PFPeS)	**4.2**		1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:19	1
Perfluorohexanesulfonic acid (PFHxS)	**26**		1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:19	1
Perfluoroheptanesulfonic acid (PFHpS)	**1.3**	**J**	1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:19	1
Perfluorooctanesulfonic acid (PFOS)	**29**		1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:19	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:19	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:19	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.49	ng/L		01/17/25 07:36	01/18/25 08:19	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.7	0.92	ng/L		01/17/25 07:36	01/18/25 08:19	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.7	0.92	ng/L		01/17/25 07:36	01/18/25 08:19	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.7	0.92	ng/L		01/17/25 07:36	01/18/25 08:19	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:19	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:19	1

Client Sample ID: PD-MW-1A-N-01102025
Date Collected: 01/10/25 08:20
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-16
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:19	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:19	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:19	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		9.2	2.3	ng/L		01/17/25 07:36	01/18/25 08:19	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		9.2	2.3	ng/L		01/17/25 07:36	01/18/25 08:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:19	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:19	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:19	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.8	0.66	ng/L		01/17/25 07:36	01/18/25 08:19	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.8	0.53	ng/L		01/17/25 07:36	01/18/25 08:19	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:19	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.8	0.46	ng/L		01/17/25 07:36	01/18/25 08:19	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.7	0.92	ng/L		01/17/25 07:36	01/18/25 08:19	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		9.2	2.3	ng/L		01/17/25 07:36	01/18/25 08:19	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		9.2	2.3	ng/L		01/17/25 07:36	01/18/25 08:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*111*		*5 - 130*	*01/17/25 07:36*	*01/18/25 08:19*	*1*
13C5 PFPeA	*82.9*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:19*	*1*
13C5 PFHxA	*98.2*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:19*	*1*
13C4 PFHpA	*99.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:19*	*1*
13C8 PFOA	*90.3*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:19*	*1*
13C9 PFNA	*85.6*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:19*	*1*
13C6 PFDA	*95.6*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:19*	*1*
13C7 PFUnA	*96.6*		*30 - 130*	*01/17/25 07:36*	*01/18/25 08:19*	*1*
13C2 PFDoA	*105*		*10 - 130*	*01/17/25 07:36*	*01/18/25 08:19*	*1*
13C2 PFTeDA	*88.7*		*10 - 130*	*01/17/25 07:36*	*01/18/25 08:19*	*1*
13C3 PFBS	*88.0*		*40 - 135*	*01/17/25 07:36*	*01/18/25 08:19*	*1*
13C3 PFHxS	*97.3*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:19*	*1*
13C8 PFOS	*91.5*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:19*	*1*
13C8 FOSA	*89.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:19*	*1*
d3-NMeFOSAA	*83.3*		*40 - 170*	*01/17/25 07:36*	*01/18/25 08:19*	*1*
d5-NEtFOSAA	*91.3*		*25 - 135*	*01/17/25 07:36*	*01/18/25 08:19*	*1*
13C2 4:2 FTS	*99.4*		*40 - 200*	*01/17/25 07:36*	*01/18/25 08:19*	*1*
13C2 6:2 FTS	*90.2*		*40 - 200*	*01/17/25 07:36*	*01/18/25 08:19*	*1*
13C2 8:2 FTS	*70.2*		*40 - 300*	*01/17/25 07:36*	*01/18/25 08:19*	*1*
13C3 HFPO-DA	*79.4*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:19*	*1*
d7-N-MeFOSE-M	*91.4*		*10 - 130*	*01/17/25 07:36*	*01/18/25 08:19*	*1*
d9-N-EtFOSE-M	*88.4*		*10 - 130*	*01/17/25 07:36*	*01/18/25 08:19*	*1*

Client Sample ID: PD-MW-1A-N-01102025

Lab Sample ID: 320-118256-16
Matrix: Water
Date Collected: 01/10/25 08:20
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtPFOSA	70.3		10 - 130	01/17/25 07:36	01/18/25 08:19	1
d3-NMePFOSA	75.8		10 - 130	01/17/25 07:36	01/18/25 08:19	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.4	0.36	ng/L		01/17/25 07:36	01/20/25 14:30	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	95.7		40 - 130	01/17/25 07:36	01/20/25 14:30	1

Client Sample ID: GDF-GR-8-N-01102025

Lab Sample ID: 320-118256-17
Matrix: Water
Date Collected: 01/10/25 10:15
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**4.1**		4.0	1.0	ng/L		01/17/25 07:36	01/18/25 08:35	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 08:35	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 08:35	1
Perfluoroheptanoic acid (PFHpA)	**1.3**	**J**	2.0	0.50	ng/L		01/17/25 07:36	01/18/25 08:35	1
Perfluorooctanoic acid (PFOA)	**2.2**		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 08:35	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 08:35	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 08:35	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 08:35	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		01/17/25 07:36	01/18/25 08:35	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.58	ng/L		01/17/25 07:36	01/18/25 08:35	1
Perfluorotetradecanoic acid (PFTeDA)	ND		2.0	0.81	ng/L		01/17/25 07:36	01/18/25 08:35	1
Perfluorobutanesulfonic acid (PFBS)	**1.5**	**J**	2.0	0.50	ng/L		01/17/25 07:36	01/18/25 08:35	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 08:35	1
Perfluorohexanesulfonic acid (PFHxS)	**1.1**	**J**	2.0	0.50	ng/L		01/17/25 07:36	01/18/25 08:35	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 08:35	1
Perfluorooctanesulfonic acid (PFOS)	**2.9**	**I**	2.0	0.50	ng/L		01/17/25 07:36	01/18/25 08:35	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 08:35	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 08:35	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.53	ng/L		01/17/25 07:36	01/18/25 08:35	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		4.0	1.0	ng/L		01/17/25 07:36	01/18/25 08:35	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		4.0	1.0	ng/L		01/17/25 07:36	01/18/25 08:35	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		4.0	1.0	ng/L		01/17/25 07:36	01/18/25 08:35	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 08:35	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 08:35	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 08:35	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118256-1

Client Sample ID: GDF-GR-8-N-01102025
Date Collected: 01/10/25 10:15
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-17
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 08:35	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 08:35	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		10	2.5	ng/L		01/17/25 07:36	01/18/25 08:35	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		10	2.5	ng/L		01/17/25 07:36	01/18/25 08:35	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 08:35	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 08:35	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 08:35	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	0.72	ng/L		01/17/25 07:36	01/18/25 08:35	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		2.0	0.58	ng/L		01/17/25 07:36	01/18/25 08:35	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 08:35	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 08:35	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		4.0	1.0	ng/L		01/17/25 07:36	01/18/25 08:35	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		10	2.5	ng/L		01/17/25 07:36	01/18/25 08:35	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		10	2.5	ng/L		01/17/25 07:36	01/18/25 08:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*107*		*5 - 130*	*01/17/25 07:36*	*01/18/25 08:35*	*1*
13C5 PFPeA	*85.1*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:35*	*1*
13C5 PFHxA	*102*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:35*	*1*
13C4 PFHpA	*108*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:35*	*1*
13C8 PFOA	*94.9*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:35*	*1*
13C9 PFNA	*89.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:35*	*1*
13C6 PFDA	*96.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:35*	*1*
13C7 PFUnA	*89.9*		*30 - 130*	*01/17/25 07:36*	*01/18/25 08:35*	*1*
13C2 PFDoA	*107*		*10 - 130*	*01/17/25 07:36*	*01/18/25 08:35*	*1*
13C2 PFTeDA	*106*		*10 - 130*	*01/17/25 07:36*	*01/18/25 08:35*	*1*
13C3 PFBS	*88.1*		*40 - 135*	*01/17/25 07:36*	*01/18/25 08:35*	*1*
13C3 PFHxS	*94.6*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:35*	*1*
13C8 PFOS	*93.3*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:35*	*1*
13C8 FOSA	*85.3*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:35*	*1*
d3-NMeFOSAA	*77.6*		*40 - 170*	*01/17/25 07:36*	*01/18/25 08:35*	*1*
d5-NEtFOSAA	*79.5*		*25 - 135*	*01/17/25 07:36*	*01/18/25 08:35*	*1*
13C2 4:2 FTS	*81.1*		*40 - 200*	*01/17/25 07:36*	*01/18/25 08:35*	*1*
13C2 6:2 FTS	*99.9*		*40 - 200*	*01/17/25 07:36*	*01/18/25 08:35*	*1*
13C2 8:2 FTS	*72.0*		*40 - 300*	*01/17/25 07:36*	*01/18/25 08:35*	*1*
13C3 HFPO-DA	*65.6*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:35*	*1*
d7-N-MeFOSE-M	*95.6*		*10 - 130*	*01/17/25 07:36*	*01/18/25 08:35*	*1*
d9-N-EtFOSE-M	*90.3*		*10 - 130*	*01/17/25 07:36*	*01/18/25 08:35*	*1*
d5-NEtPFOSA	*66.5*		*10 - 130*	*01/17/25 07:36*	*01/18/25 08:35*	*1*
d3-NMePFOSA	*76.8*		*10 - 130*	*01/17/25 07:36*	*01/18/25 08:35*	*1*

Client Sample ID: GDF-GR-8-N-01102025

Lab Sample ID: 320-118256-17

Date Collected: 01/10/25 10:15

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.5	0.39	ng/L		01/17/25 07:36	01/20/25 15:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*92.9*		*40 - 130*	*01/17/25 07:36*	*01/20/25 15:19*	*1*

Client Sample ID: GDF-GR-7D-N-01102025

Lab Sample ID: 320-118256-18

Date Collected: 01/10/25 11:05

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.3**		3.3	0.84	ng/L		01/17/25 07:36	01/18/25 08:52	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 08:52	1
Perfluorohexanoic acid (PFHxA)	**1.6**	**J**	1.7	0.42	ng/L		01/17/25 07:36	01/18/25 08:52	1
Perfluoroheptanoic acid (PFHpA)	**0.89**	**J**	1.7	0.42	ng/L		01/17/25 07:36	01/18/25 08:52	1
Perfluorooctanoic acid (PFOA)	**2.5**		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 08:52	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 08:52	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 08:52	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 08:52	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		01/17/25 07:36	01/18/25 08:52	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.49	ng/L		01/17/25 07:36	01/18/25 08:52	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.68	ng/L		01/17/25 07:36	01/18/25 08:52	1
Perfluorobutanesulfonic acid (PFBS)	**1.9**		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 08:52	1
Perfluoropentanesulfonic acid (PFPeS)	**0.45**	**J**	1.7	0.42	ng/L		01/17/25 07:36	01/18/25 08:52	1
Perfluorohexanesulfonic acid (PFHxS)	**2.6**		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 08:52	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 08:52	1
Perfluorooctanesulfonic acid (PFOS)	**3.1**		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 08:52	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 08:52	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 08:52	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.44	ng/L		01/17/25 07:36	01/18/25 08:52	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.3	0.84	ng/L		01/17/25 07:36	01/18/25 08:52	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.3	0.84	ng/L		01/17/25 07:36	01/18/25 08:52	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.3	0.84	ng/L		01/17/25 07:36	01/18/25 08:52	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 08:52	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 08:52	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 08:52	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 08:52	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 08:52	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.4	2.1	ng/L		01/17/25 07:36	01/18/25 08:52	1

Client Sample ID: GDF-GR-7D-N-01102025
Date Collected: 01/10/25 11:05
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-18
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.4	2.1	ng/L		01/17/25 07:36	01/18/25 08:52	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 08:52	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 08:52	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 08:52	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.60	ng/L		01/17/25 07:36	01/18/25 08:52	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.49	ng/L		01/17/25 07:36	01/18/25 08:52	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 08:52	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.42	ng/L		01/17/25 07:36	01/18/25 08:52	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.3	0.84	ng/L		01/17/25 07:36	01/18/25 08:52	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.4	2.1	ng/L		01/17/25 07:36	01/18/25 08:52	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.4	2.1	ng/L		01/17/25 07:36	01/18/25 08:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*109*		*5 - 130*	*01/17/25 07:36*	*01/18/25 08:52*	*1*
13C5 PFPeA	*85.9*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:52*	*1*
13C5 PFHxA	*95.5*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:52*	*1*
13C4 PFHpA	*107*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:52*	*1*
13C8 PFOA	*97.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:52*	*1*
13C9 PFNA	*90.9*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:52*	*1*
13C6 PFDA	*94.0*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:52*	*1*
13C7 PFUnA	*94.2*		*30 - 130*	*01/17/25 07:36*	*01/18/25 08:52*	*1*
13C2 PFDoA	*111*		*10 - 130*	*01/17/25 07:36*	*01/18/25 08:52*	*1*
13C2 PFTeDA	*105*		*10 - 130*	*01/17/25 07:36*	*01/18/25 08:52*	*1*
13C3 PFBS	*81.2*		*40 - 135*	*01/17/25 07:36*	*01/18/25 08:52*	*1*
13C3 PFHxS	*93.9*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:52*	*1*
13C8 PFOS	*90.7*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:52*	*1*
13C8 FOSA	*86.4*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:52*	*1*
d3-NMeFOSAA	*81.0*		*40 - 170*	*01/17/25 07:36*	*01/18/25 08:52*	*1*
d5-NEtFOSAA	*83.4*		*25 - 135*	*01/17/25 07:36*	*01/18/25 08:52*	*1*
13C2 4:2 FTS	*96.0*		*40 - 200*	*01/17/25 07:36*	*01/18/25 08:52*	*1*
13C2 6:2 FTS	*89.0*		*40 - 200*	*01/17/25 07:36*	*01/18/25 08:52*	*1*
13C2 8:2 FTS	*63.7*		*40 - 300*	*01/17/25 07:36*	*01/18/25 08:52*	*1*
13C3 HFPO-DA	*80.5*		*40 - 130*	*01/17/25 07:36*	*01/18/25 08:52*	*1*
d7-N-MeFOSE-M	*94.7*		*10 - 130*	*01/17/25 07:36*	*01/18/25 08:52*	*1*
d9-N-EtFOSE-M	*83.4*		*10 - 130*	*01/17/25 07:36*	*01/18/25 08:52*	*1*
d5-NEtPFOSA	*71.9*		*10 - 130*	*01/17/25 07:36*	*01/18/25 08:52*	*1*
d3-NMePFOSA	*79.1*		*10 - 130*	*01/17/25 07:36*	*01/18/25 08:52*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/17/25 07:36	01/20/25 15:35	1

Client Sample ID: GDF-GR-7D-N-01102025

Lab Sample ID: 320-118256-18

Date Collected: 01/10/25 11:05
Matrix: Water
Date Received: 01/15/25 09:45

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	109		40 - 130	01/17/25 07:36	01/20/25 15:35	1

Client Sample ID: GDF-GR-7S-N-01102025

Lab Sample ID: 320-118256-19

Date Collected: 01/10/25 10:05
Matrix: Water
Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**19**		3.6	0.89	ng/L		01/17/25 07:36	01/18/25 09:09	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 09:09	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 09:09	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 09:09	1
Perfluorooctanoic acid (PFOA)	**0.48**	**J**	1.8	0.45	ng/L		01/17/25 07:36	01/18/25 09:09	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 09:09	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 09:09	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 09:09	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		01/17/25 07:36	01/18/25 09:09	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.52	ng/L		01/17/25 07:36	01/18/25 09:09	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.8	0.72	ng/L		01/17/25 07:36	01/18/25 09:09	1
Perfluorobutanesulfonic acid (PFBS)	**2.3**	**I**	1.8	0.45	ng/L		01/17/25 07:36	01/18/25 09:09	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 09:09	1
Perfluorohexanesulfonic acid (PFHxS)	**0.65**	**J**	1.8	0.45	ng/L		01/17/25 07:36	01/18/25 09:09	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 09:09	1
Perfluorooctanesulfonic acid (PFOS)	**0.71**	**J**	1.8	0.45	ng/L		01/17/25 07:36	01/18/25 09:09	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 09:09	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 09:09	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.47	ng/L		01/17/25 07:36	01/18/25 09:09	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.6	0.89	ng/L		01/17/25 07:36	01/18/25 09:09	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.6	0.89	ng/L		01/17/25 07:36	01/18/25 09:09	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.6	0.89	ng/L		01/17/25 07:36	01/18/25 09:09	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 09:09	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 09:09	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 09:09	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 09:09	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 09:09	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.9	2.2	ng/L		01/17/25 07:36	01/18/25 09:09	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.9	2.2	ng/L		01/17/25 07:36	01/18/25 09:09	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 09:09	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118256-1

Client Sample ID: GDF-GR-7S-N-01102025
Date Collected: 01/10/25 10:05
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-19
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 09:09	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 09:09	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.8	0.64	ng/L		01/17/25 07:36	01/18/25 09:09	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.8	0.52	ng/L		01/17/25 07:36	01/18/25 09:09	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 09:09	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 09:09	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.6	0.89	ng/L		01/17/25 07:36	01/18/25 09:09	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.9	2.2	ng/L		01/17/25 07:36	01/18/25 09:09	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.9	2.2	ng/L		01/17/25 07:36	01/18/25 09:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*111*		*5 - 130*	*01/17/25 07:36*	*01/18/25 09:09*	*1*
13C5 PFPeA	*95.2*		*40 - 130*	*01/17/25 07:36*	*01/18/25 09:09*	*1*
13C5 PFHxA	*97.2*		*40 - 130*	*01/17/25 07:36*	*01/18/25 09:09*	*1*
13C4 PFHpA	*112*		*40 - 130*	*01/17/25 07:36*	*01/18/25 09:09*	*1*
13C8 PFOA	*97.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 09:09*	*1*
13C9 PFNA	*87.9*		*40 - 130*	*01/17/25 07:36*	*01/18/25 09:09*	*1*
13C6 PFDA	*85.6*		*40 - 130*	*01/17/25 07:36*	*01/18/25 09:09*	*1*
13C7 PFUnA	*86.2*		*30 - 130*	*01/17/25 07:36*	*01/18/25 09:09*	*1*
13C2 PFDoA	*103*		*10 - 130*	*01/17/25 07:36*	*01/18/25 09:09*	*1*
13C2 PFTeDA	*97.7*		*10 - 130*	*01/17/25 07:36*	*01/18/25 09:09*	*1*
13C3 PFBS	*88.6*		*40 - 135*	*01/17/25 07:36*	*01/18/25 09:09*	*1*
13C3 PFHxS	*93.0*		*40 - 130*	*01/17/25 07:36*	*01/18/25 09:09*	*1*
13C8 PFOS	*89.6*		*40 - 130*	*01/17/25 07:36*	*01/18/25 09:09*	*1*
13C8 FOSA	*87.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 09:09*	*1*
d3-NMeFOSAA	*85.1*		*40 - 170*	*01/17/25 07:36*	*01/18/25 09:09*	*1*
d5-NEtFOSAA	*89.1*		*25 - 135*	*01/17/25 07:36*	*01/18/25 09:09*	*1*
13C2 4:2 FTS	*96.1*		*40 - 200*	*01/17/25 07:36*	*01/18/25 09:09*	*1*
13C2 6:2 FTS	*90.1*		*40 - 200*	*01/17/25 07:36*	*01/18/25 09:09*	*1*
13C2 8:2 FTS	*66.2*		*40 - 300*	*01/17/25 07:36*	*01/18/25 09:09*	*1*
13C3 HFPO-DA	*77.1*		*40 - 130*	*01/17/25 07:36*	*01/18/25 09:09*	*1*
d7-N-MeFOSE-M	*90.2*		*10 - 130*	*01/17/25 07:36*	*01/18/25 09:09*	*1*
d9-N-EtFOSE-M	*86.2*		*10 - 130*	*01/17/25 07:36*	*01/18/25 09:09*	*1*
d5-NEtPFOSA	*74.9*		*10 - 130*	*01/17/25 07:36*	*01/18/25 09:09*	*1*
d3-NMePFOSA	*83.5*		*10 - 130*	*01/17/25 07:36*	*01/18/25 09:09*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.35	ng/L		01/17/25 07:36	01/20/25 15:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*110*		*40 - 130*	*01/17/25 07:36*	*01/20/25 15:52*	*1*

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118256-1

Client Sample ID: EB-1-01102025
Date Collected: 01/10/25 11:15
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-20
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.3	0.82	ng/L		01/17/25 07:36	01/18/25 09:58	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.41	ng/L		01/17/25 07:36	01/18/25 09:58	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.41	ng/L		01/17/25 07:36	01/18/25 09:58	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.41	ng/L		01/17/25 07:36	01/18/25 09:58	1
Perfluorooctanoic acid (PFOA)	ND		1.6	0.41	ng/L		01/17/25 07:36	01/18/25 09:58	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.41	ng/L		01/17/25 07:36	01/18/25 09:58	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.41	ng/L		01/17/25 07:36	01/18/25 09:58	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.41	ng/L		01/17/25 07:36	01/18/25 09:58	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.45	ng/L		01/17/25 07:36	01/18/25 09:58	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.6	0.47	ng/L		01/17/25 07:36	01/18/25 09:58	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.6	0.66	ng/L		01/17/25 07:36	01/18/25 09:58	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.41	ng/L		01/17/25 07:36	01/18/25 09:58	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.6	0.41	ng/L		01/17/25 07:36	01/18/25 09:58	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.41	ng/L		01/17/25 07:36	01/18/25 09:58	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.41	ng/L		01/17/25 07:36	01/18/25 09:58	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.41	ng/L		01/17/25 07:36	01/18/25 09:58	1
Perfluorononanesulfonic acid (PFNS)	ND		1.6	0.41	ng/L		01/17/25 07:36	01/18/25 09:58	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.41	ng/L		01/17/25 07:36	01/18/25 09:58	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.6	0.43	ng/L		01/17/25 07:36	01/18/25 09:58	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.3	0.82	ng/L		01/17/25 07:36	01/18/25 09:58	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.3	0.82	ng/L		01/17/25 07:36	01/18/25 09:58	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.3	0.82	ng/L		01/17/25 07:36	01/18/25 09:58	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.41	ng/L		01/17/25 07:36	01/18/25 09:58	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.6	0.41	ng/L		01/17/25 07:36	01/18/25 09:58	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.6	0.41	ng/L		01/17/25 07:36	01/18/25 09:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.6	0.41	ng/L		01/17/25 07:36	01/18/25 09:58	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.6	0.41	ng/L		01/17/25 07:36	01/18/25 09:58	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.2	2.0	ng/L		01/17/25 07:36	01/18/25 09:58	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.2	2.0	ng/L		01/17/25 07:36	01/18/25 09:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.6	0.41	ng/L		01/17/25 07:36	01/18/25 09:58	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.6	0.41	ng/L		01/17/25 07:36	01/18/25 09:58	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.6	0.41	ng/L		01/17/25 07:36	01/18/25 09:58	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.6	0.59	ng/L		01/17/25 07:36	01/18/25 09:58	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.6	0.47	ng/L		01/17/25 07:36	01/18/25 09:58	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.6	0.41	ng/L		01/17/25 07:36	01/18/25 09:58	1

Client Sample ID: EB-1-01102025

Lab Sample ID: 320-118256-20

Date Collected: 01/10/25 11:15

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.6	0.41	ng/L		01/17/25 07:36	01/18/25 09:58	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.3	0.82	ng/L		01/17/25 07:36	01/18/25 09:58	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.2	2.0	ng/L		01/17/25 07:36	01/18/25 09:58	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.2	2.0	ng/L		01/17/25 07:36	01/18/25 09:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*115*		*5 - 130*	*01/17/25 07:36*	*01/18/25 09:58*	*1*
13C5 PFPeA	*87.9*		*40 - 130*	*01/17/25 07:36*	*01/18/25 09:58*	*1*
13C5 PFHxA	*111*		*40 - 130*	*01/17/25 07:36*	*01/18/25 09:58*	*1*
13C4 PFHpA	*102*		*40 - 130*	*01/17/25 07:36*	*01/18/25 09:58*	*1*
13C8 PFOA	*98.1*		*40 - 130*	*01/17/25 07:36*	*01/18/25 09:58*	*1*
13C9 PFNA	*88.4*		*40 - 130*	*01/17/25 07:36*	*01/18/25 09:58*	*1*
13C6 PFDA	*99.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 09:58*	*1*
13C7 PFUnA	*98.5*		*30 - 130*	*01/17/25 07:36*	*01/18/25 09:58*	*1*
13C2 PFDoA	*108*		*10 - 130*	*01/17/25 07:36*	*01/18/25 09:58*	*1*
13C2 PFTeDA	*90.1*		*10 - 130*	*01/17/25 07:36*	*01/18/25 09:58*	*1*
13C3 PFBS	*91.3*		*40 - 135*	*01/17/25 07:36*	*01/18/25 09:58*	*1*
13C3 PFHxS	*88.1*		*40 - 130*	*01/17/25 07:36*	*01/18/25 09:58*	*1*
13C8 PFOS	*85.4*		*40 - 130*	*01/17/25 07:36*	*01/18/25 09:58*	*1*
13C8 FOSA	*82.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 09:58*	*1*
d3-NMeFOSAA	*76.8*		*40 - 170*	*01/17/25 07:36*	*01/18/25 09:58*	*1*
d5-NEtFOSAA	*86.4*		*25 - 135*	*01/17/25 07:36*	*01/18/25 09:58*	*1*
13C2 4:2 FTS	*107*		*40 - 200*	*01/17/25 07:36*	*01/18/25 09:58*	*1*
13C2 6:2 FTS	*95.8*		*40 - 200*	*01/17/25 07:36*	*01/18/25 09:58*	*1*
13C2 8:2 FTS	*70.4*		*40 - 300*	*01/17/25 07:36*	*01/18/25 09:58*	*1*
13C3 HFPO-DA	*80.1*		*40 - 130*	*01/17/25 07:36*	*01/18/25 09:58*	*1*
d7-N-MeFOSE-M	*92.2*		*10 - 130*	*01/17/25 07:36*	*01/18/25 09:58*	*1*
d9-N-EtFOSE-M	*81.4*		*10 - 130*	*01/17/25 07:36*	*01/18/25 09:58*	*1*
d5-NEtPFOSA	*68.5*		*10 - 130*	*01/17/25 07:36*	*01/18/25 09:58*	*1*
d3-NMePFOSA	*75.3*		*10 - 130*	*01/17/25 07:36*	*01/18/25 09:58*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.2	0.32	ng/L		01/17/25 07:36	01/20/25 16:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*105*		*40 - 130*	*01/17/25 07:36*	*01/20/25 16:08*	*1*

Client Sample ID: EB-2-01102025

Lab Sample ID: 320-118256-21

Date Collected: 01/10/25 10:40

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.0	0.75	ng/L		01/17/25 07:36	01/18/25 10:15	1
Perfluoropentanoic acid (PFPeA)	ND		1.5	0.37	ng/L		01/17/25 07:36	01/18/25 10:15	1
Perfluorohexanoic acid (PFHxA)	ND		1.5	0.37	ng/L		01/17/25 07:36	01/18/25 10:15	1
Perfluoroheptanoic acid (PFHpA)	ND		1.5	0.37	ng/L		01/17/25 07:36	01/18/25 10:15	1

Client Sample ID: EB-2-01102025
Date Collected: 01/10/25 10:40
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-21
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	ND		1.5	0.37	ng/L		01/17/25 07:36	01/18/25 10:15	1
Perfluorononanoic acid (PFNA)	ND		1.5	0.37	ng/L		01/17/25 07:36	01/18/25 10:15	1
Perfluorodecanoic acid (PFDA)	ND		1.5	0.37	ng/L		01/17/25 07:36	01/18/25 10:15	1
Perfluoroundecanoic acid (PFUnA)	ND		1.5	0.37	ng/L		01/17/25 07:36	01/18/25 10:15	1
Perfluorododecanoic acid (PFDoA)	ND		1.5	0.41	ng/L		01/17/25 07:36	01/18/25 10:15	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.5	0.43	ng/L		01/17/25 07:36	01/18/25 10:15	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.5	0.61	ng/L		01/17/25 07:36	01/18/25 10:15	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.5	0.37	ng/L		01/17/25 07:36	01/18/25 10:15	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.5	0.37	ng/L		01/17/25 07:36	01/18/25 10:15	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.5	0.37	ng/L		01/17/25 07:36	01/18/25 10:15	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.5	0.37	ng/L		01/17/25 07:36	01/18/25 10:15	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.5	0.37	ng/L		01/17/25 07:36	01/18/25 10:15	1
Perfluorononanesulfonic acid (PFNS)	ND		1.5	0.37	ng/L		01/17/25 07:36	01/18/25 10:15	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.5	0.37	ng/L		01/17/25 07:36	01/18/25 10:15	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.5	0.40	ng/L		01/17/25 07:36	01/18/25 10:15	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.0	0.75	ng/L		01/17/25 07:36	01/18/25 10:15	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.0	0.75	ng/L		01/17/25 07:36	01/18/25 10:15	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.0	0.75	ng/L		01/17/25 07:36	01/18/25 10:15	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.5	0.37	ng/L		01/17/25 07:36	01/18/25 10:15	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.5	0.37	ng/L		01/17/25 07:36	01/18/25 10:15	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.5	0.37	ng/L		01/17/25 07:36	01/18/25 10:15	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.5	0.37	ng/L		01/17/25 07:36	01/18/25 10:15	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.5	0.37	ng/L		01/17/25 07:36	01/18/25 10:15	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		7.5	1.9	ng/L		01/17/25 07:36	01/18/25 10:15	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		7.5	1.9	ng/L		01/17/25 07:36	01/18/25 10:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.5	0.37	ng/L		01/17/25 07:36	01/18/25 10:15	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.5	0.37	ng/L		01/17/25 07:36	01/18/25 10:15	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.5	0.37	ng/L		01/17/25 07:36	01/18/25 10:15	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.5	0.54	ng/L		01/17/25 07:36	01/18/25 10:15	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.5	0.43	ng/L		01/17/25 07:36	01/18/25 10:15	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.5	0.37	ng/L		01/17/25 07:36	01/18/25 10:15	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.5	0.37	ng/L		01/17/25 07:36	01/18/25 10:15	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.0	0.75	ng/L		01/17/25 07:36	01/18/25 10:15	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		7.5	1.9	ng/L		01/17/25 07:36	01/18/25 10:15	1

Client Sample ID: EB-2-01102025

Lab Sample ID: 320-118256-21

Date Collected: 01/10/25 10:40

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		7.5	1.9	ng/L		01/17/25 07:36	01/18/25 10:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*116*		*5 - 130*	*01/17/25 07:36*	*01/18/25 10:15*	*1*
13C5 PFPeA	*84.3*		*40 - 130*	*01/17/25 07:36*	*01/18/25 10:15*	*1*
13C5 PFHxA	*94.5*		*40 - 130*	*01/17/25 07:36*	*01/18/25 10:15*	*1*
13C4 PFHpA	*111*		*40 - 130*	*01/17/25 07:36*	*01/18/25 10:15*	*1*
13C8 PFOA	*94.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 10:15*	*1*
13C9 PFNA	*84.0*		*40 - 130*	*01/17/25 07:36*	*01/18/25 10:15*	*1*
13C6 PFDA	*92.4*		*40 - 130*	*01/17/25 07:36*	*01/18/25 10:15*	*1*
13C7 PFUnA	*93.1*		*30 - 130*	*01/17/25 07:36*	*01/18/25 10:15*	*1*
13C2 PFDoA	*107*		*10 - 130*	*01/17/25 07:36*	*01/18/25 10:15*	*1*
13C2 PFTeDA	*97.5*		*10 - 130*	*01/17/25 07:36*	*01/18/25 10:15*	*1*
13C3 PFBS	*85.5*		*40 - 135*	*01/17/25 07:36*	*01/18/25 10:15*	*1*
13C3 PFHxS	*88.2*		*40 - 130*	*01/17/25 07:36*	*01/18/25 10:15*	*1*
13C8 PFOS	*84.7*		*40 - 130*	*01/17/25 07:36*	*01/18/25 10:15*	*1*
13C8 FOSA	*84.4*		*40 - 130*	*01/17/25 07:36*	*01/18/25 10:15*	*1*
d3-NMeFOSAA	*91.9*		*40 - 170*	*01/17/25 07:36*	*01/18/25 10:15*	*1*
d5-NEtFOSAA	*90.5*		*25 - 135*	*01/17/25 07:36*	*01/18/25 10:15*	*1*
13C2 4:2 FTS	*106*		*40 - 200*	*01/17/25 07:36*	*01/18/25 10:15*	*1*
13C2 6:2 FTS	*99.4*		*40 - 200*	*01/17/25 07:36*	*01/18/25 10:15*	*1*
13C2 8:2 FTS	*75.0*		*40 - 300*	*01/17/25 07:36*	*01/18/25 10:15*	*1*
13C3 HFPO-DA	*91.8*		*40 - 130*	*01/17/25 07:36*	*01/18/25 10:15*	*1*
d7-N-MeFOSE-M	*98.4*		*10 - 130*	*01/17/25 07:36*	*01/18/25 10:15*	*1*
d9-N-EtFOSE-M	*87.4*		*10 - 130*	*01/17/25 07:36*	*01/18/25 10:15*	*1*
d5-NEtPFOSA	*76.7*		*10 - 130*	*01/17/25 07:36*	*01/18/25 10:15*	*1*
d3-NMePFOSA	*77.2*		*10 - 130*	*01/17/25 07:36*	*01/18/25 10:15*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.1	0.29	ng/L		01/17/25 07:36	01/20/25 16:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*103*		*40 - 130*	*01/17/25 07:36*	*01/20/25 16:24*	*1*

Client Sample ID: FB-01102025

Lab Sample ID: 320-118256-22

Date Collected: 01/10/25 00:00

Matrix: Water

Date Received: 01/15/25 09:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.0	0.76	ng/L		01/17/25 07:36	01/18/25 10:32	1
Perfluoropentanoic acid (PFPeA)	ND		1.5	0.38	ng/L		01/17/25 07:36	01/18/25 10:32	1
Perfluorohexanoic acid (PFHxA)	ND		1.5	0.38	ng/L		01/17/25 07:36	01/18/25 10:32	1
Perfluoroheptanoic acid (PFHpA)	ND		1.5	0.38	ng/L		01/17/25 07:36	01/18/25 10:32	1
Perfluorooctanoic acid (PFOA)	ND		1.5	0.38	ng/L		01/17/25 07:36	01/18/25 10:32	1
Perfluorononanoic acid (PFNA)	ND		1.5	0.38	ng/L		01/17/25 07:36	01/18/25 10:32	1
Perfluorodecanoic acid (PFDA)	ND		1.5	0.38	ng/L		01/17/25 07:36	01/18/25 10:32	1
Perfluoroundecanoic acid (PFUnA)	ND		1.5	0.38	ng/L		01/17/25 07:36	01/18/25 10:32	1
Perfluorododecanoic acid (PFDoA)	ND		1.5	0.42	ng/L		01/17/25 07:36	01/18/25 10:32	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118256-1

Client Sample ID: FB-01102025
Date Collected: 01/10/25 00:00
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-22
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTrDA)	ND		1.5	0.44	ng/L		01/17/25 07:36	01/18/25 10:32	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.5	0.61	ng/L		01/17/25 07:36	01/18/25 10:32	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.5	0.38	ng/L		01/17/25 07:36	01/18/25 10:32	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.5	0.38	ng/L		01/17/25 07:36	01/18/25 10:32	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.5	0.38	ng/L		01/17/25 07:36	01/18/25 10:32	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.5	0.38	ng/L		01/17/25 07:36	01/18/25 10:32	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.5	0.38	ng/L		01/17/25 07:36	01/18/25 10:32	1
Perfluorononanesulfonic acid (PFNS)	ND		1.5	0.38	ng/L		01/17/25 07:36	01/18/25 10:32	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.5	0.38	ng/L		01/17/25 07:36	01/18/25 10:32	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.5	0.40	ng/L		01/17/25 07:36	01/18/25 10:32	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.0	0.76	ng/L		01/17/25 07:36	01/18/25 10:32	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.0	0.76	ng/L		01/17/25 07:36	01/18/25 10:32	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.0	0.76	ng/L		01/17/25 07:36	01/18/25 10:32	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.5	0.38	ng/L		01/17/25 07:36	01/18/25 10:32	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.5	0.38	ng/L		01/17/25 07:36	01/18/25 10:32	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.5	0.38	ng/L		01/17/25 07:36	01/18/25 10:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.5	0.38	ng/L		01/17/25 07:36	01/18/25 10:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.5	0.38	ng/L		01/17/25 07:36	01/18/25 10:32	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		7.6	1.9	ng/L		01/17/25 07:36	01/18/25 10:32	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		7.6	1.9	ng/L		01/17/25 07:36	01/18/25 10:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.5	0.38	ng/L		01/17/25 07:36	01/18/25 10:32	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.5	0.38	ng/L		01/17/25 07:36	01/18/25 10:32	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.5	0.38	ng/L		01/17/25 07:36	01/18/25 10:32	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.5	0.54	ng/L		01/17/25 07:36	01/18/25 10:32	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.5	0.44	ng/L		01/17/25 07:36	01/18/25 10:32	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.5	0.38	ng/L		01/17/25 07:36	01/18/25 10:32	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.5	0.38	ng/L		01/17/25 07:36	01/18/25 10:32	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.0	0.76	ng/L		01/17/25 07:36	01/18/25 10:32	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		7.6	1.9	ng/L		01/17/25 07:36	01/18/25 10:32	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		7.6	1.9	ng/L		01/17/25 07:36	01/18/25 10:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*121*		*5 - 130*	*01/17/25 07:36*	*01/18/25 10:32*	*1*
13C5 PFPeA	*89.4*		*40 - 130*	*01/17/25 07:36*	*01/18/25 10:32*	*1*

Client Sample ID: FB-01102025

Date Collected: 01/10/25 00:00
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-22
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFHxA	*121*		*40 - 130*	*01/17/25 07:36*	*01/18/25 10:32*	*1*
13C4 PFHpA	*116*		*40 - 130*	*01/17/25 07:36*	*01/18/25 10:32*	*1*
13C8 PFOA	*98.4*		*40 - 130*	*01/17/25 07:36*	*01/18/25 10:32*	*1*
13C9 PFNA	*87.9*		*40 - 130*	*01/17/25 07:36*	*01/18/25 10:32*	*1*
13C6 PFDA	*87.5*		*40 - 130*	*01/17/25 07:36*	*01/18/25 10:32*	*1*
13C7 PFUnA	*107*		*30 - 130*	*01/17/25 07:36*	*01/18/25 10:32*	*1*
13C2 PFDoA	*108*		*10 - 130*	*01/17/25 07:36*	*01/18/25 10:32*	*1*
13C2 PFTeDA	*97.8*		*10 - 130*	*01/17/25 07:36*	*01/18/25 10:32*	*1*
13C3 PFBS	*90.1*		*40 - 135*	*01/17/25 07:36*	*01/18/25 10:32*	*1*
13C3 PFHxS	*97.4*		*40 - 130*	*01/17/25 07:36*	*01/18/25 10:32*	*1*
13C8 PFOS	*103*		*40 - 130*	*01/17/25 07:36*	*01/18/25 10:32*	*1*
13C8 FOSA	*87.2*		*40 - 130*	*01/17/25 07:36*	*01/18/25 10:32*	*1*
d3-NMeFOSAA	*96.4*		*40 - 170*	*01/17/25 07:36*	*01/18/25 10:32*	*1*
d5-NEtFOSAA	*96.5*		*25 - 135*	*01/17/25 07:36*	*01/18/25 10:32*	*1*
13C2 4:2 FTS	*94.8*		*40 - 200*	*01/17/25 07:36*	*01/18/25 10:32*	*1*
13C2 6:2 FTS	*98.8*		*40 - 200*	*01/17/25 07:36*	*01/18/25 10:32*	*1*
13C2 8:2 FTS	*71.6*		*40 - 300*	*01/17/25 07:36*	*01/18/25 10:32*	*1*
13C3 HFPO-DA	*126*		*40 - 130*	*01/17/25 07:36*	*01/18/25 10:32*	*1*
d7-N-MeFOSE-M	*94.8*		*10 - 130*	*01/17/25 07:36*	*01/18/25 10:32*	*1*
d9-N-EtFOSE-M	*86.9*		*10 - 130*	*01/17/25 07:36*	*01/18/25 10:32*	*1*
d5-NEtPFOSA	*70.1*		*10 - 130*	*01/17/25 07:36*	*01/18/25 10:32*	*1*
d3-NMePFOSA	*73.4*		*10 - 130*	*01/17/25 07:36*	*01/18/25 10:32*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.1	0.29	ng/L		01/17/25 07:36	01/20/25 16:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*106*		*40 - 130*	*01/17/25 07:36*	*01/20/25 16:41*	*1*

Client Sample ID: SWN-MW-5-FD-01102025

Date Collected: 01/10/25 08:05
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-23
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**20**		3.6	0.90	ng/L		01/17/25 07:36	01/18/25 10:48	1
Perfluoropentanoic acid (PFPeA)	**46**		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 10:48	1
Perfluorohexanoic acid (PFHxA)	**53**		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 10:48	1
Perfluoroheptanoic acid (PFHpA)	**21**		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 10:48	1
Perfluorooctanoic acid (PFOA)	**70**		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 10:48	1
Perfluorononanoic acid (PFNA)	**12**		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 10:48	1
Perfluorodecanoic acid (PFDA)	**26**		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 10:48	1
Perfluoroundecanoic acid (PFUnA)	**1.2**	**J**	1.8	0.45	ng/L		01/17/25 07:36	01/18/25 10:48	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		01/17/25 07:36	01/18/25 10:48	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.52	ng/L		01/17/25 07:36	01/18/25 10:48	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.8	0.73	ng/L		01/17/25 07:36	01/18/25 10:48	1
Perfluorobutanesulfonic acid (PFBS)	**2.4**		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 10:48	1

Client Sample ID: SWN-MW-5-FD-01102025
Date Collected: 01/10/25 08:05
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-23
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	**2.8**		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 10:48	1
Perfluorohexanesulfonic acid (PFHxS)	**97**		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 10:48	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.97**	**J**	1.8	0.45	ng/L		01/17/25 07:36	01/18/25 10:48	1
Perfluorooctanesulfonic acid (PFOS)	**35**		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 10:48	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 10:48	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 10:48	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.48	ng/L		01/17/25 07:36	01/18/25 10:48	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.6	0.90	ng/L		01/17/25 07:36	01/18/25 10:48	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**3.1**	**J**	3.6	0.90	ng/L		01/17/25 07:36	01/18/25 10:48	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.6	0.90	ng/L		01/17/25 07:36	01/18/25 10:48	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 10:48	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 10:48	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 10:48	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 10:48	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 10:48	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		9.0	2.2	ng/L		01/17/25 07:36	01/18/25 10:48	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		9.0	2.2	ng/L		01/17/25 07:36	01/18/25 10:48	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 10:48	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 10:48	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 10:48	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.8	0.65	ng/L		01/17/25 07:36	01/18/25 10:48	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.8	0.52	ng/L		01/17/25 07:36	01/18/25 10:48	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 10:48	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.8	0.45	ng/L		01/17/25 07:36	01/18/25 10:48	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.6	0.90	ng/L		01/17/25 07:36	01/18/25 10:48	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		9.0	2.2	ng/L		01/17/25 07:36	01/18/25 10:48	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		9.0	2.2	ng/L		01/17/25 07:36	01/18/25 10:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*112*		*5 - 130*	*01/17/25 07:36*	*01/18/25 10:48*	*1*
13C5 PFPeA	*88.5*		*40 - 130*	*01/17/25 07:36*	*01/18/25 10:48*	*1*
13C5 PFHxA	*96.7*		*40 - 130*	*01/17/25 07:36*	*01/18/25 10:48*	*1*

Client Sample ID: SWN-MW-5-FD-01102025
Date Collected: 01/10/25 08:05
Date Received: 01/15/25 09:45

Lab Sample ID: 320-118256-23
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFHpA	102		40 - 130	01/17/25 07:36	01/18/25 10:48	1
13C8 PFOA	101		40 - 130	01/17/25 07:36	01/18/25 10:48	1
13C9 PFNA	93.9		40 - 130	01/17/25 07:36	01/18/25 10:48	1
13C6 PFDA	92.3		40 - 130	01/17/25 07:36	01/18/25 10:48	1
13C7 PFUnA	93.7		30 - 130	01/17/25 07:36	01/18/25 10:48	1
13C2 PFDoA	114		10 - 130	01/17/25 07:36	01/18/25 10:48	1
13C2 PFTeDA	105		10 - 130	01/17/25 07:36	01/18/25 10:48	1
13C3 PFBS	91.0		40 - 135	01/17/25 07:36	01/18/25 10:48	1
13C3 PFHxS	101		40 - 130	01/17/25 07:36	01/18/25 10:48	1
13C8 PFOS	90.0		40 - 130	01/17/25 07:36	01/18/25 10:48	1
13C8 FOSA	82.0		40 - 130	01/17/25 07:36	01/18/25 10:48	1
d3-NMeFOSAA	76.9		40 - 170	01/17/25 07:36	01/18/25 10:48	1
d5-NEtFOSAA	87.0		25 - 135	01/17/25 07:36	01/18/25 10:48	1
13C2 4:2 FTS	106		40 - 200	01/17/25 07:36	01/18/25 10:48	1
13C2 6:2 FTS	92.8		40 - 200	01/17/25 07:36	01/18/25 10:48	1
13C2 8:2 FTS	73.5		40 - 300	01/17/25 07:36	01/18/25 10:48	1
13C3 HFPO-DA	81.3		40 - 130	01/17/25 07:36	01/18/25 10:48	1
d7-N-MeFOSE-M	92.9		10 - 130	01/17/25 07:36	01/18/25 10:48	1
d9-N-EtFOSE-M	84.5		10 - 130	01/17/25 07:36	01/18/25 10:48	1
d5-NEtPFOSA	73.2		10 - 130	01/17/25 07:36	01/18/25 10:48	1
d3-NMePFOSA	76.2		10 - 130	01/17/25 07:36	01/18/25 10:48	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.35	ng/L		01/17/25 07:36	01/20/25 16:57	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	113		40 - 130	01/17/25 07:36	01/20/25 16:57	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118256-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (5-130)	PFPeA (40-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (30-130)
320-118256-1	SWN-MW-7-N-01092025	105	87.9	97.2	110	97.1	87.9	100	98.5
320-118256-2	SWN-MW-7-FD-01092025	97.7	88.0	95.2	106	93.8	88.3	79.9	92.5
320-118256-3	SWN-MW-4-N-01092025	104	113	106	105	109	96.6	101	96.6
320-118256-4	SWN-MW-6-N-01092025	99.5	106	103	107	96.6	103	89.7	82.1
320-118256-5	SWN-MW-14-N-01092025	108	83.8	96.2	97.8	92.0	91.4	90.1	93.5
320-118256-6	SWN-MW-13-N-01092025	103	90.6	96.1	108	87.8	88.2	87.7	89.9
320-118256-7	FGF-MW-18-N-01092025	102	90.7	103	108	94.6	92.4	79.4	78.2
320-118256-8	EB-1-01092025	105	80.2	104	109	96.1	91.8	88.5	92.5
320-118256-9	SWN-MW-A-N-01092025	104	81.8	83.4	106	105	83.3	89.0	77.0
320-118256-9 - RA	SWN-MW-A-N-01092025								
320-118256-10	SWN-MW-3-N-01092025	107	126	109	116	100	99.6	96.0	101
320-118256-11	SWN-MW-1-N-01092025	106	79.1	88.7	83.5	94.1	95.6	90.9	98.3
320-118256-11 - RA	SWN-MW-1-N-01092025								
320-118256-12	SWN-MW-2-N-01092025	105	93.1	86.8	104	86.0	94.2	90.8	82.6
320-118256-12 - RA	SWN-MW-2-N-01092025								
320-118256-13	EB-2-01092025	112	85.5	97.5	104	91.9	76.6	89.8	88.9
320-118256-13 - RA	EB-2-01092025								
320-118256-14	FB-01092025	109	91.4	101	127	98.3	85.8	94.1	94.2
320-118256-14 - RA	FB-01092025								
320-118256-15	SWN-MW-5-N-01102025	111	79.7	89.4	91.5	108	88.8	96.5	98.8
320-118256-15 - RA	SWN-MW-5-N-01102025								
320-118256-16	PD-MW-1A-N-01102025	111	82.9	98.2	99.8	90.3	85.6	95.6	96.6
320-118256-16 - RA	PD-MW-1A-N-01102025								
320-118256-17	GDF-GR-8-N-01102025	107	85.1	102	108	94.9	89.8	96.8	89.9
320-118256-17 - RA	GDF-GR-8-N-01102025								
320-118256-18	GDF-GR-7D-N-01102025	109	85.9	95.5	107	97.8	90.9	94.0	94.2
320-118256-18 - RA	GDF-GR-7D-N-01102025								
320-118256-19	GDF-GR-7S-N-01102025	111	95.2	97.2	112	97.8	87.9	85.6	86.2
320-118256-19 - RA	GDF-GR-7S-N-01102025								
320-118256-20	EB-1-01102025	115	87.9	111	102	98.1	88.4	99.8	98.5
320-118256-20 - RA	EB-1-01102025								
320-118256-21	EB-2-01102025	116	84.3	94.5	111	94.8	84.0	92.4	93.1
320-118256-21 - RA	EB-2-01102025								
320-118256-22	FB-01102025	121	89.4	121	116	98.4	87.9	87.5	107
320-118256-22 - RA	FB-01102025								
320-118256-23	SWN-MW-5-FD-01102025	112	88.5	96.7	102	101	93.9	92.3	93.7
320-118256-23 - RA	SWN-MW-5-FD-01102025								
LCS 320-827979/3-A	Lab Control Sample	115	89.4	105	109	92.0	82.7	90.7	97.6
LCS 320-828247/3-A	Lab Control Sample	107	105	102	107	95.5	97.1	96.9	96.0
LCSD 320-827979/4-A	Lab Control Sample Dup	112	76.1	102	93.5	90.2	93.3	87.3	97.3
LCSD 320-828247/4-A	Lab Control Sample Dup	107	102	95.2	111	95.1	91.6	92.5	88.8
LLCS 320-827979/2-A	Lab Control Sample	113	78.9	92.7	94.6	79.1	77.8	85.1	86.4
LLCS 320-828247/2-A	Lab Control Sample	106	106	120	111	102	95.3	95.2	93.0
MB 320-827979/1-A	Method Blank	122	97.0	106	116	97.4	96.0	91.2	98.0
MB 320-828247/1-A	Method Blank	101	104	107	108	102	96.0	92.9	90.7

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (10-130)	PFTDA (10-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-170)	d5NEFOS (25-135)
320-118256-1	SWN-MW-7-N-01092025	119	114	85.0	95.7	94.7	84.6	92.1	87.2

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118256-1
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (10-130)	PFTDA (10-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-170)	d5NEFOS (25-135)
320-118256-2	SWN-MW-7-FD-01092025	101	102	83.7	94.7	93.3	85.3	76.2	91.9
320-118256-3	SWN-MW-4-N-01092025	105	97.1	101	102	104	101	104	105
320-118256-4	SWN-MW-6-N-01092025	77.9	55.0	94.3	84.7	74.5	83.8	92.8	91.3
320-118256-5	SWN-MW-14-N-01092025	102	93.7	93.3	103	79.7	79.0	79.4	85.9
320-118256-6	SWN-MW-13-N-01092025	103	95.9	82.6	92.8	87.8	84.8	80.8	94.4
320-118256-7	FGF-MW-18-N-01092025	92.5	94.6	78.7	95.4	95.0	87.6	81.1	86.1
320-118256-8	EB-1-01092025	104	93.5	77.3	89.8	83.9	88.5	84.2	93.2
320-118256-9	SWN-MW-A-N-01092025	91.7	93.3	78.9	92.3	85.9	76.6	81.2	74.7
320-118256-9 - RA	SWN-MW-A-N-01092025								
320-118256-10	SWN-MW-3-N-01092025	102	85.2	110	111	98.3	101	105	105
320-118256-11	SWN-MW-1-N-01092025	101	95.7	89.2	95.3	85.7	81.1	69.6	80.3
320-118256-11 - RA	SWN-MW-1-N-01092025				93.2				
320-118256-12	SWN-MW-2-N-01092025	92.2	83.1	86.9	93.2	84.8	78.3	77.5	81.0
320-118256-12 - RA	SWN-MW-2-N-01092025								
320-118256-13	EB-2-01092025	112	99.1	78.6	85.3	81.5	83.2	82.1	92.0
320-118256-13 - RA	EB-2-01092025								
320-118256-14	FB-01092025	113	105	84.6	91.2	93.2	86.9	87.7	93.5
320-118256-14 - RA	FB-01092025								
320-118256-15	SWN-MW-5-N-01102025	110	104	91.5	96.5	91.3	82.0	79.6	87.9
320-118256-15 - RA	SWN-MW-5-N-01102025								
320-118256-16	PD-MW-1A-N-01102025	105	88.7	88.0	97.3	91.5	89.8	83.3	91.3
320-118256-16 - RA	PD-MW-1A-N-01102025								
320-118256-17	GDF-GR-8-N-01102025	107	106	88.1	94.6	93.3	85.3	77.6	79.5
320-118256-17 - RA	GDF-GR-8-N-01102025								
320-118256-18	GDF-GR-7D-N-01102025	111	105	81.2	93.9	90.7	86.4	81.0	83.4
320-118256-18 - RA	GDF-GR-7D-N-01102025								
320-118256-19	GDF-GR-7S-N-01102025	103	97.7	88.6	93.0	89.6	87.8	85.1	89.1
320-118256-19 - RA	GDF-GR-7S-N-01102025								
320-118256-20	EB-1-01102025	108	90.1	91.3	88.1	85.4	82.8	76.8	86.4
320-118256-20 - RA	EB-1-01102025								
320-118256-21	EB-2-01102025	107	97.5	85.5	88.2	84.7	84.4	91.9	90.5
320-118256-21 - RA	EB-2-01102025								
320-118256-22	FB-01102025	108	97.8	90.1	97.4	103	87.2	96.4	96.5
320-118256-22 - RA	FB-01102025								
320-118256-23	SWN-MW-5-FD-01102025	114	105	91.0	101	90.0	82.0	76.9	87.0
320-118256-23 - RA	SWN-MW-5-FD-01102025								
LCS 320-827979/3-A	Lab Control Sample	111	97.8	102	91.2	94.1	82.8	93.5	98.4
LCS 320-828247/3-A	Lab Control Sample	88.0	72.7	96.5	102	99.9	91.2	90.0	83.4
LCSD 320-827979/4-A	Lab Control Sample Dup	108	93.4	82.8	89.9	83.4	79.8	81.8	84.7
LCSD 320-828247/4-A	Lab Control Sample Dup	91.9	71.6	96.6	98.1	98.2	102	96.9	93.5
LLCS 320-827979/2-A	Lab Control Sample	99.7	80.4	81.3	82.3	78.0	75.3	78.8	78.1
LLCS 320-828247/2-A	Lab Control Sample	92.7	76.7	91.1	102	96.8	93.2	91.0	84.9
MB 320-827979/1-A	Method Blank	118	103	90.9	93.9	101	86.1	92.3	98.9
MB 320-828247/1-A	Method Blank	86.0	67.7	93.2	100	96.0	83.3	84.3	86.1

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-200)	M262FTS (40-200)	M282FTS (40-300)	HFPODA (40-130)	NMFM (10-130)	NEFM (10-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118256-1	SWN-MW-7-N-01092025	86.9	86.6	69.8	83.0	92.2	83.7	68.9	70.0
320-118256-2	SWN-MW-7-FD-01092025	96.1	99.1	74.8	116	95.4	91.1	78.5	76.0
320-118256-3	SWN-MW-4-N-01092025	82.4	103	88.2	97.7	103	101	89.3	91.6

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118256-1
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-200)	M262FTS (40-200)	M282FTS (40-300)	HFPODA (40-130)	NMFM (10-130)	NEFM (10-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118256-4	SWN-MW-6-N-01092025	117	119	86.3	99.6	81.0	61.7	70.4	80.5
320-118256-5	SWN-MW-14-N-01092025	109	105	70.9	86.0	89.0	86.2	71.4	70.8
320-118256-6	SWN-MW-13-N-01092025	95.1	94.0	69.9	77.5	85.2	85.1	84.4	77.2
320-118256-7	FGF-MW-18-N-01092025	83.1	93.5	67.1	87.6	98.3	86.5	73.4	78.6
320-118256-8	EB-1-01092025	95.8	97.4	70.6	96.0	99.1	99.6	86.5	78.6
320-118256-9	SWN-MW-A-N-01092025	106	101	63.0	67.1	85.6	82.4	67.3	73.3
320-118256-9 - RA	SWN-MW-A-N-01092025				115				
320-118256-10	SWN-MW-3-N-01092025	97.6	102	89.6	106	105	103	93.6	97.2
320-118256-11	SWN-MW-1-N-01092025	105	94.3	71.6	72.6	85.1	74.0	64.2	74.2
320-118256-11 - RA	SWN-MW-1-N-01092025				99.3				
320-118256-12	SWN-MW-2-N-01092025	97.7	96.1	70.3	72.5	79.5	72.5	67.8	69.2
320-118256-12 - RA	SWN-MW-2-N-01092025				99.2				
320-118256-13	EB-2-01092025	101	86.9	64.9	90.6	93.8	87.2	71.0	78.9
320-118256-13 - RA	EB-2-01092025				103				
320-118256-14	FB-01092025	113	100	76.1	84.5	93.2	86.4	75.6	78.1
320-118256-14 - RA	FB-01092025				104				
320-118256-15	SWN-MW-5-N-01102025	122	95.7	68.3	82.2	86.6	83.9	74.7	80.3
320-118256-15 - RA	SWN-MW-5-N-01102025				111				
320-118256-16	PD-MW-1A-N-01102025	99.4	90.2	70.2	79.4	91.4	88.4	70.3	75.8
320-118256-16 - RA	PD-MW-1A-N-01102025				95.7				
320-118256-17	GDF-GR-8-N-01102025	81.1	99.9	72.0	65.6	95.6	90.3	66.5	76.8
320-118256-17 - RA	GDF-GR-8-N-01102025				92.9				
320-118256-18	GDF-GR-7D-N-01102025	96.0	89.0	63.7	80.5	94.7	83.4	71.9	79.1
320-118256-18 - RA	GDF-GR-7D-N-01102025				109				
320-118256-19	GDF-GR-7S-N-01102025	96.1	90.1	66.2	77.1	90.2	86.2	74.9	83.5
320-118256-19 - RA	GDF-GR-7S-N-01102025				110				
320-118256-20	EB-1-01102025	107	95.8	70.4	80.1	92.2	81.4	68.5	75.3
320-118256-20 - RA	EB-1-01102025				105				
320-118256-21	EB-2-01102025	106	99.4	75.0	91.8	98.4	87.4	76.7	77.2
320-118256-21 - RA	EB-2-01102025				103				
320-118256-22	FB-01102025	94.8	98.8	71.6	126	94.8	86.9	70.1	73.4
320-118256-22 - RA	FB-01102025				106				
320-118256-23	SWN-MW-5-FD-01102025	106	92.8	73.5	81.3	92.9	84.5	73.2	76.2
320-118256-23 - RA	SWN-MW-5-FD-01102025				113				
LCS 320-827979/3-A	Lab Control Sample	108	101	76.3	88.3	93.6	85.7	75.6	72.5
LCS 320-828247/3-A	Lab Control Sample	76.8	91.4	91.5	97.2	92.6	88.1	76.5	74.7
LCSD 320-827979/4-A	Lab Control Sample Dup	109	91.7	72.0	74.7	85.4	78.0	69.4	70.8
LCSD 320-828247/4-A	Lab Control Sample Dup	78.9	95.6	82.1	106	94.0	99.9	86.8	86.1
LLCS 320-827979/2-A	Lab Control Sample	93.5	93.0	66.4	78.4	88.6	81.0	63.7	69.3
LLCS 320-828247/2-A	Lab Control Sample	76.1	101	88.6	107	91.5	91.5	78.7	80.8
MB 320-827979/1-A	Method Blank	110	97.8	82.4	112	99.3	90.8	72.7	74.8
MB 320-828247/1-A	Method Blank	71.2	96.8	85.5	95.6	78.7	85.2	70.8	70.5

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118256-1
Project/Site: Spokane International Airport

C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-827979/1-A
Matrix: Water
Analysis Batch: 828192

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 827979

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.0	1.0	ng/L		01/17/25 07:36	01/18/25 03:19	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 03:19	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 03:19	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 03:19	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 03:19	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 03:19	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 03:19	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 03:19	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		01/17/25 07:36	01/18/25 03:19	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.58	ng/L		01/17/25 07:36	01/18/25 03:19	1
Perfluorotetradecanoic acid (PFTeDA)	ND		2.0	0.81	ng/L		01/17/25 07:36	01/18/25 03:19	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 03:19	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 03:19	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 03:19	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 03:19	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 03:19	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 03:19	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 03:19	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.53	ng/L		01/17/25 07:36	01/18/25 03:19	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		4.0	1.0	ng/L		01/17/25 07:36	01/18/25 03:19	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		4.0	1.0	ng/L		01/17/25 07:36	01/18/25 03:19	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		4.0	1.0	ng/L		01/17/25 07:36	01/18/25 03:19	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 03:19	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 03:19	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 03:19	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 03:19	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 03:19	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		10	2.5	ng/L		01/17/25 07:36	01/18/25 03:19	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		10	2.5	ng/L		01/17/25 07:36	01/18/25 03:19	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.5	0.39	ng/L		01/17/25 07:36	01/18/25 03:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 03:19	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 03:19	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 03:19	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	0.72	ng/L		01/17/25 07:36	01/18/25 03:19	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		2.0	0.58	ng/L		01/17/25 07:36	01/18/25 03:19	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-827979/1-A
Matrix: Water
Analysis Batch: 828192

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 827979

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 03:19	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	0.50	ng/L		01/17/25 07:36	01/18/25 03:19	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		4.0	1.0	ng/L		01/17/25 07:36	01/18/25 03:19	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		10	2.5	ng/L		01/17/25 07:36	01/18/25 03:19	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		10	2.5	ng/L		01/17/25 07:36	01/18/25 03:19	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*122*		*5 - 130*	*01/17/25 07:36*	*01/18/25 03:19*	*1*
13C5 PFPeA	*97.0*		*40 - 130*	*01/17/25 07:36*	*01/18/25 03:19*	*1*
13C5 PFHxA	*106*		*40 - 130*	*01/17/25 07:36*	*01/18/25 03:19*	*1*
13C4 PFHpA	*116*		*40 - 130*	*01/17/25 07:36*	*01/18/25 03:19*	*1*
13C8 PFOA	*97.4*		*40 - 130*	*01/17/25 07:36*	*01/18/25 03:19*	*1*
13C9 PFNA	*96.0*		*40 - 130*	*01/17/25 07:36*	*01/18/25 03:19*	*1*
13C6 PFDA	*91.2*		*40 - 130*	*01/17/25 07:36*	*01/18/25 03:19*	*1*
13C7 PFUnA	*98.0*		*30 - 130*	*01/17/25 07:36*	*01/18/25 03:19*	*1*
13C2 PFDoA	*118*		*10 - 130*	*01/17/25 07:36*	*01/18/25 03:19*	*1*
13C2 PFTeDA	*103*		*10 - 130*	*01/17/25 07:36*	*01/18/25 03:19*	*1*
13C3 PFBS	*90.9*		*40 - 135*	*01/17/25 07:36*	*01/18/25 03:19*	*1*
13C3 PFHxS	*93.9*		*40 - 130*	*01/17/25 07:36*	*01/18/25 03:19*	*1*
13C8 PFOS	*101*		*40 - 130*	*01/17/25 07:36*	*01/18/25 03:19*	*1*
13C8 FOSA	*86.1*		*40 - 130*	*01/17/25 07:36*	*01/18/25 03:19*	*1*
d3-NMeFOSAA	*92.3*		*40 - 170*	*01/17/25 07:36*	*01/18/25 03:19*	*1*
d5-NEtFOSAA	*98.9*		*25 - 135*	*01/17/25 07:36*	*01/18/25 03:19*	*1*
13C2 4:2 FTS	*110*		*40 - 200*	*01/17/25 07:36*	*01/18/25 03:19*	*1*
13C2 6:2 FTS	*97.8*		*40 - 200*	*01/17/25 07:36*	*01/18/25 03:19*	*1*
13C2 8:2 FTS	*82.4*		*40 - 300*	*01/17/25 07:36*	*01/18/25 03:19*	*1*
13C3 HFPO-DA	*112*		*40 - 130*	*01/17/25 07:36*	*01/18/25 03:19*	*1*
d7-N-MeFOSE-M	*99.3*		*10 - 130*	*01/17/25 07:36*	*01/18/25 03:19*	*1*
d9-N-EtFOSE-M	*90.8*		*10 - 130*	*01/17/25 07:36*	*01/18/25 03:19*	*1*
d5-NEtPFOSA	*72.7*		*10 - 130*	*01/17/25 07:36*	*01/18/25 03:19*	*1*
d3-NMePFOSA	*74.8*		*10 - 130*	*01/17/25 07:36*	*01/18/25 03:19*	*1*

Lab Sample ID: LCS 320-827979/3-A
Matrix: Water
Analysis Batch: 828192

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827979

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	73.9		ng/L		92	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	44.9		ng/L		112	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	38.4		ng/L		96	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	36.3		ng/L		91	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	40.2		ng/L		100	70 - 150
Perfluorononanoic acid (PFNA)	40.0	44.9		ng/L		112	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	38.4		ng/L		96	70 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-827979/3-A
Matrix: Water
Analysis Batch: 828192

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827979

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	40.0	36.7		ng/L		92	70 - 145
Perfluorododecanoic acid (PFDoA)	40.0	36.9		ng/L		92	70 - 140
Perfluorotridecanoic acid (PFTrDA)	40.0	42.1		ng/L		105	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	40.0	42.6		ng/L		106	60 - 140
Perfluorobutanesulfonic acid (PFBS)	35.5	32.8		ng/L		92	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	41.5		ng/L		110	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	38.9		ng/L		107	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	39.4		ng/L		103	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	36.6		ng/L		98	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	38.5		ng/L		100	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	40.5		ng/L		105	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	37.6		ng/L		97	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	75.4		ng/L		100	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	72.7		ng/L		96	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	79.8		ng/L		104	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	41.9		ng/L		105	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	44.7		ng/L		112	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	43.6		ng/L		109	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	40.4		ng/L		101	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	37.6		ng/L		94	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	186		ng/L		93	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	187		ng/L		93	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	24.1		ng/L		80	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	43.8		ng/L		116	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	42.2		ng/L		105	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	42.0		ng/L		105	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	41.1		ng/L		103	50 - 150

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-827979/3-A
Matrix: Water
Analysis Batch: 828192

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827979

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	32.0		ng/L		86	70 - 155		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	36.7		ng/L		97	55 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	43.0		ng/L		121	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	79.6		ng/L		99	65 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	205		ng/L		103	70 - 135		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	147		ng/L		74	50 - 145		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*115*		*5 - 130*
13C5 PFPeA	*89.4*		*40 - 130*
13C5 PFHxA	*105*		*40 - 130*
13C4 PFHpA	*109*		*40 - 130*
13C8 PFOA	*92.0*		*40 - 130*
13C9 PFNA	*82.7*		*40 - 130*
13C6 PFDA	*90.7*		*40 - 130*
13C7 PFUnA	*97.6*		*30 - 130*
13C2 PFDoA	*111*		*10 - 130*
13C2 PFTeDA	*97.8*		*10 - 130*
13C3 PFBS	*102*		*40 - 135*
13C3 PFHxS	*91.2*		*40 - 130*
13C8 PFOS	*94.1*		*40 - 130*
13C8 FOSA	*82.8*		*40 - 130*
d3-NMeFOSAA	*93.5*		*40 - 170*
d5-NEtFOSAA	*98.4*		*25 - 135*
13C2 4:2 FTS	*108*		*40 - 200*
13C2 6:2 FTS	*101*		*40 - 200*
13C2 8:2 FTS	*76.3*		*40 - 300*
13C3 HFPO-DA	*88.3*		*40 - 130*
d7-N-MeFOSE-M	*93.6*		*10 - 130*
d9-N-EtFOSE-M	*85.7*		*10 - 130*
d5-NEtPFOSA	*75.6*		*10 - 130*
d3-NMePFOSA	*72.5*		*10 - 130*

Lab Sample ID: LCSD 320-827979/4-A
Matrix: Water
Analysis Batch: 828192

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 827979

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			80.0	72.2		ng/L		90	70 - 140	2	30
Perfluoropentanoic acid (PFPeA)			40.0	48.0		ng/L		120	65 - 135	7	30
Perfluorohexanoic acid (PFHxA)			40.0	33.0		ng/L		82	70 - 145	15	30
Perfluoroheptanoic acid (PFHpA)			40.0	40.5		ng/L		101	70 - 150	11	30
Perfluorooctanoic acid (PFOA)			40.0	40.4		ng/L		101	70 - 150	1	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-827979/4-A
Matrix: Water
Analysis Batch: 828192

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 827979

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	40.0	35.9		ng/L		90	70 - 150	22	30
Perfluorodecanoic acid (PFDA)	40.0	38.7		ng/L		97	70 - 140	1	30
Perfluoroundecanoic acid (PFUnA)	40.0	35.0		ng/L		88	70 - 145	5	30
Perfluorododecanoic acid (PFDoA)	40.0	36.9		ng/L		92	70 - 140	0	30
Perfluorotridecanoic acid (PFTrDA)	40.0	40.5		ng/L		101	65 - 140	4	30
Perfluorotetradecanoic acid (PFTeDA)	40.0	42.5		ng/L		106	60 - 140	0	30
Perfluorobutanesulfonic acid (PFBS)	35.5	39.3		ng/L		111	60 - 145	18	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	40.4		ng/L		107	65 - 140	3	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	37.7		ng/L		103	65 - 145	3	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	37.8		ng/L		99	70 - 150	4	30
Perfluorooctanesulfonic acid (PFOS)	37.2	36.3		ng/L		97	55 - 150	1	30
Perfluorononanesulfonic acid (PFNS)	38.5	37.7		ng/L		98	65 - 145	2	30
Perfluorodecanesulfonic acid (PFDS)	38.6	39.3		ng/L		102	60 - 145	3	30
Perfluorododecanesulfonic acid (PFDoS)	38.8	39.5		ng/L		102	50 - 145	5	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	73.2		ng/L		98	70 - 145	3	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	84.0		ng/L		110	65 - 155	14	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	80.0		ng/L		104	60 - 150	0	30
Perfluorooctanesulfonamide (PFOSA)	40.0	38.9		ng/L		97	70 - 145	8	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	41.0		ng/L		103	60 - 150	9	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	39.8		ng/L		99	65 - 145	9	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	45.2		ng/L		113	50 - 140	11	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	41.5		ng/L		104	70 - 145	10	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	186		ng/L		93	70 - 145	0	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	179		ng/L		90	70 - 135	4	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	28.3		ng/L		94	70 - 140	16	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	47.1		ng/L		124	65 - 145	7	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	43.7		ng/L		109	55 - 140	4	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	42.5		ng/L		106	60 - 150	1	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-827979/4-A
Matrix: Water
Analysis Batch: 828192

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 827979

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			40.0	38.7		ng/L		97	50 - 150	6	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	35.7		ng/L		95	70 - 155	11	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	38.5		ng/L		102	55 - 160	5	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	39.6		ng/L		111	70 - 140	8	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	89.5		ng/L		112	65 - 130	12	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	185		ng/L		93	70 - 135	10	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	137		ng/L		69	50 - 145	7	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*112*		*5 - 130*
13C5 PFPeA	*76.1*		*40 - 130*
13C5 PFHxA	*102*		*40 - 130*
13C4 PFHpA	*93.5*		*40 - 130*
13C8 PFOA	*90.2*		*40 - 130*
13C9 PFNA	*93.3*		*40 - 130*
13C6 PFDA	*87.3*		*40 - 130*
13C7 PFUnA	*97.3*		*30 - 130*
13C2 PFDoA	*108*		*10 - 130*
13C2 PFTeDA	*93.4*		*10 - 130*
13C3 PFBS	*82.8*		*40 - 135*
13C3 PFHxS	*89.9*		*40 - 130*
13C8 PFOS	*83.4*		*40 - 130*
13C8 FOSA	*79.8*		*40 - 130*
d3-NMeFOSAA	*81.8*		*40 - 170*
d5-NEtFOSAA	*84.7*		*25 - 135*
13C2 4:2 FTS	*109*		*40 - 200*
13C2 6:2 FTS	*91.7*		*40 - 200*
13C2 8:2 FTS	*72.0*		*40 - 300*
13C3 HFPO-DA	*74.7*		*40 - 130*
d7-N-MeFOSE-M	*85.4*		*10 - 130*
d9-N-EtFOSE-M	*78.0*		*10 - 130*
d5-NEtPFOSA	*69.4*		*10 - 130*
d3-NMePFOSA	*70.8*		*10 - 130*

Lab Sample ID: LLCS 320-827979/2-A
Matrix: Water
Analysis Batch: 828192

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827979

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			8.00	7.42		ng/L		93	70 - 140
Perfluoropentanoic acid (PFPeA)			4.00	4.67		ng/L		117	65 - 135
Perfluorohexanoic acid (PFHxA)			4.00	3.85		ng/L		96	70 - 145

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-827979/2-A
Matrix: Water
Analysis Batch: 828192

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827979

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	4.00	4.10		ng/L		102	70 - 150
Perfluorooctanoic acid (PFOA)	4.00	4.77		ng/L		119	70 - 150
Perfluorononanoic acid (PFNA)	4.00	3.94		ng/L		98	70 - 150
Perfluorodecanoic acid (PFDA)	4.00	3.66		ng/L		91	70 - 140
Perfluoroundecanoic acid (PFUnA)	4.00	4.10		ng/L		103	70 - 145
Perfluorododecanoic acid (PFDoA)	4.00	3.99		ng/L		100	70 - 140
Perfluorotridecanoic acid (PFTrDA)	4.00	4.66		ng/L		116	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	4.00	4.22		ng/L		106	60 - 140
Perfluorobutanesulfonic acid (PFBS)	3.55	4.25		ng/L		120	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.76	4.44		ng/L		118	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	3.65	4.07		ng/L		112	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.82	4.07		ng/L		107	70 - 150
Perfluorooctanesulfonic acid (PFOS)	3.72	3.70		ng/L		99	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.85	3.83		ng/L		99	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.86	4.04		ng/L		105	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.88	4.10		ng/L		106	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	7.50	8.41		ng/L		112	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.62	7.59		ng/L		100	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.68	7.82		ng/L		102	60 - 150
Perfluorooctanesulfonamide (PFOSA)	4.00	4.01		ng/L		100	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	4.00	3.91		ng/L		98	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	4.00	4.00		ng/L		100	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.00	4.42		ng/L		110	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.00	4.53		ng/L		113	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	20.0	18.9		ng/L		95	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	20.0	19.0		ng/L		95	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.00	2.09		ng/L		70	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	4.55		ng/L		120	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.00	4.45		ng/L		111	55 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-827979/2-A
Matrix: Water
Analysis Batch: 828192

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827979

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.00	4.88		ng/L		122	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.00	3.95		ng/L		99	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	3.74	3.37		ng/L		90	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	3.78	3.36		ng/L		89	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	3.57	4.27		ng/L		120	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	8.00	9.73		ng/L		122	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	20.0	20.7		ng/L		104	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	20.0	14.6		ng/L		73	50 - 145

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*113*		*5 - 130*
13C5 PFPeA	*78.9*		*40 - 130*
13C5 PFHxA	*92.7*		*40 - 130*
13C4 PFHpA	*94.6*		*40 - 130*
13C8 PFOA	*79.1*		*40 - 130*
13C9 PFNA	*77.8*		*40 - 130*
13C6 PFDA	*85.1*		*40 - 130*
13C7 PFUnA	*86.4*		*30 - 130*
13C2 PFDoA	*99.7*		*10 - 130*
13C2 PFTeDA	*80.4*		*10 - 130*
13C3 PFBS	*81.3*		*40 - 135*
13C3 PFHxS	*82.3*		*40 - 130*
13C8 PFOS	*78.0*		*40 - 130*
13C8 FOSA	*75.3*		*40 - 130*
d3-NMeFOSAA	*78.8*		*40 - 170*
d5-NEtFOSAA	*78.1*		*25 - 135*
13C2 4:2 FTS	*93.5*		*40 - 200*
13C2 6:2 FTS	*93.0*		*40 - 200*
13C2 8:2 FTS	*66.4*		*40 - 300*
13C3 HFPO-DA	*78.4*		*40 - 130*
d7-N-MeFOSE-M	*88.6*		*10 - 130*
d9-N-EtFOSE-M	*81.0*		*10 - 130*
d5-NEtPFOSA	*63.7*		*10 - 130*
d3-NMePFOSA	*69.3*		*10 - 130*

Lab Sample ID: MB 320-828247/1-A
Matrix: Water
Analysis Batch: 828357

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 828247

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 14:22	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-828247/1-A
Matrix: Water
Analysis Batch: 828357

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 828247

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.50	ng/L		01/20/25 05:26	01/20/25 14:22	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		01/20/25 05:26	01/20/25 14:22	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		01/20/25 05:26	01/20/25 14:22	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		01/20/25 05:26	01/20/25 14:22	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		01/20/25 05:26	01/20/25 14:22	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		01/20/25 05:26	01/20/25 14:22	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		01/20/25 05:26	01/20/25 14:22	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		01/20/25 05:26	01/20/25 14:22	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.58	ng/L		01/20/25 05:26	01/20/25 14:22	1
Perfluorotetradecanoic acid (PFTeDA)	ND		2.0	0.81	ng/L		01/20/25 05:26	01/20/25 14:22	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		01/20/25 05:26	01/20/25 14:22	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		01/20/25 05:26	01/20/25 14:22	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		01/20/25 05:26	01/20/25 14:22	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.50	ng/L		01/20/25 05:26	01/20/25 14:22	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		01/20/25 05:26	01/20/25 14:22	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		01/20/25 05:26	01/20/25 14:22	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		01/20/25 05:26	01/20/25 14:22	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.53	ng/L		01/20/25 05:26	01/20/25 14:22	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 14:22	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 14:22	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 14:22	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		01/20/25 05:26	01/20/25 14:22	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		2.0	0.50	ng/L		01/20/25 05:26	01/20/25 14:22	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		2.0	0.50	ng/L		01/20/25 05:26	01/20/25 14:22	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ng/L		01/20/25 05:26	01/20/25 14:22	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.50	ng/L		01/20/25 05:26	01/20/25 14:22	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		10	2.5	ng/L		01/20/25 05:26	01/20/25 14:22	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		10	2.5	ng/L		01/20/25 05:26	01/20/25 14:22	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.5	0.39	ng/L		01/20/25 05:26	01/20/25 14:22	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.50	ng/L		01/20/25 05:26	01/20/25 14:22	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	0.50	ng/L		01/20/25 05:26	01/20/25 14:22	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	0.50	ng/L		01/20/25 05:26	01/20/25 14:22	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	0.72	ng/L		01/20/25 05:26	01/20/25 14:22	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		2.0	0.58	ng/L		01/20/25 05:26	01/20/25 14:22	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-828247/1-A
Matrix: Water
Analysis Batch: 828357

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 828247

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	0.50	ng/L		01/20/25 05:26	01/20/25 14:22	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	0.50	ng/L		01/20/25 05:26	01/20/25 14:22	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		4.0	1.0	ng/L		01/20/25 05:26	01/20/25 14:22	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		10	2.5	ng/L		01/20/25 05:26	01/20/25 14:22	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		10	2.5	ng/L		01/20/25 05:26	01/20/25 14:22	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*5 - 130*	*01/20/25 05:26*	*01/20/25 14:22*	*1*
13C5 PFPeA	*104*		*40 - 130*	*01/20/25 05:26*	*01/20/25 14:22*	*1*
13C5 PFHxA	*107*		*40 - 130*	*01/20/25 05:26*	*01/20/25 14:22*	*1*
13C4 PFHpA	*108*		*40 - 130*	*01/20/25 05:26*	*01/20/25 14:22*	*1*
13C8 PFOA	*102*		*40 - 130*	*01/20/25 05:26*	*01/20/25 14:22*	*1*
13C9 PFNA	*96.0*		*40 - 130*	*01/20/25 05:26*	*01/20/25 14:22*	*1*
13C6 PFDA	*92.9*		*40 - 130*	*01/20/25 05:26*	*01/20/25 14:22*	*1*
13C7 PFUnA	*90.7*		*30 - 130*	*01/20/25 05:26*	*01/20/25 14:22*	*1*
13C2 PFDoA	*86.0*		*10 - 130*	*01/20/25 05:26*	*01/20/25 14:22*	*1*
13C2 PFTeDA	*67.7*		*10 - 130*	*01/20/25 05:26*	*01/20/25 14:22*	*1*
13C3 PFBS	*93.2*		*40 - 135*	*01/20/25 05:26*	*01/20/25 14:22*	*1*
13C3 PFHxS	*100*		*40 - 130*	*01/20/25 05:26*	*01/20/25 14:22*	*1*
13C8 PFOS	*96.0*		*40 - 130*	*01/20/25 05:26*	*01/20/25 14:22*	*1*
13C8 FOSA	*83.3*		*40 - 130*	*01/20/25 05:26*	*01/20/25 14:22*	*1*
d3-NMeFOSAA	*84.3*		*40 - 170*	*01/20/25 05:26*	*01/20/25 14:22*	*1*
d5-NEtFOSAA	*86.1*		*25 - 135*	*01/20/25 05:26*	*01/20/25 14:22*	*1*
13C2 4:2 FTS	*71.2*		*40 - 200*	*01/20/25 05:26*	*01/20/25 14:22*	*1*
13C2 6:2 FTS	*96.8*		*40 - 200*	*01/20/25 05:26*	*01/20/25 14:22*	*1*
13C2 8:2 FTS	*85.5*		*40 - 300*	*01/20/25 05:26*	*01/20/25 14:22*	*1*
13C3 HFPO-DA	*95.6*		*40 - 130*	*01/20/25 05:26*	*01/20/25 14:22*	*1*
d7-N-MeFOSE-M	*78.7*		*10 - 130*	*01/20/25 05:26*	*01/20/25 14:22*	*1*
d9-N-EtFOSE-M	*85.2*		*10 - 130*	*01/20/25 05:26*	*01/20/25 14:22*	*1*
d5-NEtPFOSA	*70.8*		*10 - 130*	*01/20/25 05:26*	*01/20/25 14:22*	*1*
d3-NMePFOSA	*70.5*		*10 - 130*	*01/20/25 05:26*	*01/20/25 14:22*	*1*

Lab Sample ID: LCS 320-828247/3-A
Matrix: Water
Analysis Batch: 828357

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828247

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	87.2		ng/L		109	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	47.0		ng/L		118	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	44.7		ng/L		112	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	46.6		ng/L		117	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	47.0		ng/L		117	70 - 150
Perfluorononanoic acid (PFNA)	40.0	43.0		ng/L		108	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	40.5		ng/L		101	70 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-828247/3-A
Matrix: Water
Analysis Batch: 828357

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828247

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	40.0	44.7		ng/L		112	70 - 145
Perfluorododecanoic acid (PFDoA)	40.0	43.9		ng/L		110	70 - 140
Perfluorotridecanoic acid (PFTrDA)	40.0	43.6		ng/L		109	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	40.0	44.3		ng/L		111	60 - 140
Perfluorobutanesulfonic acid (PFBS)	35.5	38.7		ng/L		109	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	39.5		ng/L		105	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	37.0		ng/L		101	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	38.8		ng/L		102	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	36.4		ng/L		98	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	41.6		ng/L		108	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	38.2		ng/L		99	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	36.9		ng/L		95	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	92.6		ng/L		123	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	85.8		ng/L		113	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	90.0		ng/L		117	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	42.6		ng/L		106	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	44.9		ng/L		112	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	45.6		ng/L		114	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	49.3		ng/L		123	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	44.7		ng/L		112	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	206		ng/L		103	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	224		ng/L		112	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	31.4		ng/L		105	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	43.3		ng/L		114	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	42.2		ng/L		106	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	48.0		ng/L		120	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	34.1		ng/L		85	50 - 150

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-828247/3-A
Matrix: Water
Analysis Batch: 828357

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828247

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	42.9		ng/L		115	70 - 155		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	36.6		ng/L		97	55 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	38.2		ng/L		107	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	85.7		ng/L		107	65 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	206		ng/L		103	70 - 135		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	209		ng/L		104	50 - 145		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*107*		*5 - 130*
13C5 PFPeA	*105*		*40 - 130*
13C5 PFHxA	*102*		*40 - 130*
13C4 PFHpA	*107*		*40 - 130*
13C8 PFOA	*95.5*		*40 - 130*
13C9 PFNA	*97.1*		*40 - 130*
13C6 PFDA	*96.9*		*40 - 130*
13C7 PFUnA	*96.0*		*30 - 130*
13C2 PFDoA	*88.0*		*10 - 130*
13C2 PFTeDA	*72.7*		*10 - 130*
13C3 PFBS	*96.5*		*40 - 135*
13C3 PFHxS	*102*		*40 - 130*
13C8 PFOS	*99.9*		*40 - 130*
13C8 FOSA	*91.2*		*40 - 130*
d3-NMeFOSAA	*90.0*		*40 - 170*
d5-NEtFOSAA	*83.4*		*25 - 135*
13C2 4:2 FTS	*76.8*		*40 - 200*
13C2 6:2 FTS	*91.4*		*40 - 200*
13C2 8:2 FTS	*91.5*		*40 - 300*
13C3 HFPO-DA	*97.2*		*40 - 130*
d7-N-MeFOSE-M	*92.6*		*10 - 130*
d9-N-EtFOSE-M	*88.1*		*10 - 130*
d5-NEtPFOSA	*76.5*		*10 - 130*
d3-NMePFOSA	*74.7*		*10 - 130*

Lab Sample ID: LCSD 320-828247/4-A
Matrix: Water
Analysis Batch: 828357

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 828247

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			80.0	77.5		ng/L		97	70 - 140	12	30
Perfluoropentanoic acid (PFPeA)			40.0	44.9		ng/L		112	65 - 135	5	30
Perfluorohexanoic acid (PFHxA)			40.0	42.5		ng/L		106	70 - 145	5	30
Perfluoroheptanoic acid (PFHpA)			40.0	45.3		ng/L		113	70 - 150	3	30
Perfluorooctanoic acid (PFOA)			40.0	44.6		ng/L		112	70 - 150	5	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-828247/4-A
Matrix: Water
Analysis Batch: 828357

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 828247

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	40.0	46.5		ng/L		116	70 - 150	8	30
Perfluorodecanoic acid (PFDA)	40.0	43.6		ng/L		109	70 - 140	7	30
Perfluoroundecanoic acid (PFUnA)	40.0	43.1		ng/L		108	70 - 145	4	30
Perfluorododecanoic acid (PFDoA)	40.0	39.8		ng/L		100	70 - 140	10	30
Perfluorotridecanoic acid (PFTrDA)	40.0	42.2		ng/L		105	65 - 140	3	30
Perfluorotetradecanoic acid (PFTeDA)	40.0	43.1		ng/L		108	60 - 140	3	30
Perfluorobutanesulfonic acid (PFBS)	35.5	39.1		ng/L		110	60 - 145	1	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	38.4		ng/L		102	65 - 140	3	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	35.9		ng/L		98	65 - 145	3	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	42.0		ng/L		110	70 - 150	8	30
Perfluorooctanesulfonic acid (PFOS)	37.2	37.4		ng/L		101	55 - 150	3	30
Perfluorononanesulfonic acid (PFNS)	38.5	44.3		ng/L		115	65 - 145	6	30
Perfluorodecanesulfonic acid (PFDS)	38.6	40.7		ng/L		106	60 - 145	6	30
Perfluorododecanesulfonic acid (PFDoS)	38.8	39.0		ng/L		100	50 - 145	6	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	83.3		ng/L		111	70 - 145	11	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	81.7		ng/L		107	65 - 155	5	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	93.6		ng/L		122	60 - 150	4	30
Perfluorooctanesulfonamide (PFOSA)	40.0	40.7		ng/L		102	70 - 145	4	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	42.9		ng/L		107	60 - 150	5	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	44.5		ng/L		111	65 - 145	3	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	47.4		ng/L		119	50 - 140	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	42.9		ng/L		107	70 - 145	4	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	212		ng/L		106	70 - 145	3	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	213		ng/L		106	70 - 135	5	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	30.1		ng/L		100	70 - 140	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	43.8		ng/L		116	65 - 145	1	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	47.5		ng/L		119	55 - 140	12	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	46.1		ng/L		115	60 - 150	4	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-828247/4-A
Matrix: Water
Analysis Batch: 828357

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 828247

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			40.0	45.5		ng/L		114	50 - 150	29	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	40.9		ng/L		109	70 - 155	5	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	38.9		ng/L		103	55 - 160	6	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	40.5		ng/L		114	70 - 140	6	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	89.4		ng/L		112	65 - 130	4	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	228		ng/L		114	70 - 135	10	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	222		ng/L		111	50 - 145	6	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*107*		*5 - 130*
13C5 PFPeA	*102*		*40 - 130*
13C5 PFHxA	*95.2*		*40 - 130*
13C4 PFHpA	*111*		*40 - 130*
13C8 PFOA	*95.1*		*40 - 130*
13C9 PFNA	*91.6*		*40 - 130*
13C6 PFDA	*92.5*		*40 - 130*
13C7 PFUnA	*88.8*		*30 - 130*
13C2 PFDoA	*91.9*		*10 - 130*
13C2 PFTeDA	*71.6*		*10 - 130*
13C3 PFBS	*96.6*		*40 - 135*
13C3 PFHxS	*98.1*		*40 - 130*
13C8 PFOS	*98.2*		*40 - 130*
13C8 FOSA	*102*		*40 - 130*
d3-NMeFOSAA	*96.9*		*40 - 170*
d5-NEtFOSAA	*93.5*		*25 - 135*
13C2 4:2 FTS	*78.9*		*40 - 200*
13C2 6:2 FTS	*95.6*		*40 - 200*
13C2 8:2 FTS	*82.1*		*40 - 300*
13C3 HFPO-DA	*106*		*40 - 130*
d7-N-MeFOSE-M	*94.0*		*10 - 130*
d9-N-EtFOSE-M	*99.9*		*10 - 130*
d5-NEtPFOSA	*86.8*		*10 - 130*
d3-NMePFOSA	*86.1*		*10 - 130*

Lab Sample ID: LLCS 320-828247/2-A
Matrix: Water
Analysis Batch: 828357

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828247

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			8.00	8.05		ng/L		101	70 - 140
Perfluoropentanoic acid (PFPeA)			4.00	4.51		ng/L		113	65 - 135
Perfluorohexanoic acid (PFHxA)			4.00	4.07		ng/L		102	70 - 145

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-828247/2-A
Matrix: Water
Analysis Batch: 828357

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828247

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	4.00	4.76		ng/L		119	70 - 150
Perfluorooctanoic acid (PFOA)	4.00	4.65		ng/L		116	70 - 150
Perfluorononanoic acid (PFNA)	4.00	4.41		ng/L		110	70 - 150
Perfluorodecanoic acid (PFDA)	4.00	4.58		ng/L		115	70 - 140
Perfluoroundecanoic acid (PFUnA)	4.00	4.40		ng/L		110	70 - 145
Perfluorododecanoic acid (PFDoA)	4.00	4.14		ng/L		103	70 - 140
Perfluorotridecanoic acid (PFTrDA)	4.00	4.62		ng/L		115	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	4.00	4.48		ng/L		112	60 - 140
Perfluorobutanesulfonic acid (PFBS)	3.55	4.07		ng/L		114	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.76	3.70		ng/L		98	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	3.65	3.87		ng/L		106	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.82	3.69		ng/L		97	70 - 150
Perfluorooctanesulfonic acid (PFOS)	3.72	3.98		ng/L		107	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.85	4.15		ng/L		108	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.86	3.94		ng/L		102	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.88	3.75		ng/L		97	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	7.50	8.68		ng/L		116	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.62	8.31		ng/L		109	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.68	9.41		ng/L		123	60 - 150
Perfluorooctanesulfonamide (PFOSA)	4.00	4.01		ng/L		100	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	4.00	4.02		ng/L		100	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	4.00	4.30		ng/L		108	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.00	4.88		ng/L		122	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.00	4.27		ng/L		107	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	20.0	20.3		ng/L		101	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	20.0	21.2		ng/L		106	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.00	3.12		ng/L		104	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	4.33		ng/L		114	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.00	4.77		ng/L		119	55 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-828247/2-A
Matrix: Water
Analysis Batch: 828357

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 828247

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			4.00	4.76		ng/L		119	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			4.00	3.38		ng/L		84	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			3.74	4.06		ng/L		109	70 - 155		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			3.78	3.93		ng/L		104	55 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			3.57	3.44		ng/L		96	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			8.00	8.74		ng/L		109	65 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			20.0	19.9		ng/L		100	70 - 135		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			20.0	16.6		ng/L		83	50 - 145		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*106*		*5 - 130*
13C5 PFPeA	*106*		*40 - 130*
13C5 PFHxA	*120*		*40 - 130*
13C4 PFHpA	*111*		*40 - 130*
13C8 PFOA	*102*		*40 - 130*
13C9 PFNA	*95.3*		*40 - 130*
13C6 PFDA	*95.2*		*40 - 130*
13C7 PFUnA	*93.0*		*30 - 130*
13C2 PFDoA	*92.7*		*10 - 130*
13C2 PFTeDA	*76.7*		*10 - 130*
13C3 PFBS	*91.1*		*40 - 135*
13C3 PFHxS	*102*		*40 - 130*
13C8 PFOS	*96.8*		*40 - 130*
13C8 FOSA	*93.2*		*40 - 130*
d3-NMeFOSAA	*91.0*		*40 - 170*
d5-NEtFOSAA	*84.9*		*25 - 135*
13C2 4:2 FTS	*76.1*		*40 - 200*
13C2 6:2 FTS	*101*		*40 - 200*
13C2 8:2 FTS	*88.6*		*40 - 300*
13C3 HFPO-DA	*107*		*40 - 130*
d7-N-MeFOSE-M	*91.5*		*10 - 130*
d9-N-EtFOSE-M	*91.5*		*10 - 130*
d5-NEtPFOSA	*78.7*		*10 - 130*
d3-NMePFOSA	*80.8*		*10 - 130*

LCMS

Prep Batch: 827979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118256-1	SWN-MW-7-N-01092025	Total/NA	Water	1633	
320-118256-2	SWN-MW-7-FD-01092025	Total/NA	Water	1633	
320-118256-5	SWN-MW-14-N-01092025	Total/NA	Water	1633	
320-118256-6	SWN-MW-13-N-01092025	Total/NA	Water	1633	
320-118256-7	FGF-MW-18-N-01092025	Total/NA	Water	1633	
320-118256-8	EB-1-01092025	Total/NA	Water	1633	
320-118256-9	SWN-MW-A-N-01092025	Total/NA	Water	1633	
320-118256-9 - RA	SWN-MW-A-N-01092025	Total/NA	Water	1633	
320-118256-11	SWN-MW-1-N-01092025	Total/NA	Water	1633	
320-118256-11 - RA	SWN-MW-1-N-01092025	Total/NA	Water	1633	
320-118256-12	SWN-MW-2-N-01092025	Total/NA	Water	1633	
320-118256-12 - RA	SWN-MW-2-N-01092025	Total/NA	Water	1633	
320-118256-13	EB-2-01092025	Total/NA	Water	1633	
320-118256-13 - RA	EB-2-01092025	Total/NA	Water	1633	
320-118256-14	FB-01092025	Total/NA	Water	1633	
320-118256-14 - RA	FB-01092025	Total/NA	Water	1633	
320-118256-15	SWN-MW-5-N-01102025	Total/NA	Water	1633	
320-118256-15 - RA	SWN-MW-5-N-01102025	Total/NA	Water	1633	
320-118256-16	PD-MW-1A-N-01102025	Total/NA	Water	1633	
320-118256-16 - RA	PD-MW-1A-N-01102025	Total/NA	Water	1633	
320-118256-17	GDF-GR-8-N-01102025	Total/NA	Water	1633	
320-118256-17 - RA	GDF-GR-8-N-01102025	Total/NA	Water	1633	
320-118256-18	GDF-GR-7D-N-01102025	Total/NA	Water	1633	
320-118256-18 - RA	GDF-GR-7D-N-01102025	Total/NA	Water	1633	
320-118256-19	GDF-GR-7S-N-01102025	Total/NA	Water	1633	
320-118256-19 - RA	GDF-GR-7S-N-01102025	Total/NA	Water	1633	
320-118256-20	EB-1-01102025	Total/NA	Water	1633	
320-118256-20 - RA	EB-1-01102025	Total/NA	Water	1633	
320-118256-21	EB-2-01102025	Total/NA	Water	1633	
320-118256-21 - RA	EB-2-01102025	Total/NA	Water	1633	
320-118256-22	FB-01102025	Total/NA	Water	1633	
320-118256-22 - RA	FB-01102025	Total/NA	Water	1633	
320-118256-23	SWN-MW-5-FD-01102025	Total/NA	Water	1633	
320-118256-23 - RA	SWN-MW-5-FD-01102025	Total/NA	Water	1633	
MB 320-827979/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-827979/3-A	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-827979/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-827979/2-A	Lab Control Sample	Total/NA	Water	1633	

Analysis Batch: 828192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118256-1	SWN-MW-7-N-01092025	Total/NA	Water	1633	827979
320-118256-2	SWN-MW-7-FD-01092025	Total/NA	Water	1633	827979
320-118256-5	SWN-MW-14-N-01092025	Total/NA	Water	1633	827979
320-118256-6	SWN-MW-13-N-01092025	Total/NA	Water	1633	827979
320-118256-7	FGF-MW-18-N-01092025	Total/NA	Water	1633	827979
320-118256-8	EB-1-01092025	Total/NA	Water	1633	827979
320-118256-9	SWN-MW-A-N-01092025	Total/NA	Water	1633	827979
320-118256-11	SWN-MW-1-N-01092025	Total/NA	Water	1633	827979
320-118256-12	SWN-MW-2-N-01092025	Total/NA	Water	1633	827979
320-118256-13	EB-2-01092025	Total/NA	Water	1633	827979

LCMS (Continued)

Analysis Batch: 828192 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118256-14	FB-01092025	Total/NA	Water	1633	827979
320-118256-15	SWN-MW-5-N-01102025	Total/NA	Water	1633	827979
320-118256-16	PD-MW-1A-N-01102025	Total/NA	Water	1633	827979
320-118256-17	GDF-GR-8-N-01102025	Total/NA	Water	1633	827979
320-118256-18	GDF-GR-7D-N-01102025	Total/NA	Water	1633	827979
320-118256-19	GDF-GR-7S-N-01102025	Total/NA	Water	1633	827979
320-118256-20	EB-1-01102025	Total/NA	Water	1633	827979
320-118256-21	EB-2-01102025	Total/NA	Water	1633	827979
320-118256-22	FB-01102025	Total/NA	Water	1633	827979
320-118256-23	SWN-MW-5-FD-01102025	Total/NA	Water	1633	827979
MB 320-827979/1-A	Method Blank	Total/NA	Water	1633	827979
LCS 320-827979/3-A	Lab Control Sample	Total/NA	Water	1633	827979
LCSD 320-827979/4-A	Lab Control Sample Dup	Total/NA	Water	1633	827979
LLCS 320-827979/2-A	Lab Control Sample	Total/NA	Water	1633	827979

Prep Batch: 828247

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118256-3	SWN-MW-4-N-01092025	Total/NA	Water	1633	
320-118256-4	SWN-MW-6-N-01092025	Total/NA	Water	1633	
320-118256-10	SWN-MW-3-N-01092025	Total/NA	Water	1633	
MB 320-828247/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-828247/3-A	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-828247/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-828247/2-A	Lab Control Sample	Total/NA	Water	1633	

Analysis Batch: 828266

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118256-9 - RA	SWN-MW-A-N-01092025	Total/NA	Water	1633	827979
320-118256-11 - RA	SWN-MW-1-N-01092025	Total/NA	Water	1633	827979
320-118256-12 - RA	SWN-MW-2-N-01092025	Total/NA	Water	1633	827979
320-118256-13 - RA	EB-2-01092025	Total/NA	Water	1633	827979
320-118256-14 - RA	FB-01092025	Total/NA	Water	1633	827979
320-118256-15 - RA	SWN-MW-5-N-01102025	Total/NA	Water	1633	827979
320-118256-16 - RA	PD-MW-1A-N-01102025	Total/NA	Water	1633	827979
320-118256-17 - RA	GDF-GR-8-N-01102025	Total/NA	Water	1633	827979
320-118256-18 - RA	GDF-GR-7D-N-01102025	Total/NA	Water	1633	827979
320-118256-19 - RA	GDF-GR-7S-N-01102025	Total/NA	Water	1633	827979
320-118256-20 - RA	EB-1-01102025	Total/NA	Water	1633	827979
320-118256-21 - RA	EB-2-01102025	Total/NA	Water	1633	827979
320-118256-22 - RA	FB-01102025	Total/NA	Water	1633	827979
320-118256-23 - RA	SWN-MW-5-FD-01102025	Total/NA	Water	1633	827979

Analysis Batch: 828357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118256-3	SWN-MW-4-N-01092025	Total/NA	Water	1633	828247
320-118256-4	SWN-MW-6-N-01092025	Total/NA	Water	1633	828247
320-118256-10	SWN-MW-3-N-01092025	Total/NA	Water	1633	828247
MB 320-828247/1-A	Method Blank	Total/NA	Water	1633	828247
LCS 320-828247/3-A	Lab Control Sample	Total/NA	Water	1633	828247
LCSD 320-828247/4-A	Lab Control Sample Dup	Total/NA	Water	1633	828247
LLCS 320-828247/2-A	Lab Control Sample	Total/NA	Water	1633	828247

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118256-1
Project/Site: Spokane International Airport

Client Sample ID: SWN-MW-7-N-01092025
Lab Sample ID: 320-118256-1
Date Collected: 01/09/25 09:45
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			145.4 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633		1			828192	01/18/25 04:26	K1S	EET SAC

Client Sample ID: SWN-MW-7-FD-01092025
Lab Sample ID: 320-118256-2
Date Collected: 01/09/25 10:15
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			140.8 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633		1			828192	01/18/25 04:42	K1S	EET SAC

Client Sample ID: SWN-MW-4-N-01092025
Lab Sample ID: 320-118256-3
Date Collected: 01/09/25 11:15
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			62.5 mL	5.0 mL	828247	01/20/25 05:26	GAT	EET SAC
Total/NA	Analysis	1633		1			828357	01/20/25 18:45	S1M	EET SAC

Client Sample ID: SWN-MW-6-N-01092025
Lab Sample ID: 320-118256-4
Date Collected: 01/09/25 12:15
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			147.7 mL	5.0 mL	828247	01/20/25 05:26	GAT	EET SAC
Total/NA	Analysis	1633		1			828357	01/20/25 19:02	S1M	EET SAC

Client Sample ID: SWN-MW-14-N-01092025
Lab Sample ID: 320-118256-5
Date Collected: 01/09/25 13:10
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			140.9 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633		1			828192	01/18/25 04:59	K1S	EET SAC

Client Sample ID: SWN-MW-13-N-01092025
Lab Sample ID: 320-118256-6
Date Collected: 01/09/25 14:10
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			145.3 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633		1			828192	01/18/25 05:16	K1S	EET SAC

Client Sample ID: FGF-MW-18-N-01092025
Lab Sample ID: 320-118256-7
Date Collected: 01/09/25 15:30
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			143.7 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633		1			828192	01/18/25 05:32	K1S	EET SAC

Client Sample ID: EB-1-01092025
Lab Sample ID: 320-118256-8
Date Collected: 01/09/25 15:45
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			148.7 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633		1			828192	01/18/25 05:49	K1S	EET SAC

Client Sample ID: SWN-MW-A-N-01092025
Lab Sample ID: 320-118256-9
Date Collected: 01/09/25 10:20
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			143.8 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633		1			828192	01/18/25 06:39	K1S	EET SAC
Total/NA	Prep	1633	RA		143.8 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633	RA	1			828266	01/20/25 12:51	N1K	EET SAC

Client Sample ID: SWN-MW-3-N-01092025
Lab Sample ID: 320-118256-10
Date Collected: 01/09/25 12:25
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			62.5 mL	5.0 mL	828247	01/20/25 05:26	GAT	EET SAC
Total/NA	Analysis	1633		1			828357	01/20/25 19:18	S1M	EET SAC

Client Sample ID: SWN-MW-1-N-01092025
Lab Sample ID: 320-118256-11
Date Collected: 01/09/25 14:30
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			139.9 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633		1			828192	01/18/25 06:56	K1S	EET SAC
Total/NA	Prep	1633	RA		139.9 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633	RA	1			828266	01/20/25 13:07	N1K	EET SAC

Client Sample ID: SWN-MW-2-N-01092025
Lab Sample ID: 320-118256-12
Date Collected: 01/09/25 15:40
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			134.1 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633		1			828192	01/18/25 07:12	K1S	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118256-1

Client Sample ID: SWN-MW-2-N-01092025
Lab Sample ID: 320-118256-12
Date Collected: 01/09/25 15:40
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633	RA		134.1 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633	RA	1			828266	01/20/25 13:24	N1K	EET SAC

Client Sample ID: EB-2-01092025
Lab Sample ID: 320-118256-13
Date Collected: 01/09/25 16:05
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			138.8 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633		1			828192	01/18/25 07:29	K1S	EET SAC
Total/NA	Prep	1633	RA		138.8 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633	RA	1			828266	01/20/25 13:40	N1K	EET SAC

Client Sample ID: FB-01092025
Lab Sample ID: 320-118256-14
Date Collected: 01/09/25 00:00
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			155.8 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633		1			828192	01/18/25 07:45	K1S	EET SAC
Total/NA	Prep	1633	RA		155.8 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633	RA	1			828266	01/20/25 13:57	N1K	EET SAC

Client Sample ID: SWN-MW-5-N-01102025
Lab Sample ID: 320-118256-15
Date Collected: 01/10/25 07:35
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			142.6 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633		1			828192	01/18/25 08:02	K1S	EET SAC
Total/NA	Prep	1633	RA		142.6 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633	RA	1			828266	01/20/25 14:13	N1K	EET SAC

Client Sample ID: PD-MW-1A-N-01102025
Lab Sample ID: 320-118256-16
Date Collected: 01/10/25 08:20
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			136.3 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633		1			828192	01/18/25 08:19	K1S	EET SAC
Total/NA	Prep	1633	RA		136.3 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633	RA	1			828266	01/20/25 14:30	N1K	EET SAC

Client Sample ID: GDF-GR-8-N-01102025

Lab Sample ID: 320-118256-17

Date Collected: 01/10/25 10:15

Matrix: Water

Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			124.4 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633		1			828192	01/18/25 08:35	K1S	EET SAC
Total/NA	Prep	1633	RA		124.4 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633	RA	1			828266	01/20/25 15:19	N1K	EET SAC

Client Sample ID: GDF-GR-7D-N-01102025

Lab Sample ID: 320-118256-18

Date Collected: 01/10/25 11:05

Matrix: Water

Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			149.3 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633		1			828192	01/18/25 08:52	K1S	EET SAC
Total/NA	Prep	1633	RA		149.3 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633	RA	1			828266	01/20/25 15:35	N1K	EET SAC

Client Sample ID: GDF-GR-7S-N-01102025

Lab Sample ID: 320-118256-19

Date Collected: 01/10/25 10:05

Matrix: Water

Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			139.9 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633		1			828192	01/18/25 09:09	K1S	EET SAC
Total/NA	Prep	1633	RA		139.9 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633	RA	1			828266	01/20/25 15:52	N1K	EET SAC

Client Sample ID: EB-1-01102025

Lab Sample ID: 320-118256-20

Date Collected: 01/10/25 11:15

Matrix: Water

Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			152.7 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633		1			828192	01/18/25 09:58	K1S	EET SAC
Total/NA	Prep	1633	RA		152.7 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633	RA	1			828266	01/20/25 16:08	N1K	EET SAC

Client Sample ID: EB-2-01102025

Lab Sample ID: 320-118256-21

Date Collected: 01/10/25 10:40

Matrix: Water

Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			167.3 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633		1			828192	01/18/25 10:15	K1S	EET SAC
Total/NA	Prep	1633	RA		167.3 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633	RA	1			828266	01/20/25 16:24	N1K	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118256-1
Project/Site: Spokane International Airport

Client Sample ID: FB-01102025
Lab Sample ID: 320-118256-22
Date Collected: 01/10/25 00:00
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			165.5 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633		1			828192	01/18/25 10:32	K1S	EET SAC
Total/NA	Prep	1633	RA		165.5 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633	RA	1			828266	01/20/25 16:41	N1K	EET SAC

Client Sample ID: SWN-MW-5-FD-01102025
Lab Sample ID: 320-118256-23
Date Collected: 01/10/25 08:05
Matrix: Water
Date Received: 01/15/25 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			139.4 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633		1			828192	01/18/25 10:48	K1S	EET SAC
Total/NA	Prep	1633	RA		139.4 mL	5.0 mL	827979	01/17/25 07:36	NMF	EET SAC
Total/NA	Analysis	1633	RA	1			828266	01/20/25 16:57	N1K	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118256-1
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118256-1

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Solid-Phase Extraction (SPE)	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118256-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118256-1	SWN-MW-7-N-01092025	Water	01/09/25 09:45	01/15/25 09:45
320-118256-2	SWN-MW-7-FD-01092025	Water	01/09/25 10:15	01/15/25 09:45
320-118256-3	SWN-MW-4-N-01092025	Water	01/09/25 11:15	01/15/25 09:45
320-118256-4	SWN-MW-6-N-01092025	Water	01/09/25 12:15	01/15/25 09:45
320-118256-5	SWN-MW-14-N-01092025	Water	01/09/25 13:10	01/15/25 09:45
320-118256-6	SWN-MW-13-N-01092025	Water	01/09/25 14:10	01/15/25 09:45
320-118256-7	FGF-MW-18-N-01092025	Water	01/09/25 15:30	01/15/25 09:45
320-118256-8	EB-1-01092025	Water	01/09/25 15:45	01/15/25 09:45
320-118256-9	SWN-MW-A-N-01092025	Water	01/09/25 10:20	01/15/25 09:45
320-118256-10	SWN-MW-3-N-01092025	Water	01/09/25 12:25	01/15/25 09:45
320-118256-11	SWN-MW-1-N-01092025	Water	01/09/25 14:30	01/15/25 09:45
320-118256-12	SWN-MW-2-N-01092025	Water	01/09/25 15:40	01/15/25 09:45
320-118256-13	EB-2-01092025	Water	01/09/25 16:05	01/15/25 09:45
320-118256-14	FB-01092025	Water	01/09/25 00:00	01/15/25 09:45
320-118256-15	SWN-MW-5-N-01102025	Water	01/10/25 07:35	01/15/25 09:45
320-118256-16	PD-MW-1A-N-01102025	Water	01/10/25 08:20	01/15/25 09:45
320-118256-17	GDF-GR-8-N-01102025	Water	01/10/25 10:15	01/15/25 09:45
320-118256-18	GDF-GR-7D-N-01102025	Water	01/10/25 11:05	01/15/25 09:45
320-118256-19	GDF-GR-7S-N-01102025	Water	01/10/25 10:05	01/15/25 09:45
320-118256-20	EB-1-01102025	Water	01/10/25 11:15	01/15/25 09:45
320-118256-21	EB-2-01102025	Water	01/10/25 10:40	01/15/25 09:45
320-118256-22	FB-01102025	Water	01/10/25 00:00	01/15/25 09:45
320-118256-23	SWN-MW-5-FD-01102025	Water	01/10/25 08:05	01/15/25 09:45

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE	1/10/25		
TURNAROUND TIME	Standard		
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	PFAS EPA 1633	Cations EPA 200.7	Anions EPA 300.0	Bromide EPA 300.0	Alkalinity SM 2320 B	Number of Containers
SWN-MW-7-N-01092025	1/9/25	9:45	H_2O	X					3
SWN-MW-7-FD-01092025	1/9/25	10:15	H_2O	X					3
SWN-MW-4-N-01092025	1/9/25	11:15	H_2O	X					3
SWN-MW-6-N-01092025	1/9/25	12:15	H_2O	X					3
SWN-MW-14-N-01092025	1/9/25	13:10	H_2O	X					3
SWN-MW-13-N-01092025	1/9/25	14:10	H_2O	X					3
FGF-MW-18-N-01092025	1/9/25	15:30	H_2O	X					3
EB-1-01092025	1/9/25	15:45	H_2O	X					3

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– Cations to be analyzed: Ca, Mg, K, Na
– Anions to be analyzed: Cl, NO_3^-, SO_4^{2-}
– Alkilinity to be mesaured by titration

2.3, 2.7 com 1R006

Sampled and Relinquished by	Received by
Sign	Sign
Print Luke Peby	Print Macky Moras
Firm Haley & Aldrich	Firm EETSPO
Date 1/10/25 Time 12:5	Date 1/10/25 1214
Relinquished by	**Received by**
Sign	Sign
Print	Print FLOR SOTO-H
Firm	Firm EETSAC
Date Time	Date 1/15/25 945
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

320-118256 Chain of Custody

Evidence samples were tampered with? YES NO

If YES, please explain in section below

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections·

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Form 3003

0.3°C

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

 LWP

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave. Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE	1/10/25		
TURNAROUND TIME	Standard		
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	PFAS EPA 1633	Cations EPA 200.7	Anions EPA 300.0	Bromide EPA 300.0	Alkalinity SM 2320 B	Number of Containers
SWN-MW-A N-[illegible]	1/9/25	0:20	H_2O	X					3
SWN-MW-3 N-[illegible]	1/9/25	2:25		X					
SWN MW-1-N-[illegible]	1/9/25	14:37		X					
SWN MW-2 N-[illegible]	1/9/25	15:40		X					
EB-2-0 [illegible]	1/9/25	0:05		X					
FB-0 [illegible]	1/9/25	—		X					1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– Cations to be analyzed: Ca, Mg, K, Na
– Anions to be analyzed: Cl^-, NO_3^-, SO_4^{2-}
– Alkilinity to be mesaured by titration

2.4, 2.8 con 1R0016

Sampled and Relinquished by	Received by
Sign	Sign
Print Luke Pilon	Print Macky Manis
Firm H&A	Firm EETSPO
Date 1/10/25 Time 12:15	Date 1/10/25 1214
Relinquished by	**Received by**
Sign	Sign
Print	Print Ricky Sloto-H
Firm	Firm EETSAC
Date Time	Date 1/15/25 945
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK Haley & Aldrich Laboratory

November 2024

Form 3003

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1/22/2025

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

Page 13 of 13 LWP

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington

DELIVERY DATE 1/10/25
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	Cations EPA 200.7	Anions EPA 300.0	Bromide EPA 300.0	Alkalinity SM 2320 B	Number of Containers
SWN-MW-5 N-20110225	1/10/25	7:35	H_2O	X					3
PD-MW-1A-N-20110225	1/10/25	8:20	H_2O	X					
GDF-GR-8-N-20110225	1/10/25	10:15	H_2O	X					
GDF-GR-7C-N-20110225	1/10/25	11:05	H_2O	X					
GDF-GR-7S-N-20110225	1/10/25	10:05	H_2O	X					
EB-1-20110225	1/10/25	11:15	H_2O	X					
EB-2-20110225	1/10/25	10:40	H_2O	X					
FB-20110225	1/10/25	—	H_2O	X					
SWN-MW-5-FD-20110225	1/10/25	8:05		X					

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– Cations to be analyzed: Ca, Mg, K, Na
– Anions to be analyzed: Cl, NO_3^-, SO_4^{2-}
– Alkilinity to be mesaured by titration

1,1,1,5 con IR006

Sampled and Relinquished by	Received by
Sign	Sign
Print Luke Peda	Print Macky Morris
Firm H&A	Firm ELT SPO
Date 1/10/25 Time 12:15	Date 1/10/25 1214
Relinquished by	**Received by**
Sign	Sign
Print	Print Fisher Scientific-H
Firm	Firm EETJHC
Date Time	Date 1/15/25 945
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.
_____
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Form 3003

0.3 °C

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118256

Tracking # 421250490 9040

Job. _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID L-09 Corr Factor (+ / -) _____ °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal 2287482

Cooler ID _____

Temp Observed 03 °C Corrected 03 °C

From Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials FAT Date 1/15/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials DM Date 01/15/25

Notes: _____

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials DM Date 01/15/25

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 1/22/2025 10:39:42 AM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118205-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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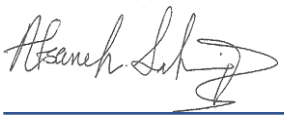
Authorization



Generated
1/22/2025 10:39:42 AM

Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118205-1
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
*3	ISTD response or retention time outside acceptable limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118205-1 — Eurofins Sacramento

Job Narrative
320-118205-1

Receipt
The samples were received on 1/13/2025 11:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.0º C.

LCMS

Method 1633: The low level continuing calibration verification (CCVL) associated with batch 320-828092 recovered above the upper control limit for Perfluorododecanesulfonic acid (PFDoS) and Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA). The samples associated with this CCVL were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: FB-01082025 (320-118205-1), EA-MW-8A-N-01082025 (320-118205-3), EB-1-01082025 (320-118205-5), EA-MW-5A-N-01082025 (320-118205-6), EA-MW-5A-FD-01082025 (320-118205-7) and EB-2-01082025 (320-118205-8).

Method 1633: The continuing calibration verification (CCV) associated with batch 320-828092 recovered above the upper control limit for Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA). The samples associated with this CCV were non-detect for the affected analyte; therefore, the data have been reported. The associated samples are impacted: FB-01082025 (320-118205-1), EA-MW-8A-N-01082025 (320-118205-3), EB-1-01082025 (320-118205-5) and (CCV 320-828092/6).

Method 1633: Results for samples EA-MW-13B-N-01082025 (320-118205-2) and SWN-MW-321-N-01082025 (320-118205-4) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 1633: Due to screen results, the following sample EA-MW-13B-N-01082025 (320-118205-2) in preparation batch 320-827655 deviated from the standard procedure. A 10x dilution was made on the sample, then fortified with Isotope Dilution Analyte (IDA) and extracted. The reporting limits (RLs) have been adjusted proportionately.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118205-1

Client Sample ID: FB-01082025 — Lab Sample ID: 320-118205-1

No Detections.

Client Sample ID: EA-MW-13B-N-01082025 — Lab Sample ID: 320-118205-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	200		40	10	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	440		20	5.0	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	1100		20	5.0	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	230		20	5.0	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	710		20	5.0	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	960		20	5.0	ng/L	1		1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	290		20	5.0	ng/L	1		1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	6.6	J	20	5.0	ng/L	1		1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	22	J	40	10	ng/L	1		1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	36		20	5.0	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	12000		200	50	ng/L	10		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	7200		200	50	ng/L	10		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS) - RA	720		20	5.0	ng/L	1		1633	Total/NA

Client Sample ID: EA-MW-8A-N-01082025 — Lab Sample ID: 320-118205-3

No Detections.

Client Sample ID: SWN-MW-321-N-01082025 — Lab Sample ID: 320-118205-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	17		3.4	0.85	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	32		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	140		1.7	0.42	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	13		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	62		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	3.5		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorodecanoic acid (PFDA)	1.8		1.7	0.42	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	17		1.7	0.42	ng/L	1		1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	4.7		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	86		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	3.7		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	1100		17	4.2	ng/L	10		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS) - RA	22		1.7	0.42	ng/L	1		1633	Total/NA

Client Sample ID: EB-1-01082025 — Lab Sample ID: 320-118205-5

No Detections.

Client Sample ID: EA-MW-5A-N-01082025 — Lab Sample ID: 320-118205-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.46	J	1.7	0.42	ng/L	1		1633	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118205-1

Client Sample ID: EA-MW-5A-FD-01082025 — Lab Sample ID: 320-118205-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.44	J	1.7	0.42	ng/L	1		1633	Total/NA

Client Sample ID: EB-2-01082025 — Lab Sample ID: 320-118205-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.6	J	8.1	2.0	ng/L	1		1633	Total/NA
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.7	J	8.1	2.0	ng/L	1		1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118205-1

Client Sample ID: FB-01082025
Date Collected: 01/08/25 00:00
Date Received: 01/13/25 11:30

Lab Sample ID: 320-118205-1
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		2.9	0.72	ng/L		01/15/25 12:50	01/17/25 12:49	1
Perfluoropentanoic acid (PFPeA)	ND		1.4	0.36	ng/L		01/15/25 12:50	01/17/25 12:49	1
Perfluorohexanoic acid (PFHxA)	ND		1.4	0.36	ng/L		01/15/25 12:50	01/17/25 12:49	1
Perfluoroheptanoic acid (PFHpA)	ND		1.4	0.36	ng/L		01/15/25 12:50	01/17/25 12:49	1
Perfluorooctanoic acid (PFOA)	ND		1.4	0.36	ng/L		01/15/25 12:50	01/17/25 12:49	1
Perfluorononanoic acid (PFNA)	ND		1.4	0.36	ng/L		01/15/25 12:50	01/17/25 12:49	1
Perfluorodecanoic acid (PFDA)	ND		1.4	0.36	ng/L		01/15/25 12:50	01/17/25 12:49	1
Perfluoroundecanoic acid (PFUnA)	ND		1.4	0.36	ng/L		01/15/25 12:50	01/17/25 12:49	1
Perfluorododecanoic acid (PFDoA)	ND		1.4	0.39	ng/L		01/15/25 12:50	01/17/25 12:49	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.4	0.42	ng/L		01/15/25 12:50	01/17/25 12:49	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.4	0.58	ng/L		01/15/25 12:50	01/17/25 12:49	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.4	0.36	ng/L		01/15/25 12:50	01/17/25 12:49	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.4	0.36	ng/L		01/15/25 12:50	01/17/25 12:49	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.4	0.36	ng/L		01/15/25 12:50	01/17/25 12:49	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.4	0.36	ng/L		01/15/25 12:50	01/17/25 12:49	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.4	0.36	ng/L		01/15/25 12:50	01/17/25 12:49	1
Perfluorononanesulfonic acid (PFNS)	ND		1.4	0.36	ng/L		01/15/25 12:50	01/17/25 12:49	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.4	0.36	ng/L		01/15/25 12:50	01/17/25 12:49	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.4	0.38	ng/L		01/15/25 12:50	01/17/25 12:49	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.9	0.72	ng/L		01/15/25 12:50	01/17/25 12:49	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.9	0.72	ng/L		01/15/25 12:50	01/17/25 12:49	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.9	0.72	ng/L		01/15/25 12:50	01/17/25 12:49	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.4	0.36	ng/L		01/15/25 12:50	01/17/25 12:49	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.4	0.36	ng/L		01/15/25 12:50	01/17/25 12:49	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.4	0.36	ng/L		01/15/25 12:50	01/17/25 12:49	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.4	0.36	ng/L		01/15/25 12:50	01/17/25 12:49	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.4	0.36	ng/L		01/15/25 12:50	01/17/25 12:49	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		7.2	1.8	ng/L		01/15/25 12:50	01/17/25 12:49	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		7.2	1.8	ng/L		01/15/25 12:50	01/17/25 12:49	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.1	0.28	ng/L		01/15/25 12:50	01/17/25 12:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.4	0.36	ng/L		01/15/25 12:50	01/17/25 12:49	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.4	0.36	ng/L		01/15/25 12:50	01/17/25 12:49	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.4	0.36	ng/L		01/15/25 12:50	01/17/25 12:49	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.4	0.52	ng/L		01/15/25 12:50	01/17/25 12:49	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.4	0.42	ng/L		01/15/25 12:50	01/17/25 12:49	1

Client Sample ID: FB-01082025

Lab Sample ID: 320-118205-1

Date Collected: 01/08/25 00:00
Matrix: Water
Date Received: 01/13/25 11:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.4	0.36	ng/L		01/15/25 12:50	01/17/25 12:49	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.4	0.36	ng/L		01/15/25 12:50	01/17/25 12:49	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		2.9	0.72	ng/L		01/15/25 12:50	01/17/25 12:49	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		7.2	1.8	ng/L		01/15/25 12:50	01/17/25 12:49	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		7.2	1.8	ng/L		01/15/25 12:50	01/17/25 12:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*114*		*5 - 130*	*01/15/25 12:50*	*01/17/25 12:49*	*1*
13C5 PFPeA	*105*		*40 - 130*	*01/15/25 12:50*	*01/17/25 12:49*	*1*
13C5 PFHxA	*110*		*40 - 130*	*01/15/25 12:50*	*01/17/25 12:49*	*1*
13C4 PFHpA	*117*		*40 - 130*	*01/15/25 12:50*	*01/17/25 12:49*	*1*
13C8 PFOA	*100*		*40 - 130*	*01/15/25 12:50*	*01/17/25 12:49*	*1*
13C9 PFNA	*88.9*		*40 - 130*	*01/15/25 12:50*	*01/17/25 12:49*	*1*
13C6 PFDA	*88.7*		*40 - 130*	*01/15/25 12:50*	*01/17/25 12:49*	*1*
13C7 PFUnA	*97.0*		*30 - 130*	*01/15/25 12:50*	*01/17/25 12:49*	*1*
13C2 PFDoA	*101*		*10 - 130*	*01/15/25 12:50*	*01/17/25 12:49*	*1*
13C2 PFTeDA	*89.1*		*10 - 130*	*01/15/25 12:50*	*01/17/25 12:49*	*1*
13C3 PFBS	*95.2*		*40 - 135*	*01/15/25 12:50*	*01/17/25 12:49*	*1*
13C3 PFHxS	*94.0*		*40 - 130*	*01/15/25 12:50*	*01/17/25 12:49*	*1*
13C8 PFOS	*93.3*		*40 - 130*	*01/15/25 12:50*	*01/17/25 12:49*	*1*
13C8 FOSA	*77.8*		*40 - 130*	*01/15/25 12:50*	*01/17/25 12:49*	*1*
d3-NMeFOSAA	*85.0*		*40 - 170*	*01/15/25 12:50*	*01/17/25 12:49*	*1*
d5-NEtFOSAA	*91.7*		*25 - 135*	*01/15/25 12:50*	*01/17/25 12:49*	*1*
13C2 4:2 FTS	*111*		*40 - 200*	*01/15/25 12:50*	*01/17/25 12:49*	*1*
13C2 6:2 FTS	*102*		*40 - 200*	*01/15/25 12:50*	*01/17/25 12:49*	*1*
13C2 8:2 FTS	*110*		*40 - 300*	*01/15/25 12:50*	*01/17/25 12:49*	*1*
13C3 HFPO-DA	*99.9*		*40 - 130*	*01/15/25 12:50*	*01/17/25 12:49*	*1*
d7-N-MeFOSE-M	*93.7*		*10 - 130*	*01/15/25 12:50*	*01/17/25 12:49*	*1*
d9-N-EtFOSE-M	*95.8*		*10 - 130*	*01/15/25 12:50*	*01/17/25 12:49*	*1*
d5-NEtPFOSA	*86.8*		*10 - 130*	*01/15/25 12:50*	*01/17/25 12:49*	*1*
d3-NMePFOSA	*85.9*		*10 - 130*	*01/15/25 12:50*	*01/17/25 12:49*	*1*

Client Sample ID: EA-MW-13B-N-01082025

Lab Sample ID: 320-118205-2

Date Collected: 01/08/25 10:35
Matrix: Water
Date Received: 01/13/25 11:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**200**		40	10	ng/L		01/15/25 12:50	01/18/25 07:58	1
Perfluoropentanoic acid (PFPeA)	**440**		20	5.0	ng/L		01/15/25 12:50	01/18/25 07:58	1
Perfluorohexanoic acid (PFHxA)	**1100**		20	5.0	ng/L		01/15/25 12:50	01/18/25 07:58	1
Perfluoroheptanoic acid (PFHpA)	**230**		20	5.0	ng/L		01/15/25 12:50	01/18/25 07:58	1
Perfluorooctanoic acid (PFOA)	**710**		20	5.0	ng/L		01/15/25 12:50	01/18/25 07:58	1
Perfluorononanoic acid (PFNA)	ND		20	5.0	ng/L		01/15/25 12:50	01/18/25 07:58	1
Perfluorodecanoic acid (PFDA)	ND		20	5.0	ng/L		01/15/25 12:50	01/18/25 07:58	1
Perfluoroundecanoic acid (PFUnA)	ND		20	5.0	ng/L		01/15/25 12:50	01/18/25 07:58	1
Perfluorododecanoic acid (PFDoA)	ND		20	5.5	ng/L		01/15/25 12:50	01/18/25 07:58	1

Client Sample ID: EA-MW-13B-N-01082025
Date Collected: 01/08/25 10:35
Date Received: 01/13/25 11:30

Lab Sample ID: 320-118205-2
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTrDA)	ND		20	5.8	ng/L		01/15/25 12:50	01/18/25 07:58	1
Perfluorotetradecanoic acid (PFTeDA)	ND		20	8.1	ng/L		01/15/25 12:50	01/18/25 07:58	1
Perfluoropentanesulfonic acid (PFPeS)	**960**		20	5.0	ng/L		01/15/25 12:50	01/18/25 07:58	1
Perfluoroheptanesulfonic acid (PFHpS)	**290**		20	5.0	ng/L		01/15/25 12:50	01/18/25 07:58	1
Perfluorononanesulfonic acid (PFNS)	**6.6**	**J**	20	5.0	ng/L		01/15/25 12:50	01/18/25 07:58	1
Perfluorodecanesulfonic acid (PFDS)	ND		20	5.0	ng/L		01/15/25 12:50	01/18/25 07:58	1
Perfluorododecanesulfonic acid (PFDoS)	ND		20	5.3	ng/L		01/15/25 12:50	01/18/25 07:58	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		40	10	ng/L		01/15/25 12:50	01/18/25 07:58	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**22**	**J**	40	10	ng/L		01/15/25 12:50	01/18/25 07:58	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		40	10	ng/L		01/15/25 12:50	01/18/25 07:58	1
Perfluorooctanesulfonamide (PFOSA)	**36**		20	5.0	ng/L		01/15/25 12:50	01/18/25 07:58	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		20	5.0	ng/L		01/15/25 12:50	01/18/25 07:58	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		20	5.0	ng/L		01/15/25 12:50	01/18/25 07:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20	5.0	ng/L		01/15/25 12:50	01/18/25 07:58	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20	5.0	ng/L		01/15/25 12:50	01/18/25 07:58	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		100	25	ng/L		01/15/25 12:50	01/18/25 07:58	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		100	25	ng/L		01/15/25 12:50	01/18/25 07:58	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		15	3.9	ng/L		01/15/25 12:50	01/18/25 07:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		20	5.0	ng/L		01/15/25 12:50	01/18/25 07:58	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		20	5.0	ng/L		01/15/25 12:50	01/18/25 07:58	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		20	5.0	ng/L		01/15/25 12:50	01/18/25 07:58	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		20	7.2	ng/L		01/15/25 12:50	01/18/25 07:58	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		20	5.8	ng/L		01/15/25 12:50	01/18/25 07:58	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		20	5.0	ng/L		01/15/25 12:50	01/18/25 07:58	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		20	5.0	ng/L		01/15/25 12:50	01/18/25 07:58	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		40	10	ng/L		01/15/25 12:50	01/18/25 07:58	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		100	25	ng/L		01/15/25 12:50	01/18/25 07:58	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		100	25	ng/L		01/15/25 12:50	01/18/25 07:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*109*		*5 - 130*	*01/15/25 12:50*	*01/18/25 07:58*	*1*

Client Sample ID: EA-MW-13B-N-01082025

Lab Sample ID: 320-118205-2

Date Collected: 01/08/25 10:35
Matrix: Water
Date Received: 01/13/25 11:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*101*		*40 - 130*	*01/15/25 12:50*	*01/18/25 07:58*	*1*
13C5 PFHxA	*112*		*40 - 130*	*01/15/25 12:50*	*01/18/25 07:58*	*1*
13C4 PFHpA	*89.1*		*40 - 130*	*01/15/25 12:50*	*01/18/25 07:58*	*1*
13C8 PFOA	*97.6*		*40 - 130*	*01/15/25 12:50*	*01/18/25 07:58*	*1*
13C9 PFNA	*93.3*		*40 - 130*	*01/15/25 12:50*	*01/18/25 07:58*	*1*
13C6 PFDA	*76.3*		*40 - 130*	*01/15/25 12:50*	*01/18/25 07:58*	*1*
13C7 PFUnA	*82.6*		*30 - 130*	*01/15/25 12:50*	*01/18/25 07:58*	*1*
13C2 PFDoA	*88.6*		*10 - 130*	*01/15/25 12:50*	*01/18/25 07:58*	*1*
13C2 PFTeDA	*79.5*		*10 - 130*	*01/15/25 12:50*	*01/18/25 07:58*	*1*
13C3 PFHxS	*102*		*40 - 130*	*01/15/25 12:50*	*01/18/25 07:58*	*1*
13C8 PFOS	*99.2*		*40 - 130*	*01/15/25 12:50*	*01/18/25 07:58*	*1*
13C8 FOSA	*95.0*		*40 - 130*	*01/15/25 12:50*	*01/18/25 07:58*	*1*
d3-NMeFOSAA	*124*		*40 - 170*	*01/15/25 12:50*	*01/18/25 07:58*	*1*
d5-NEtFOSAA	*112*		*25 - 135*	*01/15/25 12:50*	*01/18/25 07:58*	*1*
13C2 4:2 FTS	*83.2*		*40 - 200*	*01/15/25 12:50*	*01/18/25 07:58*	*1*
13C2 6:2 FTS	*122*		*40 - 200*	*01/15/25 12:50*	*01/18/25 07:58*	*1*
13C2 8:2 FTS	*118*		*40 - 300*	*01/15/25 12:50*	*01/18/25 07:58*	*1*
13C3 HFPO-DA	*79.3*		*40 - 130*	*01/15/25 12:50*	*01/18/25 07:58*	*1*
d7-N-MeFOSE-M	*97.9*		*10 - 130*	*01/15/25 12:50*	*01/18/25 07:58*	*1*
d9-N-EtFOSE-M	*100*		*10 - 130*	*01/15/25 12:50*	*01/18/25 07:58*	*1*
d5-NEtPFOSA	*99.7*		*10 - 130*	*01/15/25 12:50*	*01/18/25 07:58*	*1*
d3-NMePFOSA	*95.3*		*10 - 130*	*01/15/25 12:50*	*01/18/25 07:58*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**12000**		200	50	ng/L		01/15/25 12:50	01/17/25 13:06	10
Perfluorooctanesulfonic acid (PFOS)	**7200**		200	50	ng/L		01/15/25 12:50	01/17/25 13:06	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFHxS	*93.3*	**3*	*40 - 130*	*01/15/25 12:50*	*01/17/25 13:06*	*10*
13C8 PFOS	*94.4*	**3*	*40 - 130*	*01/15/25 12:50*	*01/17/25 13:06*	*10*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	**720**		20	5.0	ng/L		01/15/25 12:50	01/20/25 20:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*114*		*40 - 135*	*01/15/25 12:50*	*01/20/25 20:40*	*1*

Client Sample ID: EA-MW-8A-N-01082025

Lab Sample ID: 320-118205-3

Date Collected: 01/08/25 12:00
Matrix: Water
Date Received: 01/13/25 11:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.4	0.85	ng/L		01/15/25 12:50	01/17/25 13:23	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:23	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:23	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:23	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:23	1

Client Sample ID: EA-MW-8A-N-01082025
Date Collected: 01/08/25 12:00
Date Received: 01/13/25 11:30

Lab Sample ID: 320-118205-3
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:23	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:23	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:23	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		01/15/25 12:50	01/17/25 13:23	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.49	ng/L		01/15/25 12:50	01/17/25 13:23	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.69	ng/L		01/15/25 12:50	01/17/25 13:23	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:23	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:23	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:23	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:23	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:23	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:23	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:23	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.45	ng/L		01/15/25 12:50	01/17/25 13:23	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.4	0.85	ng/L		01/15/25 12:50	01/17/25 13:23	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.4	0.85	ng/L		01/15/25 12:50	01/17/25 13:23	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.4	0.85	ng/L		01/15/25 12:50	01/17/25 13:23	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:23	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:23	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:23	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:23	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:23	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.5	2.1	ng/L		01/15/25 12:50	01/17/25 13:23	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.5	2.1	ng/L		01/15/25 12:50	01/17/25 13:23	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/15/25 12:50	01/17/25 13:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:23	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:23	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:23	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.61	ng/L		01/15/25 12:50	01/17/25 13:23	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.49	ng/L		01/15/25 12:50	01/17/25 13:23	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:23	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:23	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.4	0.85	ng/L		01/15/25 12:50	01/17/25 13:23	1

Client Sample ID: EA-MW-8A-N-01082025

Lab Sample ID: 320-118205-3

Date Collected: 01/08/25 12:00
Matrix: Water
Date Received: 01/13/25 11:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.5	2.1	ng/L		01/15/25 12:50	01/17/25 13:23	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.5	2.1	ng/L		01/15/25 12:50	01/17/25 13:23	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*107*		*5 - 130*	*01/15/25 12:50*	*01/17/25 13:23*	*1*
13C5 PFPeA	*99.5*		*40 - 130*	*01/15/25 12:50*	*01/17/25 13:23*	*1*
13C5 PFHxA	*98.9*		*40 - 130*	*01/15/25 12:50*	*01/17/25 13:23*	*1*
13C4 PFHpA	*115*		*40 - 130*	*01/15/25 12:50*	*01/17/25 13:23*	*1*
13C8 PFOA	*95.8*		*40 - 130*	*01/15/25 12:50*	*01/17/25 13:23*	*1*
13C9 PFNA	*81.2*		*40 - 130*	*01/15/25 12:50*	*01/17/25 13:23*	*1*
13C6 PFDA	*79.5*		*40 - 130*	*01/15/25 12:50*	*01/17/25 13:23*	*1*
13C7 PFUnA	*82.8*		*30 - 130*	*01/15/25 12:50*	*01/17/25 13:23*	*1*
13C2 PFDoA	*102*		*10 - 130*	*01/15/25 12:50*	*01/17/25 13:23*	*1*
13C2 PFTeDA	*91.8*		*10 - 130*	*01/15/25 12:50*	*01/17/25 13:23*	*1*
13C3 PFBS	*85.4*		*40 - 135*	*01/15/25 12:50*	*01/17/25 13:23*	*1*
13C3 PFHxS	*90.2*		*40 - 130*	*01/15/25 12:50*	*01/17/25 13:23*	*1*
13C8 PFOS	*90.6*		*40 - 130*	*01/15/25 12:50*	*01/17/25 13:23*	*1*
13C8 FOSA	*91.0*		*40 - 130*	*01/15/25 12:50*	*01/17/25 13:23*	*1*
d3-NMeFOSAA	*87.5*		*40 - 170*	*01/15/25 12:50*	*01/17/25 13:23*	*1*
d5-NEtFOSAA	*97.8*		*25 - 135*	*01/15/25 12:50*	*01/17/25 13:23*	*1*
13C2 4:2 FTS	*97.9*		*40 - 200*	*01/15/25 12:50*	*01/17/25 13:23*	*1*
13C2 6:2 FTS	*102*		*40 - 200*	*01/15/25 12:50*	*01/17/25 13:23*	*1*
13C2 8:2 FTS	*109*		*40 - 300*	*01/15/25 12:50*	*01/17/25 13:23*	*1*
13C3 HFPO-DA	*93.2*		*40 - 130*	*01/15/25 12:50*	*01/17/25 13:23*	*1*
d7-N-MeFOSE-M	*102*		*10 - 130*	*01/15/25 12:50*	*01/17/25 13:23*	*1*
d9-N-EtFOSE-M	*100*		*10 - 130*	*01/15/25 12:50*	*01/17/25 13:23*	*1*
d5-NEtPFOSA	*92.3*		*10 - 130*	*01/15/25 12:50*	*01/17/25 13:23*	*1*
d3-NMePFOSA	*88.1*		*10 - 130*	*01/15/25 12:50*	*01/17/25 13:23*	*1*

Client Sample ID: SWN-MW-321-N-01082025

Lab Sample ID: 320-118205-4

Date Collected: 01/08/25 14:55
Matrix: Water
Date Received: 01/13/25 11:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**17**		3.4	0.85	ng/L		01/15/25 12:50	01/18/25 08:14	1
Perfluoropentanoic acid (PFPeA)	**32**		1.7	0.42	ng/L		01/15/25 12:50	01/18/25 08:14	1
Perfluorohexanoic acid (PFHxA)	**140**		1.7	0.42	ng/L		01/15/25 12:50	01/18/25 08:14	1
Perfluoroheptanoic acid (PFHpA)	**13**		1.7	0.42	ng/L		01/15/25 12:50	01/18/25 08:14	1
Perfluorooctanoic acid (PFOA)	**62**		1.7	0.42	ng/L		01/15/25 12:50	01/18/25 08:14	1
Perfluorononanoic acid (PFNA)	**3.5**		1.7	0.42	ng/L		01/15/25 12:50	01/18/25 08:14	1
Perfluorodecanoic acid (PFDA)	**1.8**		1.7	0.42	ng/L		01/15/25 12:50	01/18/25 08:14	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/18/25 08:14	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		01/15/25 12:50	01/18/25 08:14	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.49	ng/L		01/15/25 12:50	01/18/25 08:14	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.69	ng/L		01/15/25 12:50	01/18/25 08:14	1
Perfluoropentanesulfonic acid (PFPeS)	**17**		1.7	0.42	ng/L		01/15/25 12:50	01/18/25 08:14	1
Perfluoroheptanesulfonic acid (PFHpS)	**4.7**		1.7	0.42	ng/L		01/15/25 12:50	01/18/25 08:14	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118205-1

Client Sample ID: SWN-MW-321-N-01082025
Date Collected: 01/08/25 14:55
Date Received: 01/13/25 11:30

Lab Sample ID: 320-118205-4
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**86**		1.7	0.42	ng/L		01/15/25 12:50	01/18/25 08:14	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/18/25 08:14	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/18/25 08:14	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.45	ng/L		01/15/25 12:50	01/18/25 08:14	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.4	0.85	ng/L		01/15/25 12:50	01/18/25 08:14	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.4	0.85	ng/L		01/15/25 12:50	01/18/25 08:14	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.4	0.85	ng/L		01/15/25 12:50	01/18/25 08:14	1
Perfluorooctanesulfonamide (PFOSA)	**3.7**		1.7	0.42	ng/L		01/15/25 12:50	01/18/25 08:14	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/18/25 08:14	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/18/25 08:14	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/18/25 08:14	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/18/25 08:14	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.5	2.1	ng/L		01/15/25 12:50	01/18/25 08:14	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.5	2.1	ng/L		01/15/25 12:50	01/18/25 08:14	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/15/25 12:50	01/18/25 08:14	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/18/25 08:14	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/18/25 08:14	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/18/25 08:14	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.61	ng/L		01/15/25 12:50	01/18/25 08:14	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.49	ng/L		01/15/25 12:50	01/18/25 08:14	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/18/25 08:14	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/18/25 08:14	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.4	0.85	ng/L		01/15/25 12:50	01/18/25 08:14	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.5	2.1	ng/L		01/15/25 12:50	01/18/25 08:14	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.5	2.1	ng/L		01/15/25 12:50	01/18/25 08:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*112*		*5 - 130*	*01/15/25 12:50*	*01/18/25 08:14*	*1*
13C5 PFPeA	*86.5*		*40 - 130*	*01/15/25 12:50*	*01/18/25 08:14*	*1*
13C5 PFHxA	*95.2*		*40 - 130*	*01/15/25 12:50*	*01/18/25 08:14*	*1*
13C4 PFHpA	*104*		*40 - 130*	*01/15/25 12:50*	*01/18/25 08:14*	*1*
13C8 PFOA	*95.2*		*40 - 130*	*01/15/25 12:50*	*01/18/25 08:14*	*1*
13C9 PFNA	*82.7*		*40 - 130*	*01/15/25 12:50*	*01/18/25 08:14*	*1*

Client Sample ID: SWN-MW-321-N-01082025

Lab Sample ID: 320-118205-4

Date Collected: 01/08/25 14:55

Matrix: Water

Date Received: 01/13/25 11:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C6 PFDA	87.3		40 - 130	01/15/25 12:50	01/18/25 08:14	1
13C7 PFUnA	86.6		30 - 130	01/15/25 12:50	01/18/25 08:14	1
13C2 PFDoA	105		10 - 130	01/15/25 12:50	01/18/25 08:14	1
13C2 PFTeDA	102		10 - 130	01/15/25 12:50	01/18/25 08:14	1
13C3 PFHxS	93.4		40 - 130	01/15/25 12:50	01/18/25 08:14	1
13C8 PFOS	81.4		40 - 130	01/15/25 12:50	01/18/25 08:14	1
13C8 FOSA	70.6		40 - 130	01/15/25 12:50	01/18/25 08:14	1
d3-NMeFOSAA	89.5		40 - 170	01/15/25 12:50	01/18/25 08:14	1
d5-NEtFOSAA	85.0		25 - 135	01/15/25 12:50	01/18/25 08:14	1
13C2 4:2 FTS	102		40 - 200	01/15/25 12:50	01/18/25 08:14	1
13C2 6:2 FTS	132		40 - 200	01/15/25 12:50	01/18/25 08:14	1
13C2 8:2 FTS	85.5		40 - 300	01/15/25 12:50	01/18/25 08:14	1
13C3 HFPO-DA	83.9		40 - 130	01/15/25 12:50	01/18/25 08:14	1
d7-N-MeFOSE-M	67.3		10 - 130	01/15/25 12:50	01/18/25 08:14	1
d9-N-EtFOSE-M	67.4		10 - 130	01/15/25 12:50	01/18/25 08:14	1
d5-NEtPFOSA	62.1		10 - 130	01/15/25 12:50	01/18/25 08:14	1
d3-NMePFOSA	67.0		10 - 130	01/15/25 12:50	01/18/25 08:14	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	1100		17	4.2	ng/L		01/15/25 12:50	01/17/25 13:39	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	92.7	*3	40 - 130	01/15/25 12:50	01/17/25 13:39	10

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	22		1.7	0.42	ng/L		01/15/25 12:50	01/20/25 20:57	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	117		40 - 135	01/15/25 12:50	01/20/25 20:57	1

Client Sample ID: EB-1-01082025

Lab Sample ID: 320-118205-5

Date Collected: 01/08/25 15:25

Matrix: Water

Date Received: 01/13/25 11:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.4	0.84	ng/L		01/15/25 12:50	01/17/25 13:56	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:56	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:56	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:56	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:56	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:56	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:56	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:56	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		01/15/25 12:50	01/17/25 13:56	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.49	ng/L		01/15/25 12:50	01/17/25 13:56	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.68	ng/L		01/15/25 12:50	01/17/25 13:56	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:56	1

Client Sample ID: EB-1-01082025
Date Collected: 01/08/25 15:25
Date Received: 01/13/25 11:30

Lab Sample ID: 320-118205-5
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:56	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:56	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:56	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:56	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:56	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:56	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.45	ng/L		01/15/25 12:50	01/17/25 13:56	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.4	0.84	ng/L		01/15/25 12:50	01/17/25 13:56	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.4	0.84	ng/L		01/15/25 12:50	01/17/25 13:56	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.4	0.84	ng/L		01/15/25 12:50	01/17/25 13:56	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:56	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:56	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:56	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:56	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:56	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.4	2.1	ng/L		01/15/25 12:50	01/17/25 13:56	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.4	2.1	ng/L		01/15/25 12:50	01/17/25 13:56	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/15/25 12:50	01/17/25 13:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:56	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:56	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:56	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.61	ng/L		01/15/25 12:50	01/17/25 13:56	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.49	ng/L		01/15/25 12:50	01/17/25 13:56	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:56	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 13:56	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.4	0.84	ng/L		01/15/25 12:50	01/17/25 13:56	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.4	2.1	ng/L		01/15/25 12:50	01/17/25 13:56	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.4	2.1	ng/L		01/15/25 12:50	01/17/25 13:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*111*		*5 - 130*	*01/15/25 12:50*	*01/17/25 13:56*	*1*
13C5 PFPeA	*87.6*		*40 - 130*	*01/15/25 12:50*	*01/17/25 13:56*	*1*
13C5 PFHxA	*86.8*		*40 - 130*	*01/15/25 12:50*	*01/17/25 13:56*	*1*

Client Sample ID: EB-1-01082025

Lab Sample ID: 320-118205-5

Date Collected: 01/08/25 15:25
Matrix: Water
Date Received: 01/13/25 11:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFHpA	105		40 - 130	01/15/25 12:50	01/17/25 13:56	1
13C8 PFOA	97.1		40 - 130	01/15/25 12:50	01/17/25 13:56	1
13C9 PFNA	91.6		40 - 130	01/15/25 12:50	01/17/25 13:56	1
13C6 PFDA	88.2		40 - 130	01/15/25 12:50	01/17/25 13:56	1
13C7 PFUnA	86.7		30 - 130	01/15/25 12:50	01/17/25 13:56	1
13C2 PFDoA	101		10 - 130	01/15/25 12:50	01/17/25 13:56	1
13C2 PFTeDA	87.6		10 - 130	01/15/25 12:50	01/17/25 13:56	1
13C3 PFBS	91.5		40 - 135	01/15/25 12:50	01/17/25 13:56	1
13C3 PFHxS	102		40 - 130	01/15/25 12:50	01/17/25 13:56	1
13C8 PFOS	93.3		40 - 130	01/15/25 12:50	01/17/25 13:56	1
13C8 FOSA	86.2		40 - 130	01/15/25 12:50	01/17/25 13:56	1
d3-NMeFOSAA	93.6		40 - 170	01/15/25 12:50	01/17/25 13:56	1
d5-NEtFOSAA	91.0		25 - 135	01/15/25 12:50	01/17/25 13:56	1
13C2 4:2 FTS	105		40 - 200	01/15/25 12:50	01/17/25 13:56	1
13C2 6:2 FTS	111		40 - 200	01/15/25 12:50	01/17/25 13:56	1
13C2 8:2 FTS	124		40 - 300	01/15/25 12:50	01/17/25 13:56	1
13C3 HFPO-DA	73.9		40 - 130	01/15/25 12:50	01/17/25 13:56	1
d7-N-MeFOSE-M	99.9		10 - 130	01/15/25 12:50	01/17/25 13:56	1
d9-N-EtFOSE-M	97.4		10 - 130	01/15/25 12:50	01/17/25 13:56	1
d5-NEtPFOSA	92.8		10 - 130	01/15/25 12:50	01/17/25 13:56	1
d3-NMePFOSA	86.5		10 - 130	01/15/25 12:50	01/17/25 13:56	1

Client Sample ID: EA-MW-5A-N-01082025

Lab Sample ID: 320-118205-6

Date Collected: 01/08/25 13:15
Matrix: Water
Date Received: 01/13/25 11:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.3	0.83	ng/L		01/15/25 12:50	01/17/25 14:46	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 14:46	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 14:46	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 14:46	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 14:46	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 14:46	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 14:46	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 14:46	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		01/15/25 12:50	01/17/25 14:46	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.48	ng/L		01/15/25 12:50	01/17/25 14:46	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.67	ng/L		01/15/25 12:50	01/17/25 14:46	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 14:46	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 14:46	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 14:46	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 14:46	1
Perfluorooctanesulfonic acid (PFOS)	**0.46**	**J**	1.7	0.42	ng/L		01/15/25 12:50	01/17/25 14:46	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 14:46	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 14:46	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.44	ng/L		01/15/25 12:50	01/17/25 14:46	1

Client Sample ID: EA-MW-5A-N-01082025
Date Collected: 01/08/25 13:15
Date Received: 01/13/25 11:30

Lab Sample ID: 320-118205-6
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.3	0.83	ng/L		01/15/25 12:50	01/17/25 14:46	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.3	0.83	ng/L		01/15/25 12:50	01/17/25 14:46	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.3	0.83	ng/L		01/15/25 12:50	01/17/25 14:46	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 14:46	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 14:46	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 14:46	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 14:46	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 14:46	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.3	2.1	ng/L		01/15/25 12:50	01/17/25 14:46	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.3	2.1	ng/L		01/15/25 12:50	01/17/25 14:46	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.2	0.32	ng/L		01/15/25 12:50	01/17/25 14:46	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 14:46	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 14:46	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 14:46	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.60	ng/L		01/15/25 12:50	01/17/25 14:46	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.48	ng/L		01/15/25 12:50	01/17/25 14:46	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 14:46	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 14:46	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.3	0.83	ng/L		01/15/25 12:50	01/17/25 14:46	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.3	2.1	ng/L		01/15/25 12:50	01/17/25 14:46	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.3	2.1	ng/L		01/15/25 12:50	01/17/25 14:46	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*109*		*5 - 130*	*01/15/25 12:50*	*01/17/25 14:46*	*1*
13C5 PFPeA	*103*		*40 - 130*	*01/15/25 12:50*	*01/17/25 14:46*	*1*
13C5 PFHxA	*101*		*40 - 130*	*01/15/25 12:50*	*01/17/25 14:46*	*1*
13C4 PFHpA	*114*		*40 - 130*	*01/15/25 12:50*	*01/17/25 14:46*	*1*
13C8 PFOA	*97.5*		*40 - 130*	*01/15/25 12:50*	*01/17/25 14:46*	*1*
13C9 PFNA	*91.3*		*40 - 130*	*01/15/25 12:50*	*01/17/25 14:46*	*1*
13C6 PFDA	*82.6*		*40 - 130*	*01/15/25 12:50*	*01/17/25 14:46*	*1*
13C7 PFUnA	*82.0*		*30 - 130*	*01/15/25 12:50*	*01/17/25 14:46*	*1*
13C2 PFDoA	*99.2*		*10 - 130*	*01/15/25 12:50*	*01/17/25 14:46*	*1*
13C2 PFTeDA	*91.4*		*10 - 130*	*01/15/25 12:50*	*01/17/25 14:46*	*1*
13C3 PFBS	*92.8*		*40 - 135*	*01/15/25 12:50*	*01/17/25 14:46*	*1*
13C3 PFHxS	*95.4*		*40 - 130*	*01/15/25 12:50*	*01/17/25 14:46*	*1*

Client Sample ID: EA-MW-5A-N-01082025

Lab Sample ID: 320-118205-6

Date Collected: 01/08/25 13:15

Matrix: Water

Date Received: 01/13/25 11:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*87.6*		*40 - 130*	*01/15/25 12:50*	*01/17/25 14:46*	*1*
13C8 FOSA	*90.0*		*40 - 130*	*01/15/25 12:50*	*01/17/25 14:46*	*1*
d3-NMeFOSAA	*92.5*		*40 - 170*	*01/15/25 12:50*	*01/17/25 14:46*	*1*
d5-NEtFOSAA	*95.5*		*25 - 135*	*01/15/25 12:50*	*01/17/25 14:46*	*1*
13C2 4:2 FTS	*110*		*40 - 200*	*01/15/25 12:50*	*01/17/25 14:46*	*1*
13C2 6:2 FTS	*107*		*40 - 200*	*01/15/25 12:50*	*01/17/25 14:46*	*1*
13C2 8:2 FTS	*121*		*40 - 300*	*01/15/25 12:50*	*01/17/25 14:46*	*1*
13C3 HFPO-DA	*97.6*		*40 - 130*	*01/15/25 12:50*	*01/17/25 14:46*	*1*
d7-N-MeFOSE-M	*99.6*		*10 - 130*	*01/15/25 12:50*	*01/17/25 14:46*	*1*
d9-N-EtFOSE-M	*96.4*		*10 - 130*	*01/15/25 12:50*	*01/17/25 14:46*	*1*
d5-NEtPFOSA	*86.4*		*10 - 130*	*01/15/25 12:50*	*01/17/25 14:46*	*1*
d3-NMePFOSA	*85.9*		*10 - 130*	*01/15/25 12:50*	*01/17/25 14:46*	*1*

Client Sample ID: EA-MW-5A-FD-01082025

Lab Sample ID: 320-118205-7

Date Collected: 01/08/25 13:30

Matrix: Water

Date Received: 01/13/25 11:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.4	0.85	ng/L		01/15/25 12:50	01/17/25 15:02	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 15:02	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 15:02	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 15:02	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 15:02	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 15:02	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 15:02	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 15:02	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		01/15/25 12:50	01/17/25 15:02	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.49	ng/L		01/15/25 12:50	01/17/25 15:02	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.69	ng/L		01/15/25 12:50	01/17/25 15:02	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 15:02	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 15:02	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 15:02	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 15:02	1
Perfluorooctanesulfonic acid (PFOS)	**0.44**	**J**	1.7	0.42	ng/L		01/15/25 12:50	01/17/25 15:02	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 15:02	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 15:02	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.45	ng/L		01/15/25 12:50	01/17/25 15:02	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.4	0.85	ng/L		01/15/25 12:50	01/17/25 15:02	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.4	0.85	ng/L		01/15/25 12:50	01/17/25 15:02	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.4	0.85	ng/L		01/15/25 12:50	01/17/25 15:02	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 15:02	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 15:02	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118205-1

Client Sample ID: EA-MW-5A-FD-01082025
Date Collected: 01/08/25 13:30
Date Received: 01/13/25 11:30

Lab Sample ID: 320-118205-7
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 15:02	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 15:02	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 15:02	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.5	2.1	ng/L		01/15/25 12:50	01/17/25 15:02	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.5	2.1	ng/L		01/15/25 12:50	01/17/25 15:02	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/15/25 12:50	01/17/25 15:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 15:02	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 15:02	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 15:02	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.61	ng/L		01/15/25 12:50	01/17/25 15:02	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.49	ng/L		01/15/25 12:50	01/17/25 15:02	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 15:02	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.42	ng/L		01/15/25 12:50	01/17/25 15:02	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.4	0.85	ng/L		01/15/25 12:50	01/17/25 15:02	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.5	2.1	ng/L		01/15/25 12:50	01/17/25 15:02	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.5	2.1	ng/L		01/15/25 12:50	01/17/25 15:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*108*		*5 - 130*	*01/15/25 12:50*	*01/17/25 15:02*	*1*
13C5 PFPeA	*99.5*		*40 - 130*	*01/15/25 12:50*	*01/17/25 15:02*	*1*
13C5 PFHxA	*102*		*40 - 130*	*01/15/25 12:50*	*01/17/25 15:02*	*1*
13C4 PFHpA	*108*		*40 - 130*	*01/15/25 12:50*	*01/17/25 15:02*	*1*
13C8 PFOA	*94.0*		*40 - 130*	*01/15/25 12:50*	*01/17/25 15:02*	*1*
13C9 PFNA	*87.0*		*40 - 130*	*01/15/25 12:50*	*01/17/25 15:02*	*1*
13C6 PFDA	*79.9*		*40 - 130*	*01/15/25 12:50*	*01/17/25 15:02*	*1*
13C7 PFUnA	*88.9*		*30 - 130*	*01/15/25 12:50*	*01/17/25 15:02*	*1*
13C2 PFDoA	*104*		*10 - 130*	*01/15/25 12:50*	*01/17/25 15:02*	*1*
13C2 PFTeDA	*102*		*10 - 130*	*01/15/25 12:50*	*01/17/25 15:02*	*1*
13C3 PFBS	*110*		*40 - 135*	*01/15/25 12:50*	*01/17/25 15:02*	*1*
13C3 PFHxS	*97.0*		*40 - 130*	*01/15/25 12:50*	*01/17/25 15:02*	*1*
13C8 PFOS	*84.9*		*40 - 130*	*01/15/25 12:50*	*01/17/25 15:02*	*1*
13C8 FOSA	*89.1*		*40 - 130*	*01/15/25 12:50*	*01/17/25 15:02*	*1*
d3-NMeFOSAA	*111*		*40 - 170*	*01/15/25 12:50*	*01/17/25 15:02*	*1*
d5-NEtFOSAA	*92.3*		*25 - 135*	*01/15/25 12:50*	*01/17/25 15:02*	*1*
13C2 4:2 FTS	*116*		*40 - 200*	*01/15/25 12:50*	*01/17/25 15:02*	*1*
13C2 6:2 FTS	*117*		*40 - 200*	*01/15/25 12:50*	*01/17/25 15:02*	*1*
13C2 8:2 FTS	*117*		*40 - 300*	*01/15/25 12:50*	*01/17/25 15:02*	*1*
13C3 HFPO-DA	*90.4*		*40 - 130*	*01/15/25 12:50*	*01/17/25 15:02*	*1*

Client Sample ID: EA-MW-5A-FD-01082025

Lab Sample ID: 320-118205-7

Date Collected: 01/08/25 13:30
Matrix: Water
Date Received: 01/13/25 11:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d7-N-MeFOSE-M	95.7		10 - 130	01/15/25 12:50	01/17/25 15:02	1
d9-N-EtFOSE-M	95.0		10 - 130	01/15/25 12:50	01/17/25 15:02	1
d5-NEtPFOSA	83.2		10 - 130	01/15/25 12:50	01/17/25 15:02	1
d3-NMePFOSA	84.0		10 - 130	01/15/25 12:50	01/17/25 15:02	1

Client Sample ID: EB-2-01082025

Lab Sample ID: 320-118205-8

Date Collected: 01/08/25 16:00
Matrix: Water
Date Received: 01/13/25 11:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.2	0.81	ng/L		01/15/25 12:50	01/17/25 15:19	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.40	ng/L		01/15/25 12:50	01/17/25 15:19	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.40	ng/L		01/15/25 12:50	01/17/25 15:19	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.40	ng/L		01/15/25 12:50	01/17/25 15:19	1
Perfluorooctanoic acid (PFOA)	ND		1.6	0.40	ng/L		01/15/25 12:50	01/17/25 15:19	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.40	ng/L		01/15/25 12:50	01/17/25 15:19	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.40	ng/L		01/15/25 12:50	01/17/25 15:19	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.40	ng/L		01/15/25 12:50	01/17/25 15:19	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.44	ng/L		01/15/25 12:50	01/17/25 15:19	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.6	0.47	ng/L		01/15/25 12:50	01/17/25 15:19	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.6	0.65	ng/L		01/15/25 12:50	01/17/25 15:19	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.40	ng/L		01/15/25 12:50	01/17/25 15:19	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.6	0.40	ng/L		01/15/25 12:50	01/17/25 15:19	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.40	ng/L		01/15/25 12:50	01/17/25 15:19	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.40	ng/L		01/15/25 12:50	01/17/25 15:19	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.40	ng/L		01/15/25 12:50	01/17/25 15:19	1
Perfluorononanesulfonic acid (PFNS)	ND		1.6	0.40	ng/L		01/15/25 12:50	01/17/25 15:19	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.40	ng/L		01/15/25 12:50	01/17/25 15:19	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.6	0.43	ng/L		01/15/25 12:50	01/17/25 15:19	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.2	0.81	ng/L		01/15/25 12:50	01/17/25 15:19	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.2	0.81	ng/L		01/15/25 12:50	01/17/25 15:19	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.2	0.81	ng/L		01/15/25 12:50	01/17/25 15:19	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.40	ng/L		01/15/25 12:50	01/17/25 15:19	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.6	0.40	ng/L		01/15/25 12:50	01/17/25 15:19	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.6	0.40	ng/L		01/15/25 12:50	01/17/25 15:19	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.6	0.40	ng/L		01/15/25 12:50	01/17/25 15:19	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.6	0.40	ng/L		01/15/25 12:50	01/17/25 15:19	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	**2.6**	**J**	8.1	2.0	ng/L		01/15/25 12:50	01/17/25 15:19	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	**2.7**	**J**	8.1	2.0	ng/L		01/15/25 12:50	01/17/25 15:19	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118205-1

Client Sample ID: EB-2-01082025
Date Collected: 01/08/25 16:00
Date Received: 01/13/25 11:30

Lab Sample ID: 320-118205-8
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.2	0.31	ng/L		01/15/25 12:50	01/17/25 15:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.6	0.40	ng/L		01/15/25 12:50	01/17/25 15:19	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.6	0.40	ng/L		01/15/25 12:50	01/17/25 15:19	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.6	0.40	ng/L		01/15/25 12:50	01/17/25 15:19	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.6	0.58	ng/L		01/15/25 12:50	01/17/25 15:19	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.6	0.47	ng/L		01/15/25 12:50	01/17/25 15:19	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.6	0.40	ng/L		01/15/25 12:50	01/17/25 15:19	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.6	0.40	ng/L		01/15/25 12:50	01/17/25 15:19	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.2	0.81	ng/L		01/15/25 12:50	01/17/25 15:19	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.1	2.0	ng/L		01/15/25 12:50	01/17/25 15:19	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.1	2.0	ng/L		01/15/25 12:50	01/17/25 15:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*115*		*5 - 130*	*01/15/25 12:50*	*01/17/25 15:19*	*1*
13C5 PFPeA	*102*		*40 - 130*	*01/15/25 12:50*	*01/17/25 15:19*	*1*
13C5 PFHxA	*93.4*		*40 - 130*	*01/15/25 12:50*	*01/17/25 15:19*	*1*
13C4 PFHpA	*117*		*40 - 130*	*01/15/25 12:50*	*01/17/25 15:19*	*1*
13C8 PFOA	*95.2*		*40 - 130*	*01/15/25 12:50*	*01/17/25 15:19*	*1*
13C9 PFNA	*87.2*		*40 - 130*	*01/15/25 12:50*	*01/17/25 15:19*	*1*
13C6 PFDA	*95.2*		*40 - 130*	*01/15/25 12:50*	*01/17/25 15:19*	*1*
13C7 PFUnA	*102*		*30 - 130*	*01/15/25 12:50*	*01/17/25 15:19*	*1*
13C2 PFDoA	*108*		*10 - 130*	*01/15/25 12:50*	*01/17/25 15:19*	*1*
13C2 PFTeDA	*96.6*		*10 - 130*	*01/15/25 12:50*	*01/17/25 15:19*	*1*
13C3 PFBS	*96.7*		*40 - 135*	*01/15/25 12:50*	*01/17/25 15:19*	*1*
13C3 PFHxS	*96.0*		*40 - 130*	*01/15/25 12:50*	*01/17/25 15:19*	*1*
13C8 PFOS	*95.0*		*40 - 130*	*01/15/25 12:50*	*01/17/25 15:19*	*1*
13C8 FOSA	*87.9*		*40 - 130*	*01/15/25 12:50*	*01/17/25 15:19*	*1*
d3-NMeFOSAA	*98.1*		*40 - 170*	*01/15/25 12:50*	*01/17/25 15:19*	*1*
d5-NEtFOSAA	*99.7*		*25 - 135*	*01/15/25 12:50*	*01/17/25 15:19*	*1*
13C2 4:2 FTS	*115*		*40 - 200*	*01/15/25 12:50*	*01/17/25 15:19*	*1*
13C2 6:2 FTS	*108*		*40 - 200*	*01/15/25 12:50*	*01/17/25 15:19*	*1*
13C2 8:2 FTS	*143*		*40 - 300*	*01/15/25 12:50*	*01/17/25 15:19*	*1*
13C3 HFPO-DA	*96.7*		*40 - 130*	*01/15/25 12:50*	*01/17/25 15:19*	*1*
d7-N-MeFOSE-M	*98.8*		*10 - 130*	*01/15/25 12:50*	*01/17/25 15:19*	*1*
d9-N-EtFOSE-M	*97.1*		*10 - 130*	*01/15/25 12:50*	*01/17/25 15:19*	*1*
d5-NEtPFOSA	*87.7*		*10 - 130*	*01/15/25 12:50*	*01/17/25 15:19*	*1*
d3-NMePFOSA	*89.1*		*10 - 130*	*01/15/25 12:50*	*01/17/25 15:19*	*1*

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118205-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(5-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(30-130)
320-118205-1	FB-01082025	114	105	110	117	100	88.9	88.7	97.0
320-118205-2 - DL	EA-MW-13B-N-01082025								
320-118205-2	EA-MW-13B-N-01082025	109	101	112	89.1	97.6	93.3	76.3	82.6
320-118205-2 - RA	EA-MW-13B-N-01082025								
320-118205-3	EA-MW-8A-N-01082025	107	99.5	98.9	115	95.8	81.2	79.5	82.8
320-118205-4 - DL	SWN-MW-321-N-01082025								
320-118205-4	SWN-MW-321-N-01082025	112	86.5	95.2	104	95.2	82.7	87.3	86.6
320-118205-4 - RA	SWN-MW-321-N-01082025								
320-118205-5	EB-1-01082025	111	87.6	86.8	105	97.1	91.6	88.2	86.7
320-118205-6	EA-MW-5A-N-01082025	109	103	101	114	97.5	91.3	82.6	82.0
320-118205-7	EA-MW-5A-FD-01082025	108	99.5	102	108	94.0	87.0	79.9	88.9
320-118205-8	EB-2-01082025	115	102	93.4	117	95.2	87.2	95.2	102
LCS 320-827655/3-A	Lab Control Sample	113	89.8	103	102	94.6	87.0	87.5	91.7
LCSD 320-827655/4-A	Lab Control Sample Dup	110	101	111	116	96.7	83.0	88.1	85.2
LLCS 320-827655/2-A	Lab Control Sample	119	89.0	97.8	114	100	84.2	91.0	93.8
LLCS 320-827655/2-A - RA	Lab Control Sample								
MB 320-827655/1-A	Method Blank	119	95.7	114	123	95.2	85.7	87.4	89.3

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(10-130)	(10-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-170)	(25-135)
320-118205-1	FB-01082025	101	89.1	95.2	94.0	93.3	77.8	85.0	91.7
320-118205-2 - DL	EA-MW-13B-N-01082025				93.3 *3	94.4 *3			
320-118205-2	EA-MW-13B-N-01082025	88.6	79.5		102	99.2	95.0	124	112
320-118205-2 - RA	EA-MW-13B-N-01082025			114					
320-118205-3	EA-MW-8A-N-01082025	102	91.8	85.4	90.2	90.6	91.0	87.5	97.8
320-118205-4 - DL	SWN-MW-321-N-01082025				92.7 *3				
320-118205-4	SWN-MW-321-N-01082025	105	102		93.4	81.4	70.6	89.5	85.0
320-118205-4 - RA	SWN-MW-321-N-01082025			117					
320-118205-5	EB-1-01082025	101	87.6	91.5	102	93.3	86.2	93.6	91.0
320-118205-6	EA-MW-5A-N-01082025	99.2	91.4	92.8	95.4	87.6	90.0	92.5	95.5
320-118205-7	EA-MW-5A-FD-01082025	104	102	110	97.0	84.9	89.1	111	92.3
320-118205-8	EB-2-01082025	108	96.6	96.7	96.0	95.0	87.9	98.1	99.7
LCS 320-827655/3-A	Lab Control Sample	102	88.7	91.9	97.7	93.8	84.5	90.4	89.9
LCSD 320-827655/4-A	Lab Control Sample Dup	106	88.1	91.9	98.3	93.2	83.9	89.8	96.6
LLCS 320-827655/2-A	Lab Control Sample	108	91.1	93.7	97.2	93.1	86.7	87.5	92.3
LLCS 320-827655/2-A - RA	Lab Control Sample								
MB 320-827655/1-A	Method Blank	110	96.3	76.8	90.6	89.2	94.3	93.7	88.8

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-200)	(40-200)	(40-300)	(40-130)	(10-130)	(10-130)	(10-130)	(10-130)
320-118205-1	FB-01082025	111	102	110	99.9	93.7	95.8	86.8	85.9
320-118205-2 - DL	EA-MW-13B-N-01082025								
320-118205-2	EA-MW-13B-N-01082025	83.2	122	118	79.3	97.9	100	99.7	95.3
320-118205-2 - RA	EA-MW-13B-N-01082025								
320-118205-3	EA-MW-8A-N-01082025	97.9	102	109	93.2	102	100	92.3	88.1
320-118205-4 - DL	SWN-MW-321-N-01082025								
320-118205-4	SWN-MW-321-N-01082025	102	132	85.5	83.9	67.3	67.4	62.1	67.0
320-118205-4 - RA	SWN-MW-321-N-01082025								
320-118205-5	EB-1-01082025	105	111	124	73.9	99.9	97.4	92.8	86.5

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118205-1
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-200)	M262FTS (40-200)	M282FTS (40-300)	HFPODA (40-130)	NMFM (10-130)	NEFM (10-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118205-6	EA-MW-5A-N-01082025	110	107	121	97.6	99.6	96.4	86.4	85.9
320-118205-7	EA-MW-5A-FD-01082025	116	117	117	90.4	95.7	95.0	83.2	84.0
320-118205-8	EB-2-01082025	115	108	143	96.7	98.8	97.1	87.7	89.1
LCS 320-827655/3-A	Lab Control Sample	83.0	99.3	106	81.8	96.9	98.0	92.8	88.4
LCSD 320-827655/4-A	Lab Control Sample Dup	97.8	107	107	98.3	101	97.4	92.4	91.5
LLCS 320-827655/2-A	Lab Control Sample	98.7	95.7	92.9	120	99.8	103	93.3	88.9
LLCS 320-827655/2-A - RA	Lab Control Sample				91.8				
MB 320-827655/1-A	Method Blank	105	94.7	97.5	104	107	115	87.2	91.6

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-827655/1-A
Matrix: Water
Analysis Batch: 828092

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 827655

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.0	1.0	ng/L		01/15/25 12:50	01/17/25 11:25	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.50	ng/L		01/15/25 12:50	01/17/25 11:25	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		01/15/25 12:50	01/17/25 11:25	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		01/15/25 12:50	01/17/25 11:25	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		01/15/25 12:50	01/17/25 11:25	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		01/15/25 12:50	01/17/25 11:25	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		01/15/25 12:50	01/17/25 11:25	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		01/15/25 12:50	01/17/25 11:25	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		01/15/25 12:50	01/17/25 11:25	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.58	ng/L		01/15/25 12:50	01/17/25 11:25	1
Perfluorotetradecanoic acid (PFTeDA)	ND		2.0	0.81	ng/L		01/15/25 12:50	01/17/25 11:25	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		01/15/25 12:50	01/17/25 11:25	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		01/15/25 12:50	01/17/25 11:25	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		01/15/25 12:50	01/17/25 11:25	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.50	ng/L		01/15/25 12:50	01/17/25 11:25	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		01/15/25 12:50	01/17/25 11:25	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		01/15/25 12:50	01/17/25 11:25	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		01/15/25 12:50	01/17/25 11:25	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.53	ng/L		01/15/25 12:50	01/17/25 11:25	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		4.0	1.0	ng/L		01/15/25 12:50	01/17/25 11:25	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		4.0	1.0	ng/L		01/15/25 12:50	01/17/25 11:25	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		4.0	1.0	ng/L		01/15/25 12:50	01/17/25 11:25	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		01/15/25 12:50	01/17/25 11:25	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		2.0	0.50	ng/L		01/15/25 12:50	01/17/25 11:25	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		2.0	0.50	ng/L		01/15/25 12:50	01/17/25 11:25	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ng/L		01/15/25 12:50	01/17/25 11:25	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.50	ng/L		01/15/25 12:50	01/17/25 11:25	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		10	2.5	ng/L		01/15/25 12:50	01/17/25 11:25	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		10	2.5	ng/L		01/15/25 12:50	01/17/25 11:25	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.5	0.39	ng/L		01/15/25 12:50	01/17/25 11:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.50	ng/L		01/15/25 12:50	01/17/25 11:25	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	0.50	ng/L		01/15/25 12:50	01/17/25 11:25	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	0.50	ng/L		01/15/25 12:50	01/17/25 11:25	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	0.72	ng/L		01/15/25 12:50	01/17/25 11:25	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		2.0	0.58	ng/L		01/15/25 12:50	01/17/25 11:25	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-827655/1-A
Matrix: Water
Analysis Batch: 828092

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 827655

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	0.50	ng/L		01/15/25 12:50	01/17/25 11:25	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	0.50	ng/L		01/15/25 12:50	01/17/25 11:25	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		4.0	1.0	ng/L		01/15/25 12:50	01/17/25 11:25	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		10	2.5	ng/L		01/15/25 12:50	01/17/25 11:25	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		10	2.5	ng/L		01/15/25 12:50	01/17/25 11:25	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*119*		*5 - 130*	*01/15/25 12:50*	*01/17/25 11:25*	*1*
13C5 PFPeA	*95.7*		*40 - 130*	*01/15/25 12:50*	*01/17/25 11:25*	*1*
13C5 PFHxA	*114*		*40 - 130*	*01/15/25 12:50*	*01/17/25 11:25*	*1*
13C4 PFHpA	*123*		*40 - 130*	*01/15/25 12:50*	*01/17/25 11:25*	*1*
13C8 PFOA	*95.2*		*40 - 130*	*01/15/25 12:50*	*01/17/25 11:25*	*1*
13C9 PFNA	*85.7*		*40 - 130*	*01/15/25 12:50*	*01/17/25 11:25*	*1*
13C6 PFDA	*87.4*		*40 - 130*	*01/15/25 12:50*	*01/17/25 11:25*	*1*
13C7 PFUnA	*89.3*		*30 - 130*	*01/15/25 12:50*	*01/17/25 11:25*	*1*
13C2 PFDoA	*110*		*10 - 130*	*01/15/25 12:50*	*01/17/25 11:25*	*1*
13C2 PFTeDA	*96.3*		*10 - 130*	*01/15/25 12:50*	*01/17/25 11:25*	*1*
13C3 PFBS	*76.8*		*40 - 135*	*01/15/25 12:50*	*01/17/25 11:25*	*1*
13C3 PFHxS	*90.6*		*40 - 130*	*01/15/25 12:50*	*01/17/25 11:25*	*1*
13C8 PFOS	*89.2*		*40 - 130*	*01/15/25 12:50*	*01/17/25 11:25*	*1*
13C8 FOSA	*94.3*		*40 - 130*	*01/15/25 12:50*	*01/17/25 11:25*	*1*
d3-NMeFOSAA	*93.7*		*40 - 170*	*01/15/25 12:50*	*01/17/25 11:25*	*1*
d5-NEtFOSAA	*88.8*		*25 - 135*	*01/15/25 12:50*	*01/17/25 11:25*	*1*
13C2 4:2 FTS	*105*		*40 - 200*	*01/15/25 12:50*	*01/17/25 11:25*	*1*
13C2 6:2 FTS	*94.7*		*40 - 200*	*01/15/25 12:50*	*01/17/25 11:25*	*1*
13C2 8:2 FTS	*97.5*		*40 - 300*	*01/15/25 12:50*	*01/17/25 11:25*	*1*
13C3 HFPO-DA	*104*		*40 - 130*	*01/15/25 12:50*	*01/17/25 11:25*	*1*
d7-N-MeFOSE-M	*107*		*10 - 130*	*01/15/25 12:50*	*01/17/25 11:25*	*1*
d9-N-EtFOSE-M	*115*		*10 - 130*	*01/15/25 12:50*	*01/17/25 11:25*	*1*
d5-NEtPFOSA	*87.2*		*10 - 130*	*01/15/25 12:50*	*01/17/25 11:25*	*1*
d3-NMePFOSA	*91.6*		*10 - 130*	*01/15/25 12:50*	*01/17/25 11:25*	*1*

Lab Sample ID: LCS 320-827655/3-A
Matrix: Water
Analysis Batch: 828092

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827655

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	72.1		ng/L		90	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	40.5		ng/L		101	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	34.4		ng/L		86	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	39.2		ng/L		98	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	39.4		ng/L		99	70 - 150
Perfluorononanoic acid (PFNA)	40.0	41.2		ng/L		103	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	37.2		ng/L		93	70 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-827655/3-A
Matrix: Water
Analysis Batch: 828092

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827655

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	40.0	35.3		ng/L		88	70 - 145
Perfluorododecanoic acid (PFDoA)	40.0	37.5		ng/L		94	70 - 140
Perfluorotridecanoic acid (PFTrDA)	40.0	38.8		ng/L		97	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	40.0	38.6		ng/L		96	60 - 140
Perfluorobutanesulfonic acid (PFBS)	35.5	37.8		ng/L		106	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	41.0		ng/L		109	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	38.4		ng/L		105	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	39.6		ng/L		104	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	35.9		ng/L		97	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	40.5		ng/L		105	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	37.6		ng/L		98	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	40.6		ng/L		105	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	94.3		ng/L		126	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	75.2		ng/L		99	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	71.4		ng/L		93	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	41.8		ng/L		104	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	39.6		ng/L		99	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	37.6		ng/L		94	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	40.0		ng/L		100	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	40.2		ng/L		100	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	196		ng/L		98	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	201		ng/L		100	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	31.1		ng/L		104	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	46.0		ng/L		122	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	41.3		ng/L		103	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	40.0		ng/L		100	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	33.6		ng/L		84	50 - 150

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-827655/3-A
Matrix: Water
Analysis Batch: 828092

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827655

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	35.4		ng/L		95	70 - 155		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	37.7		ng/L		100	55 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	46.5		ng/L		130	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	77.1		ng/L		96	65 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	203		ng/L		102	70 - 135		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	153		ng/L		77	50 - 145		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*113*		*5 - 130*
13C5 PFPeA	*89.8*		*40 - 130*
13C5 PFHxA	*103*		*40 - 130*
13C4 PFHpA	*102*		*40 - 130*
13C8 PFOA	*94.6*		*40 - 130*
13C9 PFNA	*87.0*		*40 - 130*
13C6 PFDA	*87.5*		*40 - 130*
13C7 PFUnA	*91.7*		*30 - 130*
13C2 PFDoA	*102*		*10 - 130*
13C2 PFTeDA	*88.7*		*10 - 130*
13C3 PFBS	*91.9*		*40 - 135*
13C3 PFHxS	*97.7*		*40 - 130*
13C8 PFOS	*93.8*		*40 - 130*
13C8 FOSA	*84.5*		*40 - 130*
d3-NMeFOSAA	*90.4*		*40 - 170*
d5-NEtFOSAA	*89.9*		*25 - 135*
13C2 4:2 FTS	*83.0*		*40 - 200*
13C2 6:2 FTS	*99.3*		*40 - 200*
13C2 8:2 FTS	*106*		*40 - 300*
13C3 HFPO-DA	*81.8*		*40 - 130*
d7-N-MeFOSE-M	*96.9*		*10 - 130*
d9-N-EtFOSE-M	*98.0*		*10 - 130*
d5-NEtPFOSA	*92.8*		*10 - 130*
d3-NMePFOSA	*88.4*		*10 - 130*

Lab Sample ID: LCSD 320-827655/4-A
Matrix: Water
Analysis Batch: 828092

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 827655

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			80.0	73.7		ng/L		92	70 - 140	2	30
Perfluoropentanoic acid (PFPeA)			40.0	44.9		ng/L		112	65 - 135	10	30
Perfluorohexanoic acid (PFHxA)			40.0	34.2		ng/L		86	70 - 145	0	30
Perfluoroheptanoic acid (PFHpA)			40.0	37.5		ng/L		94	70 - 150	4	30
Perfluorooctanoic acid (PFOA)			40.0	37.4		ng/L		94	70 - 150	5	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-827655/4-A
Matrix: Water
Analysis Batch: 828092

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 827655

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	40.0	41.6		ng/L		104	70 - 150	1	30
Perfluorodecanoic acid (PFDA)	40.0	36.5		ng/L		91	70 - 140	2	30
Perfluoroundecanoic acid (PFUnA)	40.0	39.9		ng/L		100	70 - 145	12	30
Perfluorododecanoic acid (PFDoA)	40.0	37.6		ng/L		94	70 - 140	0	30
Perfluorotridecanoic acid (PFTrDA)	40.0	41.1		ng/L		103	65 - 140	6	30
Perfluorotetradecanoic acid (PFTeDA)	40.0	41.0		ng/L		103	60 - 140	6	30
Perfluorobutanesulfonic acid (PFBS)	35.5	33.9		ng/L		95	60 - 145	11	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	38.5		ng/L		102	65 - 140	6	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	35.3		ng/L		97	65 - 145	8	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	38.7		ng/L		101	70 - 150	2	30
Perfluorooctanesulfonic acid (PFOS)	37.2	35.7		ng/L		96	55 - 150	0	30
Perfluorononanesulfonic acid (PFNS)	38.5	39.4		ng/L		102	65 - 145	3	30
Perfluorodecanesulfonic acid (PFDS)	38.6	38.5		ng/L		100	60 - 145	2	30
Perfluorododecanesulfonic acid (PFDoS)	38.8	41.4		ng/L		107	50 - 145	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	83.0		ng/L		111	70 - 145	13	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	67.0		ng/L		88	65 - 155	12	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	79.0		ng/L		103	60 - 150	10	30
Perfluorooctanesulfonamide (PFOSA)	40.0	40.3		ng/L		101	70 - 145	4	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	43.1		ng/L		108	60 - 150	9	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	39.0		ng/L		97	65 - 145	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	44.3		ng/L		111	50 - 140	10	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	39.3		ng/L		98	70 - 145	2	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	186		ng/L		93	70 - 145	5	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	193		ng/L		97	70 - 135	4	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	24.9		ng/L		83	70 - 140	22	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	39.2		ng/L		104	65 - 145	16	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	41.6		ng/L		104	55 - 140	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	39.9		ng/L		100	60 - 150	0	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-827655/4-A
Matrix: Water
Analysis Batch: 828092

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 827655

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			40.0	38.7		ng/L		97	50 - 150	14	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	31.0		ng/L		83	70 - 155	13	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	34.6		ng/L		92	55 - 160	9	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	38.7		ng/L		109	70 - 140	18	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	73.6		ng/L		92	65 - 130	5	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	190		ng/L		95	70 - 135	7	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	160		ng/L		80	50 - 145	4	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*110*		*5 - 130*
13C5 PFPeA	*101*		*40 - 130*
13C5 PFHxA	*111*		*40 - 130*
13C4 PFHpA	*116*		*40 - 130*
13C8 PFOA	*96.7*		*40 - 130*
13C9 PFNA	*83.0*		*40 - 130*
13C6 PFDA	*88.1*		*40 - 130*
13C7 PFUnA	*85.2*		*30 - 130*
13C2 PFDoA	*106*		*10 - 130*
13C2 PFTeDA	*88.1*		*10 - 130*
13C3 PFBS	*91.9*		*40 - 135*
13C3 PFHxS	*98.3*		*40 - 130*
13C8 PFOS	*93.2*		*40 - 130*
13C8 FOSA	*83.9*		*40 - 130*
d3-NMeFOSAA	*89.8*		*40 - 170*
d5-NEtFOSAA	*96.6*		*25 - 135*
13C2 4:2 FTS	*97.8*		*40 - 200*
13C2 6:2 FTS	*107*		*40 - 200*
13C2 8:2 FTS	*107*		*40 - 300*
13C3 HFPO-DA	*98.3*		*40 - 130*
d7-N-MeFOSE-M	*101*		*10 - 130*
d9-N-EtFOSE-M	*97.4*		*10 - 130*
d5-NEtPFOSA	*92.4*		*10 - 130*
d3-NMePFOSA	*91.5*		*10 - 130*

Lab Sample ID: LLCS 320-827655/2-A
Matrix: Water
Analysis Batch: 828092

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827655

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			8.00	7.30		ng/L		91	70 - 140
Perfluoropentanoic acid (PFPeA)			4.00	4.40		ng/L		110	65 - 135
Perfluorohexanoic acid (PFHxA)			4.00	3.66		ng/L		92	70 - 145

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-827655/2-A
Matrix: Water
Analysis Batch: 828092

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827655

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	4.00	3.56		ng/L		89	70 - 150
Perfluorooctanoic acid (PFOA)	4.00	3.54		ng/L		89	70 - 150
Perfluorononanoic acid (PFNA)	4.00	4.32		ng/L		108	70 - 150
Perfluorodecanoic acid (PFDA)	4.00	3.50		ng/L		87	70 - 140
Perfluoroundecanoic acid (PFUnA)	4.00	3.58		ng/L		90	70 - 145
Perfluorododecanoic acid (PFDoA)	4.00	3.53		ng/L		88	70 - 140
Perfluorotridecanoic acid (PFTrDA)	4.00	4.14		ng/L		104	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	4.00	4.40		ng/L		110	60 - 140
Perfluorobutanesulfonic acid (PFBS)	3.55	3.88		ng/L		109	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.76	4.55		ng/L		121	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	3.65	3.79		ng/L		104	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.82	3.74		ng/L		98	70 - 150
Perfluorooctanesulfonic acid (PFOS)	3.72	4.09		ng/L		110	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.85	3.64		ng/L		95	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.86	3.77		ng/L		98	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.88	4.25		ng/L		110	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	7.50	7.53		ng/L		100	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.62	8.25		ng/L		108	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.68	8.11		ng/L		106	60 - 150
Perfluorooctanesulfonamide (PFOSA)	4.00	4.23		ng/L		106	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	4.00	4.00		ng/L		100	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	4.00	3.48		ng/L		87	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.00	3.94		ng/L		99	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.00	3.75		ng/L		94	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	20.0	19.0		ng/L		95	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	20.0	18.1		ng/L		90	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.00	2.17		ng/L		72	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	3.28		ng/L		87	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.00	4.48		ng/L		112	55 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-827655/2-A
Matrix: Water
Analysis Batch: 828092

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827655

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.00	4.33		ng/L		108	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.00	4.71		ng/L		118	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	3.78	2.62		ng/L		69	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	3.57	4.06		ng/L		114	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	8.00	8.48		ng/L		106	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	20.0	20.9		ng/L		105	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	20.0	18.4		ng/L		92	50 - 145

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*119*		*5 - 130*
13C5 PFPeA	*89.0*		*40 - 130*
13C5 PFHxA	*97.8*		*40 - 130*
13C4 PFHpA	*114*		*40 - 130*
13C8 PFOA	*100*		*40 - 130*
13C9 PFNA	*84.2*		*40 - 130*
13C6 PFDA	*91.0*		*40 - 130*
13C7 PFUnA	*93.8*		*30 - 130*
13C2 PFDoA	*108*		*10 - 130*
13C2 PFTeDA	*91.1*		*10 - 130*
13C3 PFBS	*93.7*		*40 - 135*
13C3 PFHxS	*97.2*		*40 - 130*
13C8 PFOS	*93.1*		*40 - 130*
13C8 FOSA	*86.7*		*40 - 130*
d3-NMeFOSAA	*87.5*		*40 - 170*
d5-NEtFOSAA	*92.3*		*25 - 135*
13C2 4:2 FTS	*98.7*		*40 - 200*
13C2 6:2 FTS	*95.7*		*40 - 200*
13C2 8:2 FTS	*92.9*		*40 - 300*
13C3 HFPO-DA	*120*		*40 - 130*
d7-N-MeFOSE-M	*99.8*		*10 - 130*
d9-N-EtFOSE-M	*103*		*10 - 130*
d5-NEtPFOSA	*93.3*		*10 - 130*
d3-NMePFOSA	*88.9*		*10 - 130*

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118205-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Lab Sample ID: LLCS 320-827655/2-A
Matrix: Water
Analysis Batch: 828297

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827655

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) - RA			3.74	3.36		ng/L		90	70 - 155		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C3 HFPO-DA - RA	*91.8*		*40 - 130*

LCMS

Prep Batch: 827655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118205-1	FB-01082025	Total/NA	Water	1633	
320-118205-2 - DL	EA-MW-13B-N-01082025	Total/NA	Water	1633	
320-118205-2	EA-MW-13B-N-01082025	Total/NA	Water	1633	
320-118205-2 - RA	EA-MW-13B-N-01082025	Total/NA	Water	1633	
320-118205-3	EA-MW-8A-N-01082025	Total/NA	Water	1633	
320-118205-4 - DL	SWN-MW-321-N-01082025	Total/NA	Water	1633	
320-118205-4	SWN-MW-321-N-01082025	Total/NA	Water	1633	
320-118205-4 - RA	SWN-MW-321-N-01082025	Total/NA	Water	1633	
320-118205-5	EB-1-01082025	Total/NA	Water	1633	
320-118205-6	EA-MW-5A-N-01082025	Total/NA	Water	1633	
320-118205-7	EA-MW-5A-FD-01082025	Total/NA	Water	1633	
320-118205-8	EB-2-01082025	Total/NA	Water	1633	
MB 320-827655/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-827655/3-A	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-827655/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-827655/2-A	Lab Control Sample	Total/NA	Water	1633	
LLCS 320-827655/2-A - RA	Lab Control Sample	Total/NA	Water	1633	

Analysis Batch: 828092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118205-1	FB-01082025	Total/NA	Water	1633	827655
320-118205-2 - DL	EA-MW-13B-N-01082025	Total/NA	Water	1633	827655
320-118205-3	EA-MW-8A-N-01082025	Total/NA	Water	1633	827655
320-118205-4 - DL	SWN-MW-321-N-01082025	Total/NA	Water	1633	827655
320-118205-5	EB-1-01082025	Total/NA	Water	1633	827655
320-118205-6	EA-MW-5A-N-01082025	Total/NA	Water	1633	827655
320-118205-7	EA-MW-5A-FD-01082025	Total/NA	Water	1633	827655
320-118205-8	EB-2-01082025	Total/NA	Water	1633	827655
MB 320-827655/1-A	Method Blank	Total/NA	Water	1633	827655
LCS 320-827655/3-A	Lab Control Sample	Total/NA	Water	1633	827655
LCSD 320-827655/4-A	Lab Control Sample Dup	Total/NA	Water	1633	827655
LLCS 320-827655/2-A	Lab Control Sample	Total/NA	Water	1633	827655

Analysis Batch: 828188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118205-2	EA-MW-13B-N-01082025	Total/NA	Water	1633	827655
320-118205-4	SWN-MW-321-N-01082025	Total/NA	Water	1633	827655

Analysis Batch: 828297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LLCS 320-827655/2-A - RA	Lab Control Sample	Total/NA	Water	1633	827655

Analysis Batch: 828357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118205-2 - RA	EA-MW-13B-N-01082025	Total/NA	Water	1633	827655
320-118205-4 - RA	SWN-MW-321-N-01082025	Total/NA	Water	1633	827655

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118205-1

Client Sample ID: FB-01082025
Date Collected: 01/08/25 00:00
Date Received: 01/13/25 11:30

Lab Sample ID: 320-118205-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			174.3 mL	5.0 mL	827655	01/15/25 12:50	ERR	EET SAC
Total/NA	Analysis	1633		1			828092	01/17/25 12:49	K1S	EET SAC

Client Sample ID: EA-MW-13B-N-01082025
Date Collected: 01/08/25 10:35
Date Received: 01/13/25 11:30

Lab Sample ID: 320-118205-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633	DL		12.5 mL	5.0 mL	827655	01/15/25 12:50	ERR	EET SAC
Total/NA	Analysis	1633	DL	10			828092	01/17/25 13:06	K1S	EET SAC
Total/NA	Prep	1633			12.5 mL	5.0 mL	827655	01/15/25 12:50	ERR	EET SAC
Total/NA	Analysis	1633		1			828188	01/18/25 07:58	K1S	EET SAC
Total/NA	Prep	1633	RA		12.5 mL	5.0 mL	827655	01/15/25 12:50	ERR	EET SAC
Total/NA	Analysis	1633	RA	1			828357	01/20/25 20:40	S1M	EET SAC

Client Sample ID: EA-MW-8A-N-01082025
Date Collected: 01/08/25 12:00
Date Received: 01/13/25 11:30

Lab Sample ID: 320-118205-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			147.8 mL	5.0 mL	827655	01/15/25 12:50	ERR	EET SAC
Total/NA	Analysis	1633		1			828092	01/17/25 13:23	K1S	EET SAC

Client Sample ID: SWN-MW-321-N-01082025
Date Collected: 01/08/25 14:55
Date Received: 01/13/25 11:30

Lab Sample ID: 320-118205-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633	DL		147.8 mL	5.0 mL	827655	01/15/25 12:50	ERR	EET SAC
Total/NA	Analysis	1633	DL	10			828092	01/17/25 13:39	K1S	EET SAC
Total/NA	Prep	1633			147.8 mL	5.0 mL	827655	01/15/25 12:50	ERR	EET SAC
Total/NA	Analysis	1633		1			828188	01/18/25 08:14	K1S	EET SAC
Total/NA	Prep	1633	RA		147.8 mL	5.0 mL	827655	01/15/25 12:50	ERR	EET SAC
Total/NA	Analysis	1633	RA	1			828357	01/20/25 20:57	S1M	EET SAC

Client Sample ID: EB-1-01082025
Date Collected: 01/08/25 15:25
Date Received: 01/13/25 11:30

Lab Sample ID: 320-118205-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			148.3 mL	5.0 mL	827655	01/15/25 12:50	ERR	EET SAC
Total/NA	Analysis	1633		1			828092	01/17/25 13:56	K1S	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118205-1
Project/Site: Spokane International Airport

Client Sample ID: EA-MW-5A-N-01082025
Lab Sample ID: 320-118205-6

Date Collected: 01/08/25 13:15
Matrix: Water
Date Received: 01/13/25 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			150.1 mL	5.0 mL	827655	01/15/25 12:50	ERR	EET SAC
Total/NA	Analysis	1633		1			828092	01/17/25 14:46	K1S	EET SAC

Client Sample ID: EA-MW-5A-FD-01082025
Lab Sample ID: 320-118205-7

Date Collected: 01/08/25 13:30
Matrix: Water
Date Received: 01/13/25 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			147.2 mL	5.0 mL	827655	01/15/25 12:50	ERR	EET SAC
Total/NA	Analysis	1633		1			828092	01/17/25 15:02	K1S	EET SAC

Client Sample ID: EB-2-01082025
Lab Sample ID: 320-118205-8

Date Collected: 01/08/25 16:00
Matrix: Water
Date Received: 01/13/25 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			154.9 mL	5.0 mL	827655	01/15/25 12:50	ERR	EET SAC
Total/NA	Analysis	1633		1			828092	01/17/25 15:19	K1S	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118205-1
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118205-1

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Solid-Phase Extraction (SPE)	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Job ID: 320-118205-1
Project/Site: Spokane International Airport

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118205-1	FB-01082025	Water	01/08/25 00:00	01/13/25 11:30
320-118205-2	EA-MW-13B-N-01082025	Water	01/08/25 10:35	01/13/25 11:30
320-118205-3	EA-MW-8A-N-01082025	Water	01/08/25 12:00	01/13/25 11:30
320-118205-4	SWN-MW-321-N-01082025	Water	01/08/25 14:55	01/13/25 11:30
320-118205-5	EB-1-01082025	Water	01/08/25 15:25	01/13/25 11:30
320-118205-6	EA-MW-5A-N-01082025	Water	01/08/25 13:15	01/13/25 11:30
320-118205-7	EA-MW-5A-FD-01082025	Water	01/08/25 13:30	01/13/25 11:30
320-118205-8	EB-2-01082025	Water	01/08/25 16:00	01/13/25 11:30

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

Page 1 of 1

1/22/2025

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE		TURNAROUND TIME	
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	PFAS EPA 1633	Cations EPA 200.7	Anions EPA 300.0	Bromide EPA 300.0	Alkalinity SM 2320 B	Number of Containers
FB-01082025	1/8/25	—	H_2O	X					1
EA-MW-13B-N-01082025	1/8/25	10:35	H_2O	X					3
EA-MW-8A-N-01082025	1/8/25	12:00	H_2O	X					3
SWN-MW-32I-N-01082025	1/8/25	14:55	H_2O	X					3
EB-1-01082025	1/8/25	15:25	H_2O	X					3
EA-MW-5A-N-01082025	1/8/25	13:15	H_2O	X					3
EA-MW-5A-FD-01082025	1/8/25	13.30	H_2O	X					3
EB-2-01082025	1/8/25	16:00	H_2O	X					3

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– Cations to be analyzed: Ca, Mg, K, Na
– Anions to be analyzed: Cl, NO_3, SO_4^{2-}
– Alkilinity to be mesaured by titration

24&2.8 cor IR00L

Sampled and Relinquished by	Received by
Sign	Sign
Print Breeyn Greer	Print Macky Morris
Firm HA	Firm EFSPK
Date 1/9/25 Time 1050	Date 1/9/25 1050
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print
Firm EFSPK	Firm EETSpk
Date 1/9/25 Time 1500	Date 1/13/25 1130
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

320-118205 Chain of Custody

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____includes _____does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

30°C

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Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118205

Tracking # 4242 5692 6456

Job _____ _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID: L0-1 Corr Factor (+/-) 0.0 °C

Ice_____ Wet_____ Gel _____ Other _____

Cooler Custody Seal 22877454

Cooler ID _____

Temp Observed: 3.0 °C Corrected: 3.0 °C

From Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials SD Date 1/13/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☑	☐	☐
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials RSH Date 1/13/25

Notes:_____

Trizma Lot #(s) _____

Ammonium
Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials RSH Date 1/13/25

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1 2 3 4 5 6 7 8 9 10 11 12 13 14

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 2/20/2025 8:29:15 AM Revision 2

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118162-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

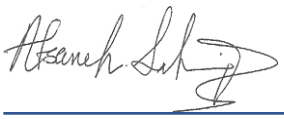
myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Revision 2

Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118162-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*3	ISTD response or retention time outside acceptable limits.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118162-1 — Eurofins Sacramento

Job Narrative

Job Narrative
320-118162-1

Revision
The report and the EDD's being provided is a revision on 1/23/2025.
Report was revised for sample Id's on 2-20-2025.

Receipt
The samples were received on 1/9/2025 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.5º C.

LCMS

Method 1633: Results for samples EA-MW-14A-N-01072025 (320-118162-3) and EA-MW-14B-N-01072025 (320-118162-4) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

Method 1633: Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: EA-MW-14B-N-01072025 (320-118162-4). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 1633: The following sample in preparation batch 320-827034 was light yellow in color following concentration. FB-01072025 (320-118162-1).

Method 1633: The following samples in preparation batch 320-827034 were observed to have floating particulates present in the sample bottle. W-MW-15-N-01072025 (320-118162-2).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118162-1

Client Sample ID: FB-01072025 — Lab Sample ID: 320-118162-1

No Detections.

Client Sample ID: W-MW-15-N-01072025 — Lab Sample ID: 320-118162-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	7.2		1.8	0.45	ng/L	1		1633	Total/NA

Client Sample ID: EA-MW-14A-N-01072025 — Lab Sample ID: 320-118162-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	28		3.5	0.86	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	42		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	170		1.7	0.43	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	30		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	170		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	0.84	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	180		1.7	0.43	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	230		1.7	0.43	ng/L	1		1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	62		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	910		17	4.3	ng/L	10		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	2500		17	4.3	ng/L	10		1633	Total/NA

Client Sample ID: EA-MW-14B-N-01072025 — Lab Sample ID: 320-118162-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	30		3.7	0.93	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	79		1.9	0.47	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	290		1.9	0.47	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	20		1.9	0.47	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	130		1.9	0.47	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	8.6		1.9	0.47	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	110		1.9	0.47	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	100		1.9	0.47	ng/L	1		1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	43		1.9	0.47	ng/L	1		1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	3.7		3.7	0.93	ng/L	1		1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.0	J	3.7	0.93	ng/L	1		1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.61	J	1.9	0.47	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	2100		37	9.3	ng/L	20		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	5000		37	9.3	ng/L	20		1633	Total/NA

Client Sample ID: EA-MW-13A-N-01072025 — Lab Sample ID: 320-118162-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	4.1		3.4	0.85	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	4.8		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	17		1.7	0.42	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.2		1.7	0.42	ng/L	1		1633	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Client Sample ID: EA-MW-13A-N-01072025 (Continued) — Lab Sample ID: 320-118162-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	19		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	0.82	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorodecanoic acid (PFDA)	1.3	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.97	J	1.7	0.47	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.3		1.7	0.42	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	8.8		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	160		1.7	0.42	ng/L	1		1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	4.3		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	130		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.88	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.52	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	1.3	J	1.7	0.42	ng/L	1		1633	Total/NA

Client Sample ID: EA-MW-13A-FD-01072025 — Lab Sample ID: 320-118162-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	3.8		3.3	0.84	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	4.8		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	16		1.7	0.42	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.0		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	17		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	0.68	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorodecanoic acid (PFDA)	1.2	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.84	J	1.7	0.46	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.4		1.7	0.42	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	8.7		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	160		1.7	0.42	ng/L	1		1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	4.1		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	130		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.78	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.43	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	1.3	J	1.7	0.42	ng/L	1		1633	Total/NA

Client Sample ID: EB-01072025 — Lab Sample ID: 320-118162-7

No Detections.

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118162-1

Client Sample ID: FB-01072025
Date Collected: 01/07/25 12:00
Date Received: 01/09/25 09:30

Lab Sample ID: 320-118162-1
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		2.9	0.73	ng/L		01/13/25 07:03	01/13/25 18:13	1
Perfluoropentanoic acid (PFPeA)	ND		1.5	0.36	ng/L		01/13/25 07:03	01/13/25 18:13	1
Perfluorohexanoic acid (PFHxA)	ND		1.5	0.36	ng/L		01/13/25 07:03	01/13/25 18:13	1
Perfluoroheptanoic acid (PFHpA)	ND		1.5	0.36	ng/L		01/13/25 07:03	01/13/25 18:13	1
Perfluorooctanoic acid (PFOA)	ND		1.5	0.36	ng/L		01/13/25 07:03	01/13/25 18:13	1
Perfluorononanoic acid (PFNA)	ND		1.5	0.36	ng/L		01/13/25 07:03	01/13/25 18:13	1
Perfluorodecanoic acid (PFDA)	ND		1.5	0.36	ng/L		01/13/25 07:03	01/13/25 18:13	1
Perfluoroundecanoic acid (PFUnA)	ND		1.5	0.36	ng/L		01/13/25 07:03	01/13/25 18:13	1
Perfluorododecanoic acid (PFDoA)	ND		1.5	0.40	ng/L		01/13/25 07:03	01/13/25 18:13	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.5	0.42	ng/L		01/13/25 07:03	01/13/25 18:13	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.5	0.59	ng/L		01/13/25 07:03	01/13/25 18:13	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.5	0.36	ng/L		01/13/25 07:03	01/13/25 18:13	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.5	0.36	ng/L		01/13/25 07:03	01/13/25 18:13	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.5	0.36	ng/L		01/13/25 07:03	01/13/25 18:13	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.5	0.36	ng/L		01/13/25 07:03	01/13/25 18:13	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.5	0.36	ng/L		01/13/25 07:03	01/13/25 18:13	1
Perfluorononanesulfonic acid (PFNS)	ND		1.5	0.36	ng/L		01/13/25 07:03	01/13/25 18:13	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.5	0.36	ng/L		01/13/25 07:03	01/13/25 18:13	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.5	0.39	ng/L		01/13/25 07:03	01/13/25 18:13	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.9	0.73	ng/L		01/13/25 07:03	01/13/25 18:13	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.9	0.73	ng/L		01/13/25 07:03	01/13/25 18:13	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.9	0.73	ng/L		01/13/25 07:03	01/13/25 18:13	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.5	0.36	ng/L		01/13/25 07:03	01/13/25 18:13	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.5	0.36	ng/L		01/13/25 07:03	01/13/25 18:13	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.5	0.36	ng/L		01/13/25 07:03	01/13/25 18:13	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.5	0.36	ng/L		01/13/25 07:03	01/13/25 18:13	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.5	0.36	ng/L		01/13/25 07:03	01/13/25 18:13	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		7.3	1.8	ng/L		01/13/25 07:03	01/13/25 18:13	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		7.3	1.8	ng/L		01/13/25 07:03	01/13/25 18:13	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.1	0.28	ng/L		01/13/25 07:03	01/13/25 18:13	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.5	0.36	ng/L		01/13/25 07:03	01/13/25 18:13	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.5	0.36	ng/L		01/13/25 07:03	01/13/25 18:13	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.5	0.36	ng/L		01/13/25 07:03	01/13/25 18:13	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.5	0.52	ng/L		01/13/25 07:03	01/13/25 18:13	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.5	0.42	ng/L		01/13/25 07:03	01/13/25 18:13	1

Client Sample ID: FB-01072025

Lab Sample ID: 320-118162-1

Date Collected: 01/07/25 12:00

Matrix: Water

Date Received: 01/09/25 09:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.5	0.36	ng/L		01/13/25 07:03	01/13/25 18:13	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.5	0.36	ng/L		01/13/25 07:03	01/13/25 18:13	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		2.9	0.73	ng/L		01/13/25 07:03	01/13/25 18:13	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		7.3	1.8	ng/L		01/13/25 07:03	01/13/25 18:13	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		7.3	1.8	ng/L		01/13/25 07:03	01/13/25 18:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*96.4*		*5 - 130*	*01/13/25 07:03*	*01/13/25 18:13*	*1*
13C5 PFPeA	*86.6*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:13*	*1*
13C5 PFHxA	*93.7*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:13*	*1*
13C4 PFHpA	*95.2*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:13*	*1*
13C8 PFOA	*92.2*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:13*	*1*
13C9 PFNA	*87.2*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:13*	*1*
13C6 PFDA	*82.4*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:13*	*1*
13C7 PFUnA	*80.0*		*30 - 130*	*01/13/25 07:03*	*01/13/25 18:13*	*1*
13C2 PFDoA	*64.4*		*10 - 130*	*01/13/25 07:03*	*01/13/25 18:13*	*1*
13C2 PFTeDA	*66.6*		*10 - 130*	*01/13/25 07:03*	*01/13/25 18:13*	*1*
13C3 PFBS	*98.0*		*40 - 135*	*01/13/25 07:03*	*01/13/25 18:13*	*1*
13C3 PFHxS	*86.1*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:13*	*1*
13C8 PFOS	*83.4*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:13*	*1*
13C8 FOSA	*72.3*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:13*	*1*
d3-NMeFOSAA	*95.6*		*40 - 170*	*01/13/25 07:03*	*01/13/25 18:13*	*1*
d5-NEtFOSAA	*90.0*		*25 - 135*	*01/13/25 07:03*	*01/13/25 18:13*	*1*
13C2 4:2 FTS	*79.4*		*40 - 200*	*01/13/25 07:03*	*01/13/25 18:13*	*1*
13C2 6:2 FTS	*105*		*40 - 200*	*01/13/25 07:03*	*01/13/25 18:13*	*1*
13C2 8:2 FTS	*84.4*		*40 - 300*	*01/13/25 07:03*	*01/13/25 18:13*	*1*
13C3 HFPO-DA	*90.4*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:13*	*1*
d7-N-MeFOSE-M	*68.5*		*10 - 130*	*01/13/25 07:03*	*01/13/25 18:13*	*1*
d9-N-EtFOSE-M	*65.8*		*10 - 130*	*01/13/25 07:03*	*01/13/25 18:13*	*1*
d5-NEtPFOSA	*77.2*		*10 - 130*	*01/13/25 07:03*	*01/13/25 18:13*	*1*
d3-NMePFOSA	*72.3*		*10 - 130*	*01/13/25 07:03*	*01/13/25 18:13*	*1*

Client Sample ID: W-MW-15-N-01072025

Lab Sample ID: 320-118162-2

Date Collected: 01/07/25 09:35

Matrix: Water

Date Received: 01/09/25 09:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.6	0.89	ng/L		01/13/25 07:03	01/13/25 18:30	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.45	ng/L		01/13/25 07:03	01/13/25 18:30	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.45	ng/L		01/13/25 07:03	01/13/25 18:30	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.45	ng/L		01/13/25 07:03	01/13/25 18:30	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.45	ng/L		01/13/25 07:03	01/13/25 18:30	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.45	ng/L		01/13/25 07:03	01/13/25 18:30	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.45	ng/L		01/13/25 07:03	01/13/25 18:30	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.45	ng/L		01/13/25 07:03	01/13/25 18:30	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		01/13/25 07:03	01/13/25 18:30	1

Client Sample ID: W-MW-15-N-01072025
Date Collected: 01/07/25 09:35
Date Received: 01/09/25 09:30

Lab Sample ID: 320-118162-2
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.52	ng/L		01/13/25 07:03	01/13/25 18:30	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.8	0.72	ng/L		01/13/25 07:03	01/13/25 18:30	1
Perfluorobutanesulfonic acid (PFBS)	**7.2**		1.8	0.45	ng/L		01/13/25 07:03	01/13/25 18:30	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.45	ng/L		01/13/25 07:03	01/13/25 18:30	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.45	ng/L		01/13/25 07:03	01/13/25 18:30	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.45	ng/L		01/13/25 07:03	01/13/25 18:30	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.45	ng/L		01/13/25 07:03	01/13/25 18:30	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.45	ng/L		01/13/25 07:03	01/13/25 18:30	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.45	ng/L		01/13/25 07:03	01/13/25 18:30	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.47	ng/L		01/13/25 07:03	01/13/25 18:30	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.6	0.89	ng/L		01/13/25 07:03	01/13/25 18:30	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.6	0.89	ng/L		01/13/25 07:03	01/13/25 18:30	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.6	0.89	ng/L		01/13/25 07:03	01/13/25 18:30	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.45	ng/L		01/13/25 07:03	01/13/25 18:30	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.8	0.45	ng/L		01/13/25 07:03	01/13/25 18:30	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.8	0.45	ng/L		01/13/25 07:03	01/13/25 18:30	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.8	0.45	ng/L		01/13/25 07:03	01/13/25 18:30	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.8	0.45	ng/L		01/13/25 07:03	01/13/25 18:30	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.9	2.2	ng/L		01/13/25 07:03	01/13/25 18:30	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.9	2.2	ng/L		01/13/25 07:03	01/13/25 18:30	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.35	ng/L		01/13/25 07:03	01/13/25 18:30	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.45	ng/L		01/13/25 07:03	01/13/25 18:30	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.8	0.45	ng/L		01/13/25 07:03	01/13/25 18:30	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.8	0.45	ng/L		01/13/25 07:03	01/13/25 18:30	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.8	0.64	ng/L		01/13/25 07:03	01/13/25 18:30	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.8	0.52	ng/L		01/13/25 07:03	01/13/25 18:30	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.8	0.45	ng/L		01/13/25 07:03	01/13/25 18:30	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.8	0.45	ng/L		01/13/25 07:03	01/13/25 18:30	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.6	0.89	ng/L		01/13/25 07:03	01/13/25 18:30	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.9	2.2	ng/L		01/13/25 07:03	01/13/25 18:30	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.9	2.2	ng/L		01/13/25 07:03	01/13/25 18:30	1

Client Sample ID: W-MW-15-N-01072025

Lab Sample ID: 320-118162-2

Date Collected: 01/07/25 09:35
Matrix: Water
Date Received: 01/09/25 09:30

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*97.6*		*5 - 130*	*01/13/25 07:03*	*01/13/25 18:30*	*1*
13C5 PFPeA	*99.8*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:30*	*1*
13C5 PFHxA	*102*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:30*	*1*
13C4 PFHpA	*96.9*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:30*	*1*
13C8 PFOA	*109*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:30*	*1*
13C9 PFNA	*93.0*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:30*	*1*
13C6 PFDA	*96.2*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:30*	*1*
13C7 PFUnA	*86.1*		*30 - 130*	*01/13/25 07:03*	*01/13/25 18:30*	*1*
13C2 PFDoA	*84.7*		*10 - 130*	*01/13/25 07:03*	*01/13/25 18:30*	*1*
13C2 PFTeDA	*74.8*		*10 - 130*	*01/13/25 07:03*	*01/13/25 18:30*	*1*
13C3 PFBS	*99.8*		*40 - 135*	*01/13/25 07:03*	*01/13/25 18:30*	*1*
13C3 PFHxS	*94.4*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:30*	*1*
13C8 PFOS	*83.5*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:30*	*1*
13C8 FOSA	*77.4*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:30*	*1*
d3-NMeFOSAA	*98.7*		*40 - 170*	*01/13/25 07:03*	*01/13/25 18:30*	*1*
d5-NEtFOSAA	*94.5*		*25 - 135*	*01/13/25 07:03*	*01/13/25 18:30*	*1*
13C2 4:2 FTS	*59.9*		*40 - 200*	*01/13/25 07:03*	*01/13/25 18:30*	*1*
13C2 6:2 FTS	*93.5*		*40 - 200*	*01/13/25 07:03*	*01/13/25 18:30*	*1*
13C2 8:2 FTS	*82.0*		*40 - 300*	*01/13/25 07:03*	*01/13/25 18:30*	*1*
13C3 HFPO-DA	*97.9*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:30*	*1*
d7-N-MeFOSE-M	*64.4*		*10 - 130*	*01/13/25 07:03*	*01/13/25 18:30*	*1*
d9-N-EtFOSE-M	*64.9*		*10 - 130*	*01/13/25 07:03*	*01/13/25 18:30*	*1*
d5-NEtPFOSA	*72.9*		*10 - 130*	*01/13/25 07:03*	*01/13/25 18:30*	*1*
d3-NMePFOSA	*71.9*		*10 - 130*	*01/13/25 07:03*	*01/13/25 18:30*	*1*

Client Sample ID: EA-MW-14A-N-01072025

Lab Sample ID: 320-118162-3

Date Collected: 01/07/25 12:35
Matrix: Water
Date Received: 01/09/25 09:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**28**		3.5	0.86	ng/L		01/13/25 07:03	01/13/25 18:46	1
Perfluoropentanoic acid (PFPeA)	**42**		1.7	0.43	ng/L		01/13/25 07:03	01/13/25 18:46	1
Perfluorohexanoic acid (PFHxA)	**170**		1.7	0.43	ng/L		01/13/25 07:03	01/13/25 18:46	1
Perfluoroheptanoic acid (PFHpA)	**30**		1.7	0.43	ng/L		01/13/25 07:03	01/13/25 18:46	1
Perfluorooctanoic acid (PFOA)	**170**		1.7	0.43	ng/L		01/13/25 07:03	01/13/25 18:46	1
Perfluorononanoic acid (PFNA)	**0.84**	**J**	1.7	0.43	ng/L		01/13/25 07:03	01/13/25 18:46	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.43	ng/L		01/13/25 07:03	01/13/25 18:46	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		01/13/25 07:03	01/13/25 18:46	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		01/13/25 07:03	01/13/25 18:46	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.50	ng/L		01/13/25 07:03	01/13/25 18:46	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.70	ng/L		01/13/25 07:03	01/13/25 18:46	1
Perfluorobutanesulfonic acid (PFBS)	**180**		1.7	0.43	ng/L		01/13/25 07:03	01/13/25 18:46	1
Perfluoropentanesulfonic acid (PFPeS)	**230**		1.7	0.43	ng/L		01/13/25 07:03	01/13/25 18:46	1
Perfluoroheptanesulfonic acid (PFHpS)	**62**		1.7	0.43	ng/L		01/13/25 07:03	01/13/25 18:46	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.43	ng/L		01/13/25 07:03	01/13/25 18:46	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.43	ng/L		01/13/25 07:03	01/13/25 18:46	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.46	ng/L		01/13/25 07:03	01/13/25 18:46	1

Client Sample ID: EA-MW-14A-N-01072025
Date Collected: 01/07/25 12:35
Date Received: 01/09/25 09:30

Lab Sample ID: 320-118162-3
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.5	0.86	ng/L		01/13/25 07:03	01/13/25 18:46	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.5	0.86	ng/L		01/13/25 07:03	01/13/25 18:46	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.5	0.86	ng/L		01/13/25 07:03	01/13/25 18:46	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.43	ng/L		01/13/25 07:03	01/13/25 18:46	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.43	ng/L		01/13/25 07:03	01/13/25 18:46	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.43	ng/L		01/13/25 07:03	01/13/25 18:46	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.43	ng/L		01/13/25 07:03	01/13/25 18:46	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.43	ng/L		01/13/25 07:03	01/13/25 18:46	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.6	2.2	ng/L		01/13/25 07:03	01/13/25 18:46	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.6	2.2	ng/L		01/13/25 07:03	01/13/25 18:46	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.34	ng/L		01/13/25 07:03	01/13/25 18:46	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.43	ng/L		01/13/25 07:03	01/13/25 18:46	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.43	ng/L		01/13/25 07:03	01/13/25 18:46	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.43	ng/L		01/13/25 07:03	01/13/25 18:46	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.62	ng/L		01/13/25 07:03	01/13/25 18:46	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.50	ng/L		01/13/25 07:03	01/13/25 18:46	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.43	ng/L		01/13/25 07:03	01/13/25 18:46	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.43	ng/L		01/13/25 07:03	01/13/25 18:46	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.5	0.86	ng/L		01/13/25 07:03	01/13/25 18:46	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.6	2.2	ng/L		01/13/25 07:03	01/13/25 18:46	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.6	2.2	ng/L		01/13/25 07:03	01/13/25 18:46	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*97.2*		*5 - 130*	*01/13/25 07:03*	*01/13/25 18:46*	*1*
13C5 PFPeA	*95.6*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:46*	*1*
13C5 PFHxA	*103*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:46*	*1*
13C4 PFHpA	*117*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:46*	*1*
13C8 PFOA	*96.5*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:46*	*1*
13C9 PFNA	*93.3*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:46*	*1*
13C6 PFDA	*89.2*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:46*	*1*
13C7 PFUnA	*80.8*		*30 - 130*	*01/13/25 07:03*	*01/13/25 18:46*	*1*
13C2 PFDoA	*68.5*		*10 - 130*	*01/13/25 07:03*	*01/13/25 18:46*	*1*
13C2 PFTeDA	*73.2*		*10 - 130*	*01/13/25 07:03*	*01/13/25 18:46*	*1*
13C3 PFBS	*106*		*40 - 135*	*01/13/25 07:03*	*01/13/25 18:46*	*1*
13C3 PFHxS	*91.9*		*40 - 130*	*01/13/25 07:03*	*01/13/25 18:46*	*1*

Client Sample ID: EA-MW-14A-N-01072025

Lab Sample ID: 320-118162-3

Date Collected: 01/07/25 12:35
Matrix: Water
Date Received: 01/09/25 09:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	90.9		40 - 130	01/13/25 07:03	01/13/25 18:46	1
13C8 FOSA	105		40 - 130	01/13/25 07:03	01/13/25 18:46	1
d3-NMeFOSAA	126		40 - 170	01/13/25 07:03	01/13/25 18:46	1
d5-NEtFOSAA	124		25 - 135	01/13/25 07:03	01/13/25 18:46	1
13C2 4:2 FTS	90.2		40 - 200	01/13/25 07:03	01/13/25 18:46	1
13C2 6:2 FTS	117		40 - 200	01/13/25 07:03	01/13/25 18:46	1
13C2 8:2 FTS	90.1		40 - 300	01/13/25 07:03	01/13/25 18:46	1
13C3 HFPO-DA	106		40 - 130	01/13/25 07:03	01/13/25 18:46	1
d7-N-MeFOSE-M	96.9		10 - 130	01/13/25 07:03	01/13/25 18:46	1
d9-N-EtFOSE-M	86.4		10 - 130	01/13/25 07:03	01/13/25 18:46	1
d5-NEtPFOSA	98.4		10 - 130	01/13/25 07:03	01/13/25 18:46	1
d3-NMePFOSA	91.4		10 - 130	01/13/25 07:03	01/13/25 18:46	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**910**		17	4.3	ng/L		01/13/25 07:03	01/17/25 16:18	10
Perfluorooctanesulfonic acid (PFOS)	**2500**		17	4.3	ng/L		01/13/25 07:03	01/17/25 16:18	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	90.3	*3	40 - 130	01/13/25 07:03	01/17/25 16:18	10
13C8 PFOS	94.3	*3	40 - 130	01/13/25 07:03	01/17/25 16:18	10

Client Sample ID: EA-MW-14B-N-01072025

Lab Sample ID: 320-118162-4

Date Collected: 01/07/25 13:40
Matrix: Water
Date Received: 01/09/25 09:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**30**		3.7	0.93	ng/L		01/13/25 07:03	01/17/25 16:51	1
Perfluoropentanoic acid (PFPeA)	**79**		1.9	0.47	ng/L		01/13/25 07:03	01/17/25 16:51	1
Perfluorohexanoic acid (PFHxA)	**290**		1.9	0.47	ng/L		01/13/25 07:03	01/17/25 16:51	1
Perfluoroheptanoic acid (PFHpA)	**20**		1.9	0.47	ng/L		01/13/25 07:03	01/17/25 16:51	1
Perfluorooctanoic acid (PFOA)	**130**		1.9	0.47	ng/L		01/13/25 07:03	01/17/25 16:51	1
Perfluorononanoic acid (PFNA)	**8.6**		1.9	0.47	ng/L		01/13/25 07:03	01/17/25 16:51	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.47	ng/L		01/13/25 07:03	01/17/25 16:51	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	0.47	ng/L		01/13/25 07:03	01/17/25 16:51	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.51	ng/L		01/13/25 07:03	01/17/25 16:51	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	0.54	ng/L		01/13/25 07:03	01/17/25 16:51	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.9	0.75	ng/L		01/13/25 07:03	01/17/25 16:51	1
Perfluorobutanesulfonic acid (PFBS)	**110**		1.9	0.47	ng/L		01/13/25 07:03	01/17/25 16:51	1
Perfluoropentanesulfonic acid (PFPeS)	**100**		1.9	0.47	ng/L		01/13/25 07:03	01/17/25 16:51	1
Perfluoroheptanesulfonic acid (PFHpS)	**43**		1.9	0.47	ng/L		01/13/25 07:03	01/17/25 16:51	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.47	ng/L		01/13/25 07:03	01/17/25 16:51	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.47	ng/L		01/13/25 07:03	01/17/25 16:51	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.49	ng/L		01/13/25 07:03	01/17/25 16:51	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.7	0.93	ng/L		01/13/25 07:03	01/17/25 16:51	1

Client Sample ID: EA-MW-14B-N-01072025
Date Collected: 01/07/25 13:40
Date Received: 01/09/25 09:30

Lab Sample ID: 320-118162-4
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**3.7**		3.7	0.93	ng/L		01/13/25 07:03	01/17/25 16:51	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**1.0**	**J**	3.7	0.93	ng/L		01/13/25 07:03	01/17/25 16:51	1
Perfluorooctanesulfonamide (PFOSA)	**0.61**	**J**	1.9	0.47	ng/L		01/13/25 07:03	01/17/25 16:51	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.9	0.47	ng/L		01/13/25 07:03	01/17/25 16:51	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.9	0.47	ng/L		01/13/25 07:03	01/17/25 16:51	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.9	0.47	ng/L		01/13/25 07:03	01/17/25 16:51	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.9	0.47	ng/L		01/13/25 07:03	01/17/25 16:51	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		9.3	2.3	ng/L		01/13/25 07:03	01/17/25 16:51	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		9.3	2.3	ng/L		01/13/25 07:03	01/17/25 16:51	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.4	0.36	ng/L		01/13/25 07:03	01/17/25 16:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.47	ng/L		01/13/25 07:03	01/17/25 16:51	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.9	0.47	ng/L		01/13/25 07:03	01/17/25 16:51	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.9	0.47	ng/L		01/13/25 07:03	01/17/25 16:51	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.9	0.67	ng/L		01/13/25 07:03	01/17/25 16:51	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.9	0.54	ng/L		01/13/25 07:03	01/17/25 16:51	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.9	0.47	ng/L		01/13/25 07:03	01/17/25 16:51	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.9	0.47	ng/L		01/13/25 07:03	01/17/25 16:51	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.7	0.93	ng/L		01/13/25 07:03	01/17/25 16:51	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		9.3	2.3	ng/L		01/13/25 07:03	01/17/25 16:51	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		9.3	2.3	ng/L		01/13/25 07:03	01/17/25 16:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*92.3*		*5 - 130*	*01/13/25 07:03*	*01/17/25 16:51*	*1*
13C5 PFPeA	*93.5*		*40 - 130*	*01/13/25 07:03*	*01/17/25 16:51*	*1*
13C5 PFHxA	*97.8*		*40 - 130*	*01/13/25 07:03*	*01/17/25 16:51*	*1*
13C4 PFHpA	*93.9*		*40 - 130*	*01/13/25 07:03*	*01/17/25 16:51*	*1*
13C8 PFOA	*83.8*		*40 - 130*	*01/13/25 07:03*	*01/17/25 16:51*	*1*
13C9 PFNA	*83.1*		*40 - 130*	*01/13/25 07:03*	*01/17/25 16:51*	*1*
13C6 PFDA	*86.4*		*40 - 130*	*01/13/25 07:03*	*01/17/25 16:51*	*1*
13C7 PFUnA	*89.6*		*30 - 130*	*01/13/25 07:03*	*01/17/25 16:51*	*1*
13C2 PFDoA	*71.3*		*10 - 130*	*01/13/25 07:03*	*01/17/25 16:51*	*1*
13C2 PFTeDA	*57.0*		*10 - 130*	*01/13/25 07:03*	*01/17/25 16:51*	*1*
13C3 PFBS	*107*		*40 - 135*	*01/13/25 07:03*	*01/17/25 16:51*	*1*
13C3 PFHxS	*84.2*		*40 - 130*	*01/13/25 07:03*	*01/17/25 16:51*	*1*
13C8 PFOS	*89.4*		*40 - 130*	*01/13/25 07:03*	*01/17/25 16:51*	*1*

Client Sample ID: EA-MW-14B-N-01072025

Lab Sample ID: 320-118162-4

Date Collected: 01/07/25 13:40
Matrix: Water
Date Received: 01/09/25 09:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*146*	**5+*	*40 - 130*	*01/13/25 07:03*	*01/17/25 16:51*	*1*
d3-NMeFOSAA	*120*		*40 - 170*	*01/13/25 07:03*	*01/17/25 16:51*	*1*
d5-NEtFOSAA	*123*		*25 - 135*	*01/13/25 07:03*	*01/17/25 16:51*	*1*
13C2 4:2 FTS	*83.8*		*40 - 200*	*01/13/25 07:03*	*01/17/25 16:51*	*1*
13C2 6:2 FTS	*113*		*40 - 200*	*01/13/25 07:03*	*01/17/25 16:51*	*1*
13C2 8:2 FTS	*94.3*		*40 - 300*	*01/13/25 07:03*	*01/17/25 16:51*	*1*
13C3 HFPO-DA	*102*		*40 - 130*	*01/13/25 07:03*	*01/17/25 16:51*	*1*
d7-N-MeFOSE-M	*114*		*10 - 130*	*01/13/25 07:03*	*01/17/25 16:51*	*1*
d9-N-EtFOSE-M	*101*		*10 - 130*	*01/13/25 07:03*	*01/17/25 16:51*	*1*
d5-NEtPFOSA	*113*		*10 - 130*	*01/13/25 07:03*	*01/17/25 16:51*	*1*
d3-NMePFOSA	*119*		*10 - 130*	*01/13/25 07:03*	*01/17/25 16:51*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**2100**		37	9.3	ng/L		01/13/25 07:03	01/17/25 16:34	20
Perfluorooctanesulfonic acid (PFOS)	**5000**		37	9.3	ng/L		01/13/25 07:03	01/17/25 16:34	20

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFHxS	*84.0*	**3*	*40 - 130*	*01/13/25 07:03*	*01/17/25 16:34*	*20*
13C8 PFOS	*79.7*	**3*	*40 - 130*	*01/13/25 07:03*	*01/17/25 16:34*	*20*

Client Sample ID: EA-MW-13A-N-01072025

Lab Sample ID: 320-118162-5

Date Collected: 01/07/25 14:50
Matrix: Water
Date Received: 01/09/25 09:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**4.1**		3.4	0.85	ng/L		01/13/25 07:03	01/13/25 19:19	1
Perfluoropentanoic acid (PFPeA)	**4.8**		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:19	1
Perfluorohexanoic acid (PFHxA)	**17**		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:19	1
Perfluoroheptanoic acid (PFHpA)	**3.2**		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:19	1
Perfluorooctanoic acid (PFOA)	**19**		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:19	1
Perfluorononanoic acid (PFNA)	**0.82**	**J**	1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:19	1
Perfluorodecanoic acid (PFDA)	**1.3**	**J**	1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:19	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:19	1
Perfluorododecanoic acid (PFDoA)	**0.97**	**J**	1.7	0.47	ng/L		01/13/25 07:03	01/13/25 19:19	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.49	ng/L		01/13/25 07:03	01/13/25 19:19	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.69	ng/L		01/13/25 07:03	01/13/25 19:19	1
Perfluorobutanesulfonic acid (PFBS)	**5.3**		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:19	1
Perfluoropentanesulfonic acid (PFPeS)	**8.8**		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:19	1
Perfluorohexanesulfonic acid (PFHxS)	**160**		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:19	1
Perfluoroheptanesulfonic acid (PFHpS)	**4.3**		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:19	1
Perfluorooctanesulfonic acid (PFOS)	**130**		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:19	1
Perfluorononanesulfonic acid (PFNS)	**0.88**	**J**	1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:19	1

Client Sample ID: EA-MW-13A-N-01072025
Date Collected: 01/07/25 14:50
Date Received: 01/09/25 09:30

Lab Sample ID: 320-118162-5
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanesulfonic acid (PFDS)	**0.52**	**J**	1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:19	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.45	ng/L		01/13/25 07:03	01/13/25 19:19	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.4	0.85	ng/L		01/13/25 07:03	01/13/25 19:19	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.4	0.85	ng/L		01/13/25 07:03	01/13/25 19:19	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.4	0.85	ng/L		01/13/25 07:03	01/13/25 19:19	1
Perfluorooctanesulfonamide (PFOSA)	**1.3**	**J**	1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:19	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:19	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:19	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:19	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:19	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.5	2.1	ng/L		01/13/25 07:03	01/13/25 19:19	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.5	2.1	ng/L		01/13/25 07:03	01/13/25 19:19	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/13/25 07:03	01/13/25 19:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:19	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:19	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:19	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.61	ng/L		01/13/25 07:03	01/13/25 19:19	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.49	ng/L		01/13/25 07:03	01/13/25 19:19	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:19	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:19	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.4	0.85	ng/L		01/13/25 07:03	01/13/25 19:19	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.5	2.1	ng/L		01/13/25 07:03	01/13/25 19:19	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.5	2.1	ng/L		01/13/25 07:03	01/13/25 19:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91.8*		*5 - 130*	*01/13/25 07:03*	*01/13/25 19:19*	*1*
13C5 PFPeA	*92.8*		*40 - 130*	*01/13/25 07:03*	*01/13/25 19:19*	*1*
13C5 PFHxA	*94.1*		*40 - 130*	*01/13/25 07:03*	*01/13/25 19:19*	*1*
13C4 PFHpA	*92.1*		*40 - 130*	*01/13/25 07:03*	*01/13/25 19:19*	*1*
13C8 PFOA	*90.9*		*40 - 130*	*01/13/25 07:03*	*01/13/25 19:19*	*1*
13C9 PFNA	*101*		*40 - 130*	*01/13/25 07:03*	*01/13/25 19:19*	*1*
13C6 PFDA	*88.4*		*40 - 130*	*01/13/25 07:03*	*01/13/25 19:19*	*1*
13C7 PFUnA	*87.7*		*30 - 130*	*01/13/25 07:03*	*01/13/25 19:19*	*1*

Client Sample ID: EA-MW-13A-N-01072025

Lab Sample ID: 320-118162-5

Date Collected: 01/07/25 14:50

Matrix: Water

Date Received: 01/09/25 09:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDoA	75.7		10 - 130	01/13/25 07:03	01/13/25 19:19	1
13C2 PFTeDA	77.0		10 - 130	01/13/25 07:03	01/13/25 19:19	1
13C3 PFBS	103		40 - 135	01/13/25 07:03	01/13/25 19:19	1
13C3 PFHxS	92.6		40 - 130	01/13/25 07:03	01/13/25 19:19	1
13C8 PFOS	84.8		40 - 130	01/13/25 07:03	01/13/25 19:19	1
13C8 FOSA	78.1		40 - 130	01/13/25 07:03	01/13/25 19:19	1
d3-NMeFOSAA	99.2		40 - 170	01/13/25 07:03	01/13/25 19:19	1
d5-NEtFOSAA	95.0		25 - 135	01/13/25 07:03	01/13/25 19:19	1
13C2 4:2 FTS	75.3		40 - 200	01/13/25 07:03	01/13/25 19:19	1
13C2 6:2 FTS	111		40 - 200	01/13/25 07:03	01/13/25 19:19	1
13C2 8:2 FTS	86.9		40 - 300	01/13/25 07:03	01/13/25 19:19	1
13C3 HFPO-DA	81.6		40 - 130	01/13/25 07:03	01/13/25 19:19	1
d7-N-MeFOSE-M	70.2		10 - 130	01/13/25 07:03	01/13/25 19:19	1
d9-N-EtFOSE-M	71.1		10 - 130	01/13/25 07:03	01/13/25 19:19	1
d5-NEtPFOSA	73.2		10 - 130	01/13/25 07:03	01/13/25 19:19	1
d3-NMePFOSA	77.0		10 - 130	01/13/25 07:03	01/13/25 19:19	1

Client Sample ID: EA-MW-13A-FD-01072025

Lab Sample ID: 320-118162-6

Date Collected: 01/07/25 15:20

Matrix: Water

Date Received: 01/09/25 09:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.8**		3.3	0.84	ng/L		01/13/25 07:03	01/13/25 19:35	1
Perfluoropentanoic acid (PFPeA)	**4.8**		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:35	1
Perfluorohexanoic acid (PFHxA)	**16**		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:35	1
Perfluoroheptanoic acid (PFHpA)	**3.0**		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:35	1
Perfluorooctanoic acid (PFOA)	**17**		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:35	1
Perfluorononanoic acid (PFNA)	**0.68**	**J**	1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:35	1
Perfluorodecanoic acid (PFDA)	**1.2**	**J**	1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:35	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:35	1
Perfluorododecanoic acid (PFDoA)	**0.84**	**J**	1.7	0.46	ng/L		01/13/25 07:03	01/13/25 19:35	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.48	ng/L		01/13/25 07:03	01/13/25 19:35	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.68	ng/L		01/13/25 07:03	01/13/25 19:35	1
Perfluorobutanesulfonic acid (PFBS)	**5.4**		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:35	1
Perfluoropentanesulfonic acid (PFPeS)	**8.7**		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:35	1
Perfluorohexanesulfonic acid (PFHxS)	**160**		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:35	1
Perfluoroheptanesulfonic acid (PFHpS)	**4.1**		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:35	1
Perfluorooctanesulfonic acid (PFOS)	**130**		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:35	1
Perfluorononanesulfonic acid (PFNS)	**0.78**	**J**	1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:35	1
Perfluorodecanesulfonic acid (PFDS)	**0.43**	**J**	1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:35	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.44	ng/L		01/13/25 07:03	01/13/25 19:35	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118162-1

Client Sample ID: EA-MW-13A-FD-01072025
Date Collected: 01/07/25 15:20
Date Received: 01/09/25 09:30

Lab Sample ID: 320-118162-6
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.3	0.84	ng/L		01/13/25 07:03	01/13/25 19:35	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.3	0.84	ng/L		01/13/25 07:03	01/13/25 19:35	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.3	0.84	ng/L		01/13/25 07:03	01/13/25 19:35	1
Perfluorooctanesulfonamide (PFOSA)	**1.3**	**J**	1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:35	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:35	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:35	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:35	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:35	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.4	2.1	ng/L		01/13/25 07:03	01/13/25 19:35	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.4	2.1	ng/L		01/13/25 07:03	01/13/25 19:35	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/13/25 07:03	01/13/25 19:35	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:35	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:35	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:35	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.60	ng/L		01/13/25 07:03	01/13/25 19:35	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.48	ng/L		01/13/25 07:03	01/13/25 19:35	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:35	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 19:35	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.3	0.84	ng/L		01/13/25 07:03	01/13/25 19:35	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.4	2.1	ng/L		01/13/25 07:03	01/13/25 19:35	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.4	2.1	ng/L		01/13/25 07:03	01/13/25 19:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99.3*		*5 - 130*	*01/13/25 07:03*	*01/13/25 19:35*	*1*
13C5 PFPeA	*96.3*		*40 - 130*	*01/13/25 07:03*	*01/13/25 19:35*	*1*
13C5 PFHxA	*101*		*40 - 130*	*01/13/25 07:03*	*01/13/25 19:35*	*1*
13C4 PFHpA	*102*		*40 - 130*	*01/13/25 07:03*	*01/13/25 19:35*	*1*
13C8 PFOA	*97.5*		*40 - 130*	*01/13/25 07:03*	*01/13/25 19:35*	*1*
13C9 PFNA	*91.9*		*40 - 130*	*01/13/25 07:03*	*01/13/25 19:35*	*1*
13C6 PFDA	*89.6*		*40 - 130*	*01/13/25 07:03*	*01/13/25 19:35*	*1*
13C7 PFUnA	*83.0*		*30 - 130*	*01/13/25 07:03*	*01/13/25 19:35*	*1*
13C2 PFDoA	*81.0*		*10 - 130*	*01/13/25 07:03*	*01/13/25 19:35*	*1*
13C2 PFTeDA	*73.6*		*10 - 130*	*01/13/25 07:03*	*01/13/25 19:35*	*1*
13C3 PFBS	*97.6*		*40 - 135*	*01/13/25 07:03*	*01/13/25 19:35*	*1*

Client Sample ID: EA-MW-13A-FD-01072025

Lab Sample ID: 320-118162-6

Date Collected: 01/07/25 15:20

Matrix: Water

Date Received: 01/09/25 09:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	96.2		40 - 130	01/13/25 07:03	01/13/25 19:35	1
13C8 PFOS	87.8		40 - 130	01/13/25 07:03	01/13/25 19:35	1
13C8 FOSA	77.3		40 - 130	01/13/25 07:03	01/13/25 19:35	1
d3-NMeFOSAA	97.1		40 - 170	01/13/25 07:03	01/13/25 19:35	1
d5-NEtFOSAA	95.5		25 - 135	01/13/25 07:03	01/13/25 19:35	1
13C2 4:2 FTS	86.7		40 - 200	01/13/25 07:03	01/13/25 19:35	1
13C2 6:2 FTS	102		40 - 200	01/13/25 07:03	01/13/25 19:35	1
13C2 8:2 FTS	84.2		40 - 300	01/13/25 07:03	01/13/25 19:35	1
13C3 HFPO-DA	88.3		40 - 130	01/13/25 07:03	01/13/25 19:35	1
d7-N-MeFOSE-M	67.8		10 - 130	01/13/25 07:03	01/13/25 19:35	1
d9-N-EtFOSE-M	68.4		10 - 130	01/13/25 07:03	01/13/25 19:35	1
d5-NEtPFOSA	78.3		10 - 130	01/13/25 07:03	01/13/25 19:35	1
d3-NMePFOSA	76.1		10 - 130	01/13/25 07:03	01/13/25 19:35	1

Client Sample ID: EB-01072025

Lab Sample ID: 320-118162-7

Date Collected: 01/07/25 16:00

Matrix: Water

Date Received: 01/09/25 09:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.3	0.83	ng/L		01/13/25 07:03	01/13/25 20:25	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 20:25	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 20:25	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 20:25	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 20:25	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 20:25	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 20:25	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 20:25	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		01/13/25 07:03	01/13/25 20:25	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.48	ng/L		01/13/25 07:03	01/13/25 20:25	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.68	ng/L		01/13/25 07:03	01/13/25 20:25	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 20:25	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 20:25	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 20:25	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 20:25	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 20:25	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 20:25	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 20:25	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.44	ng/L		01/13/25 07:03	01/13/25 20:25	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.3	0.83	ng/L		01/13/25 07:03	01/13/25 20:25	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.3	0.83	ng/L		01/13/25 07:03	01/13/25 20:25	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 20:25	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 20:25	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 20:25	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118162-1

Client Sample ID: EB-01072025
Date Collected: 01/07/25 16:00
Date Received: 01/09/25 09:30

Lab Sample ID: 320-118162-7
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 20:25	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 20:25	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.3	2.1	ng/L		01/13/25 07:03	01/13/25 20:25	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.3	2.1	ng/L		01/13/25 07:03	01/13/25 20:25	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/13/25 07:03	01/13/25 20:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 20:25	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 20:25	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 20:25	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.60	ng/L		01/13/25 07:03	01/13/25 20:25	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.48	ng/L		01/13/25 07:03	01/13/25 20:25	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 20:25	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.42	ng/L		01/13/25 07:03	01/13/25 20:25	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.3	0.83	ng/L		01/13/25 07:03	01/13/25 20:25	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.3	2.1	ng/L		01/13/25 07:03	01/13/25 20:25	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.3	2.1	ng/L		01/13/25 07:03	01/13/25 20:25	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*97.6*		*5 - 130*	*01/13/25 07:03*	*01/13/25 20:25*	*1*
13C5 PFPeA	*90.5*		*40 - 130*	*01/13/25 07:03*	*01/13/25 20:25*	*1*
13C5 PFHxA	*86.1*		*40 - 130*	*01/13/25 07:03*	*01/13/25 20:25*	*1*
13C4 PFHpA	*86.8*		*40 - 130*	*01/13/25 07:03*	*01/13/25 20:25*	*1*
13C8 PFOA	*101*		*40 - 130*	*01/13/25 07:03*	*01/13/25 20:25*	*1*
13C9 PFNA	*85.4*		*40 - 130*	*01/13/25 07:03*	*01/13/25 20:25*	*1*
13C6 PFDA	*87.5*		*40 - 130*	*01/13/25 07:03*	*01/13/25 20:25*	*1*
13C7 PFUnA	*83.1*		*30 - 130*	*01/13/25 07:03*	*01/13/25 20:25*	*1*
13C2 PFDoA	*75.5*		*10 - 130*	*01/13/25 07:03*	*01/13/25 20:25*	*1*
13C2 PFTeDA	*85.4*		*10 - 130*	*01/13/25 07:03*	*01/13/25 20:25*	*1*
13C3 PFBS	*86.5*		*40 - 135*	*01/13/25 07:03*	*01/13/25 20:25*	*1*
13C3 PFHxS	*91.0*		*40 - 130*	*01/13/25 07:03*	*01/13/25 20:25*	*1*
13C8 PFOS	*85.2*		*40 - 130*	*01/13/25 07:03*	*01/13/25 20:25*	*1*
13C8 FOSA	*72.9*		*40 - 130*	*01/13/25 07:03*	*01/13/25 20:25*	*1*
d3-NMeFOSAA	*102*		*40 - 170*	*01/13/25 07:03*	*01/13/25 20:25*	*1*
d5-NEtFOSAA	*99.8*		*25 - 135*	*01/13/25 07:03*	*01/13/25 20:25*	*1*
13C2 6:2 FTS	*85.6*		*40 - 200*	*01/13/25 07:03*	*01/13/25 20:25*	*1*
13C2 8:2 FTS	*77.3*		*40 - 300*	*01/13/25 07:03*	*01/13/25 20:25*	*1*
13C3 HFPO-DA	*88.1*		*40 - 130*	*01/13/25 07:03*	*01/13/25 20:25*	*1*
d7-N-MeFOSE-M	*74.8*		*10 - 130*	*01/13/25 07:03*	*01/13/25 20:25*	*1*
d9-N-EtFOSE-M	*69.9*		*10 - 130*	*01/13/25 07:03*	*01/13/25 20:25*	*1*
d5-NEtPFOSA	*77.5*		*10 - 130*	*01/13/25 07:03*	*01/13/25 20:25*	*1*

Client Sample ID: EB-01072025
Date Collected: 01/07/25 16:00
Date Received: 01/09/25 09:30

Lab Sample ID: 320-118162-7
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d3-NMePFOSA	*76.7*		*10 - 130*	*01/13/25 07:03*	*01/13/25 20:25*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.3	0.83	ng/L		01/13/25 07:03	01/14/25 11:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 4:2 FTS	*96.8*		*40 - 200*	*01/13/25 07:03*	*01/14/25 11:57*	*1*

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118162-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(5-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(30-130)
320-118162-1	FB-01072025	96.4	86.6	93.7	95.2	92.2	87.2	82.4	80.0
320-118162-2	W-MW-15-N-01072025	97.6	99.8	102	96.9	109	93.0	96.2	86.1
320-118162-3	EA-MW-14A-N-01072025	97.2	95.6	103	117	96.5	93.3	89.2	80.8
320-118162-3 - DL	EA-MW-14A-N-01072025								
320-118162-4 - DL	EA-MW-14B-N-01072025								
320-118162-4	EA-MW-14B-N-01072025	92.3	93.5	97.8	93.9	83.8	83.1	86.4	89.6
320-118162-5	EA-MW-13A-N-01072025	91.8	92.8	94.1	92.1	90.9	101	88.4	87.7
320-118162-6	EA-MW-13A-FD-01072025	99.3	96.3	101	102	97.5	91.9	89.6	83.0
320-118162-7	EB-01072025	97.6	90.5	86.1	86.8	101	85.4	87.5	83.1
320-118162-7 - RA	EB-01072025								
LCS 320-827034/3-A	Lab Control Sample	103	98.9	103	103	100	89.3	94.8	90.9
LCSD 320-827034/4-A	Lab Control Sample Dup	101	93.1	91.6	81.3	81.5	75.5	72.5	71.7
LLCS 320-827034/2-A	Lab Control Sample	96.6	93.4	99.9	99.4	96.7	87.8	79.4	81.6
MB 320-827034/1-A	Method Blank	101	98.5	105	108	98.0	87.0	88.8	96.0

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(10-130)	(10-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-170)	(25-135)
320-118162-1	FB-01072025	64.4	66.6	98.0	86.1	83.4	72.3	95.6	90.0
320-118162-2	W-MW-15-N-01072025	84.7	74.8	99.8	94.4	83.5	77.4	98.7	94.5
320-118162-3	EA-MW-14A-N-01072025	68.5	73.2	106	91.9	90.9	105	126	124
320-118162-3 - DL	EA-MW-14A-N-01072025				90.3 *3	94.3 *3			
320-118162-4 - DL	EA-MW-14B-N-01072025				84.0 *3	79.7 *3			
320-118162-4	EA-MW-14B-N-01072025	71.3	57.0	107	84.2	89.4	146 *5+	120	123
320-118162-5	EA-MW-13A-N-01072025	75.7	77.0	103	92.6	84.8	78.1	99.2	95.0
320-118162-6	EA-MW-13A-FD-01072025	81.0	73.6	97.6	96.2	87.8	77.3	97.1	95.5
320-118162-7	EB-01072025	75.5	85.4	86.5	91.0	85.2	72.9	102	99.8
320-118162-7 - RA	EB-01072025								
LCS 320-827034/3-A	Lab Control Sample	80.8	82.4	98.6	94.2	88.7	76.4	93.9	95.1
LCSD 320-827034/4-A	Lab Control Sample Dup	64.4	57.5	82.5	77.1	74.3	67.1	84.5	81.9
LLCS 320-827034/2-A	Lab Control Sample	74.1	78.8	93.8	89.0	78.7	72.3	93.5	90.6
MB 320-827034/1-A	Method Blank	86.3	78.9	103	93.1	87.2	78.5	96.7	100

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-200)	(40-200)	(40-300)	(40-130)	(10-130)	(10-130)	(10-130)	(10-130)
320-118162-1	FB-01072025	79.4	105	84.4	90.4	68.5	65.8	77.2	72.3
320-118162-2	W-MW-15-N-01072025	59.9	93.5	82.0	97.9	64.4	64.9	72.9	71.9
320-118162-3	EA-MW-14A-N-01072025	90.2	117	90.1	106	96.9	86.4	98.4	91.4
320-118162-3 - DL	EA-MW-14A-N-01072025								
320-118162-4 - DL	EA-MW-14B-N-01072025								
320-118162-4	EA-MW-14B-N-01072025	83.8	113	94.3	102	114	101	113	119
320-118162-5	EA-MW-13A-N-01072025	75.3	111	86.9	81.6	70.2	71.1	73.2	77.0
320-118162-6	EA-MW-13A-FD-01072025	86.7	102	84.2	88.3	67.8	68.4	78.3	76.1
320-118162-7	EB-01072025		85.6	77.3	88.1	74.8	69.9	77.5	76.7
320-118162-7 - RA	EB-01072025	96.8							
LCS 320-827034/3-A	Lab Control Sample	80.0	103	82.0	94.6	73.7	73.4	80.7	75.6
LCSD 320-827034/4-A	Lab Control Sample Dup	67.7	87.9	64.7	87.1	64.3	63.9	69.4	69.3
LLCS 320-827034/2-A	Lab Control Sample	79.0	93.5	77.4	89.8	77.4	76.2	81.4	74.8
MB 320-827034/1-A	Method Blank	80.3	101	83.6	96.9	78.7	75.2	88.3	78.6

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118162-1

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-827034/1-A
Matrix: Water
Analysis Batch: 827200

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 827034

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.0	1.0	ng/L		01/13/25 07:03	01/13/25 17:07	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.50	ng/L		01/13/25 07:03	01/13/25 17:07	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		01/13/25 07:03	01/13/25 17:07	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		01/13/25 07:03	01/13/25 17:07	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		01/13/25 07:03	01/13/25 17:07	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		01/13/25 07:03	01/13/25 17:07	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		01/13/25 07:03	01/13/25 17:07	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		01/13/25 07:03	01/13/25 17:07	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		01/13/25 07:03	01/13/25 17:07	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.58	ng/L		01/13/25 07:03	01/13/25 17:07	1
Perfluorotetradecanoic acid (PFTeDA)	ND		2.0	0.81	ng/L		01/13/25 07:03	01/13/25 17:07	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		01/13/25 07:03	01/13/25 17:07	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		01/13/25 07:03	01/13/25 17:07	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		01/13/25 07:03	01/13/25 17:07	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.50	ng/L		01/13/25 07:03	01/13/25 17:07	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		01/13/25 07:03	01/13/25 17:07	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		01/13/25 07:03	01/13/25 17:07	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		01/13/25 07:03	01/13/25 17:07	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.53	ng/L		01/13/25 07:03	01/13/25 17:07	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		4.0	1.0	ng/L		01/13/25 07:03	01/13/25 17:07	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		4.0	1.0	ng/L		01/13/25 07:03	01/13/25 17:07	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		4.0	1.0	ng/L		01/13/25 07:03	01/13/25 17:07	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		01/13/25 07:03	01/13/25 17:07	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		2.0	0.50	ng/L		01/13/25 07:03	01/13/25 17:07	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		2.0	0.50	ng/L		01/13/25 07:03	01/13/25 17:07	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ng/L		01/13/25 07:03	01/13/25 17:07	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.50	ng/L		01/13/25 07:03	01/13/25 17:07	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		10	2.5	ng/L		01/13/25 07:03	01/13/25 17:07	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		10	2.5	ng/L		01/13/25 07:03	01/13/25 17:07	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.5	0.39	ng/L		01/13/25 07:03	01/13/25 17:07	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.50	ng/L		01/13/25 07:03	01/13/25 17:07	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	0.50	ng/L		01/13/25 07:03	01/13/25 17:07	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	0.50	ng/L		01/13/25 07:03	01/13/25 17:07	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	0.72	ng/L		01/13/25 07:03	01/13/25 17:07	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		2.0	0.58	ng/L		01/13/25 07:03	01/13/25 17:07	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-827034/1-A
Matrix: Water
Analysis Batch: 827200

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 827034

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	0.50	ng/L		01/13/25 07:03	01/13/25 17:07	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	0.50	ng/L		01/13/25 07:03	01/13/25 17:07	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		4.0	1.0	ng/L		01/13/25 07:03	01/13/25 17:07	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		10	2.5	ng/L		01/13/25 07:03	01/13/25 17:07	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		10	2.5	ng/L		01/13/25 07:03	01/13/25 17:07	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*5 - 130*	*01/13/25 07:03*	*01/13/25 17:07*	*1*
13C5 PFPeA	*98.5*		*40 - 130*	*01/13/25 07:03*	*01/13/25 17:07*	*1*
13C5 PFHxA	*105*		*40 - 130*	*01/13/25 07:03*	*01/13/25 17:07*	*1*
13C4 PFHpA	*108*		*40 - 130*	*01/13/25 07:03*	*01/13/25 17:07*	*1*
13C8 PFOA	*98.0*		*40 - 130*	*01/13/25 07:03*	*01/13/25 17:07*	*1*
13C9 PFNA	*87.0*		*40 - 130*	*01/13/25 07:03*	*01/13/25 17:07*	*1*
13C6 PFDA	*88.8*		*40 - 130*	*01/13/25 07:03*	*01/13/25 17:07*	*1*
13C7 PFUnA	*96.0*		*30 - 130*	*01/13/25 07:03*	*01/13/25 17:07*	*1*
13C2 PFDoA	*86.3*		*10 - 130*	*01/13/25 07:03*	*01/13/25 17:07*	*1*
13C2 PFTeDA	*78.9*		*10 - 130*	*01/13/25 07:03*	*01/13/25 17:07*	*1*
13C3 PFBS	*103*		*40 - 135*	*01/13/25 07:03*	*01/13/25 17:07*	*1*
13C3 PFHxS	*93.1*		*40 - 130*	*01/13/25 07:03*	*01/13/25 17:07*	*1*
13C8 PFOS	*87.2*		*40 - 130*	*01/13/25 07:03*	*01/13/25 17:07*	*1*
13C8 FOSA	*78.5*		*40 - 130*	*01/13/25 07:03*	*01/13/25 17:07*	*1*
d3-NMeFOSAA	*96.7*		*40 - 170*	*01/13/25 07:03*	*01/13/25 17:07*	*1*
d5-NEtFOSAA	*100*		*25 - 135*	*01/13/25 07:03*	*01/13/25 17:07*	*1*
13C2 4:2 FTS	*80.3*		*40 - 200*	*01/13/25 07:03*	*01/13/25 17:07*	*1*
13C2 6:2 FTS	*101*		*40 - 200*	*01/13/25 07:03*	*01/13/25 17:07*	*1*
13C2 8:2 FTS	*83.6*		*40 - 300*	*01/13/25 07:03*	*01/13/25 17:07*	*1*
13C3 HFPO-DA	*96.9*		*40 - 130*	*01/13/25 07:03*	*01/13/25 17:07*	*1*
d7-N-MeFOSE-M	*78.7*		*10 - 130*	*01/13/25 07:03*	*01/13/25 17:07*	*1*
d9-N-EtFOSE-M	*75.2*		*10 - 130*	*01/13/25 07:03*	*01/13/25 17:07*	*1*
d5-NEtPFOSA	*88.3*		*10 - 130*	*01/13/25 07:03*	*01/13/25 17:07*	*1*
d3-NMePFOSA	*78.6*		*10 - 130*	*01/13/25 07:03*	*01/13/25 17:07*	*1*

Lab Sample ID: LCS 320-827034/3-A
Matrix: Water
Analysis Batch: 827200

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827034

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	86.8		ng/L		109	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	39.6		ng/L		99	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	39.1		ng/L		98	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	44.4		ng/L		111	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	42.8		ng/L		107	70 - 150
Perfluorononanoic acid (PFNA)	40.0	42.4		ng/L		106	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	41.5		ng/L		104	70 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-827034/3-A
Matrix: Water
Analysis Batch: 827200

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827034

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	40.0	41.7		ng/L		104	70 - 145
Perfluorododecanoic acid (PFDoA)	40.0	46.5		ng/L		116	70 - 140
Perfluorotridecanoic acid (PFTrDA)	40.0	43.5		ng/L		109	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	40.0	42.5		ng/L		106	60 - 140
Perfluorobutanesulfonic acid (PFBS)	35.5	39.5		ng/L		111	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	40.5		ng/L		108	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	36.9		ng/L		101	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	36.3		ng/L		95	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	33.2		ng/L		89	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	39.5		ng/L		103	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	36.5		ng/L		95	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	37.9		ng/L		98	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	85.9		ng/L		115	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	79.6		ng/L		105	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	81.9		ng/L		107	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	39.4		ng/L		99	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	43.6		ng/L		109	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	41.4		ng/L		103	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	45.9		ng/L		115	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	43.0		ng/L		107	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	202		ng/L		101	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	203		ng/L		102	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	30.8		ng/L		103	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	38.3		ng/L		101	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	45.6		ng/L		114	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	44.6		ng/L		112	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	33.9		ng/L		85	50 - 150

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-827034/3-A
Matrix: Water
Analysis Batch: 827200

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827034

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	36.4		ng/L		97	70 - 155		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	37.4		ng/L		99	55 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	34.0		ng/L		95	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	84.8		ng/L		106	65 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	158		ng/L		79	70 - 135		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	150		ng/L		75	50 - 145		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*103*		*5 - 130*
13C5 PFPeA	*98.9*		*40 - 130*
13C5 PFHxA	*103*		*40 - 130*
13C4 PFHpA	*103*		*40 - 130*
13C8 PFOA	*100*		*40 - 130*
13C9 PFNA	*89.3*		*40 - 130*
13C6 PFDA	*94.8*		*40 - 130*
13C7 PFUnA	*90.9*		*30 - 130*
13C2 PFDoA	*80.8*		*10 - 130*
13C2 PFTeDA	*82.4*		*10 - 130*
13C3 PFBS	*98.6*		*40 - 135*
13C3 PFHxS	*94.2*		*40 - 130*
13C8 PFOS	*88.7*		*40 - 130*
13C8 FOSA	*76.4*		*40 - 130*
d3-NMeFOSAA	*93.9*		*40 - 170*
d5-NEtFOSAA	*95.1*		*25 - 135*
13C2 4:2 FTS	*80.0*		*40 - 200*
13C2 6:2 FTS	*103*		*40 - 200*
13C2 8:2 FTS	*82.0*		*40 - 300*
13C3 HFPO-DA	*94.6*		*40 - 130*
d7-N-MeFOSE-M	*73.7*		*10 - 130*
d9-N-EtFOSE-M	*73.4*		*10 - 130*
d5-NEtPFOSA	*80.7*		*10 - 130*
d3-NMePFOSA	*75.6*		*10 - 130*

Lab Sample ID: LCSD 320-827034/4-A
Matrix: Water
Analysis Batch: 827200

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 827034

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			80.0	82.5		ng/L		103	70 - 140	5	30
Perfluoropentanoic acid (PFPeA)			40.0	42.8		ng/L		107	65 - 135	8	30
Perfluorohexanoic acid (PFHxA)			40.0	40.0		ng/L		100	70 - 145	2	30
Perfluoroheptanoic acid (PFHpA)			40.0	45.0		ng/L		112	70 - 150	1	30
Perfluorooctanoic acid (PFOA)			40.0	41.8		ng/L		105	70 - 150	2	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-827034/4-A
Matrix: Water
Analysis Batch: 827200

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 827034

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	40.0	41.1		ng/L		103	70 - 150	3	30
Perfluorodecanoic acid (PFDA)	40.0	38.2		ng/L		96	70 - 140	8	30
Perfluoroundecanoic acid (PFUnA)	40.0	43.6		ng/L		109	70 - 145	5	30
Perfluorododecanoic acid (PFDoA)	40.0	45.6		ng/L		114	70 - 140	2	30
Perfluorotridecanoic acid (PFTrDA)	40.0	45.6		ng/L		114	65 - 140	5	30
Perfluorotetradecanoic acid (PFTeDA)	40.0	41.5		ng/L		104	60 - 140	2	30
Perfluorobutanesulfonic acid (PFBS)	35.5	38.9		ng/L		110	60 - 145	1	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	42.9		ng/L		114	65 - 140	6	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	35.7		ng/L		98	65 - 145	3	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	38.9		ng/L		102	70 - 150	7	30
Perfluorooctanesulfonic acid (PFOS)	37.2	38.6		ng/L		104	55 - 150	15	30
Perfluorononanesulfonic acid (PFNS)	38.5	38.6		ng/L		100	65 - 145	2	30
Perfluorodecanesulfonic acid (PFDS)	38.6	39.5		ng/L		103	60 - 145	8	30
Perfluorododecanesulfonic acid (PFDoS)	38.8	37.2		ng/L		96	50 - 145	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	87.0		ng/L		116	70 - 145	1	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	81.2		ng/L		107	65 - 155	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	94.3		ng/L		123	60 - 150	14	30
Perfluorooctanesulfonamide (PFOSA)	40.0	40.0		ng/L		100	70 - 145	2	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	42.5		ng/L		106	60 - 150	3	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	41.9		ng/L		105	65 - 145	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	44.5		ng/L		111	50 - 140	3	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	45.0		ng/L		113	70 - 145	5	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	208		ng/L		104	70 - 145	3	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	215		ng/L		108	70 - 135	6	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	28.5		ng/L		95	70 - 140	8	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	39.9		ng/L		105	65 - 145	4	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	43.5		ng/L		109	55 - 140	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	40.8		ng/L		102	60 - 150	9	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-827034/4-A
Matrix: Water
Analysis Batch: 827200

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 827034

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			40.0	33.5		ng/L		84	50 - 150	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	30.8		ng/L		82	70 - 155	17	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	34.4		ng/L		91	55 - 160	8	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	32.2		ng/L		90	70 - 140	5	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	79.4		ng/L		99	65 - 130	7	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	173		ng/L		87	70 - 135	9	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	134		ng/L		67	50 - 145	11	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*101*		*5 - 130*
13C5 PFPeA	*93.1*		*40 - 130*
13C5 PFHxA	*91.6*		*40 - 130*
13C4 PFHpA	*81.3*		*40 - 130*
13C8 PFOA	*81.5*		*40 - 130*
13C9 PFNA	*75.5*		*40 - 130*
13C6 PFDA	*72.5*		*40 - 130*
13C7 PFUnA	*71.7*		*30 - 130*
13C2 PFDoA	*64.4*		*10 - 130*
13C2 PFTeDA	*57.5*		*10 - 130*
13C3 PFBS	*82.5*		*40 - 135*
13C3 PFHxS	*77.1*		*40 - 130*
13C8 PFOS	*74.3*		*40 - 130*
13C8 FOSA	*67.1*		*40 - 130*
d3-NMeFOSAA	*84.5*		*40 - 170*
d5-NEtFOSAA	*81.9*		*25 - 135*
13C2 4:2 FTS	*67.7*		*40 - 200*
13C2 6:2 FTS	*87.9*		*40 - 200*
13C2 8:2 FTS	*64.7*		*40 - 300*
13C3 HFPO-DA	*87.1*		*40 - 130*
d7-N-MeFOSE-M	*64.3*		*10 - 130*
d9-N-EtFOSE-M	*63.9*		*10 - 130*
d5-NEtPFOSA	*69.4*		*10 - 130*
d3-NMePFOSA	*69.3*		*10 - 130*

Lab Sample ID: LLCS 320-827034/2-A
Matrix: Water
Analysis Batch: 827200

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827034

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			8.00	8.97		ng/L		112	70 - 140
Perfluoropentanoic acid (PFPeA)			4.00	4.55		ng/L		114	65 - 135
Perfluorohexanoic acid (PFHxA)			4.00	3.77		ng/L		94	70 - 145

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-827034/2-A
Matrix: Water
Analysis Batch: 827200

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827034

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	4.00	4.40		ng/L		110	70 - 150
Perfluorooctanoic acid (PFOA)	4.00	4.57		ng/L		114	70 - 150
Perfluorononanoic acid (PFNA)	4.00	4.20		ng/L		105	70 - 150
Perfluorodecanoic acid (PFDA)	4.00	4.31		ng/L		108	70 - 140
Perfluoroundecanoic acid (PFUnA)	4.00	4.35		ng/L		109	70 - 145
Perfluorododecanoic acid (PFDoA)	4.00	4.62		ng/L		115	70 - 140
Perfluorotridecanoic acid (PFTrDA)	4.00	4.39		ng/L		110	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	4.00	3.94		ng/L		99	60 - 140
Perfluorobutanesulfonic acid (PFBS)	3.55	3.59		ng/L		101	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.76	4.26		ng/L		113	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	3.65	4.24		ng/L		116	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.82	4.32		ng/L		113	70 - 150
Perfluorooctanesulfonic acid (PFOS)	3.72	4.01		ng/L		108	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.85	4.12		ng/L		107	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.86	4.10		ng/L		106	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.88	4.16		ng/L		107	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	7.50	8.83		ng/L		118	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.62	8.61		ng/L		113	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.68	8.72		ng/L		114	60 - 150
Perfluorooctanesulfonamide (PFOSA)	4.00	4.16		ng/L		104	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	4.00	4.75		ng/L		119	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	4.00	4.21		ng/L		105	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.00	4.28		ng/L		107	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.00	4.11		ng/L		103	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	20.0	19.6		ng/L		98	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	20.0	20.3		ng/L		101	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.00	3.20		ng/L		107	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	4.34		ng/L		115	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.00	4.45		ng/L		111	55 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-827034/2-A
Matrix: Water
Analysis Batch: 827200

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 827034

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.00	4.49		ng/L		112	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.00	3.32		ng/L		83	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	3.74	4.11		ng/L		110	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	3.78	3.85		ng/L		102	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	3.57	3.36		ng/L		94	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	8.00	8.03		ng/L		100	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	20.0	18.0		ng/L		90	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	20.0	15.2		ng/L		76	50 - 145

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*96.6*		*5 - 130*
13C5 PFPeA	*93.4*		*40 - 130*
13C5 PFHxA	*99.9*		*40 - 130*
13C4 PFHpA	*99.4*		*40 - 130*
13C8 PFOA	*96.7*		*40 - 130*
13C9 PFNA	*87.8*		*40 - 130*
13C6 PFDA	*79.4*		*40 - 130*
13C7 PFUnA	*81.6*		*30 - 130*
13C2 PFDoA	*74.1*		*10 - 130*
13C2 PFTeDA	*78.8*		*10 - 130*
13C3 PFBS	*93.8*		*40 - 135*
13C3 PFHxS	*89.0*		*40 - 130*
13C8 PFOS	*78.7*		*40 - 130*
13C8 FOSA	*72.3*		*40 - 130*
d3-NMeFOSAA	*93.5*		*40 - 170*
d5-NEtFOSAA	*90.6*		*25 - 135*
13C2 4:2 FTS	*79.0*		*40 - 200*
13C2 6:2 FTS	*93.5*		*40 - 200*
13C2 8:2 FTS	*77.4*		*40 - 300*
13C3 HFPO-DA	*89.8*		*40 - 130*
d7-N-MeFOSE-M	*77.4*		*10 - 130*
d9-N-EtFOSE-M	*76.2*		*10 - 130*
d5-NEtPFOSA	*81.4*		*10 - 130*
d3-NMePFOSA	*74.8*		*10 - 130*

LCMS

Prep Batch: 827034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118162-1	FB-01072025	Total/NA	Water	1633	
320-118162-2	W-MW-15-N-01072025	Total/NA	Water	1633	
320-118162-3	EA-MW-14A-N-01072025	Total/NA	Water	1633	
320-118162-3 - DL	EA-MW-14A-N-01072025	Total/NA	Water	1633	
320-118162-4	EA-MW-14B-N-01072025	Total/NA	Water	1633	
320-118162-4 - DL	EA-MW-14B-N-01072025	Total/NA	Water	1633	
320-118162-5	EA-MW-13A-N-01072025	Total/NA	Water	1633	
320-118162-6	EA-MW-13A-FD-01072025	Total/NA	Water	1633	
320-118162-7 - RA	EB-01072025	Total/NA	Water	1633	
320-118162-7	EB-01072025	Total/NA	Water	1633	
MB 320-827034/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-827034/3-A	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-827034/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-827034/2-A	Lab Control Sample	Total/NA	Water	1633	

Analysis Batch: 827200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118162-1	FB-01072025	Total/NA	Water	1633	827034
320-118162-2	W-MW-15-N-01072025	Total/NA	Water	1633	827034
320-118162-3	EA-MW-14A-N-01072025	Total/NA	Water	1633	827034
320-118162-5	EA-MW-13A-N-01072025	Total/NA	Water	1633	827034
320-118162-6	EA-MW-13A-FD-01072025	Total/NA	Water	1633	827034
320-118162-7	EB-01072025	Total/NA	Water	1633	827034
MB 320-827034/1-A	Method Blank	Total/NA	Water	1633	827034
LCS 320-827034/3-A	Lab Control Sample	Total/NA	Water	1633	827034
LCSD 320-827034/4-A	Lab Control Sample Dup	Total/NA	Water	1633	827034
LLCS 320-827034/2-A	Lab Control Sample	Total/NA	Water	1633	827034

Analysis Batch: 827355

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118162-7 - RA	EB-01072025	Total/NA	Water	1633	827034

Analysis Batch: 828179

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118162-3 - DL	EA-MW-14A-N-01072025	Total/NA	Water	1633	827034
320-118162-4 - DL	EA-MW-14B-N-01072025	Total/NA	Water	1633	827034
320-118162-4	EA-MW-14B-N-01072025	Total/NA	Water	1633	827034

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118162-1

Client Sample ID: FB-01072025
Lab Sample ID: 320-118162-1
Date Collected: 01/07/25 12:00
Matrix: Water
Date Received: 01/09/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			171.6 mL	5.0 mL	827034	01/13/25 07:03	NMF	EET SAC
Total/NA	Analysis	1633		1			827200	01/13/25 18:13	RS1	EET SAC

Client Sample ID: W-MW-15-N-01072025
Lab Sample ID: 320-118162-2
Date Collected: 01/07/25 09:35
Matrix: Water
Date Received: 01/09/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			140.3 mL	5.0 mL	827034	01/13/25 07:03	NMF	EET SAC
Total/NA	Analysis	1633		1			827200	01/13/25 18:30	RS1	EET SAC

Client Sample ID: EA-MW-14A-N-01072025
Lab Sample ID: 320-118162-3
Date Collected: 01/07/25 12:35
Matrix: Water
Date Received: 01/09/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			144.8 mL	5.0 mL	827034	01/13/25 07:03	NMF	EET SAC
Total/NA	Analysis	1633		1			827200	01/13/25 18:46	RS1	EET SAC
Total/NA	Prep	1633	DL		144.8 mL	5.0 mL	827034	01/13/25 07:03	NMF	EET SAC
Total/NA	Analysis	1633	DL	10			828179	01/17/25 16:18	C1P	EET SAC

Client Sample ID: EA-MW-14B-N-01072025
Lab Sample ID: 320-118162-4
Date Collected: 01/07/25 13:40
Matrix: Water
Date Received: 01/09/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633	DL		134.3 mL	5.0 mL	827034	01/13/25 07:03	NMF	EET SAC
Total/NA	Analysis	1633	DL	20			828179	01/17/25 16:34	C1P	EET SAC
Total/NA	Prep	1633			134.3 mL	5.0 mL	827034	01/13/25 07:03	NMF	EET SAC
Total/NA	Analysis	1633		1			828179	01/17/25 16:51	C1P	EET SAC

Client Sample ID: EA-MW-13A-N-01072025
Lab Sample ID: 320-118162-5
Date Collected: 01/07/25 14:50
Matrix: Water
Date Received: 01/09/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			147.8 mL	5.0 mL	827034	01/13/25 07:03	NMF	EET SAC
Total/NA	Analysis	1633		1			827200	01/13/25 19:19	RS1	EET SAC

Client Sample ID: EA-MW-13A-FD-01072025
Lab Sample ID: 320-118162-6
Date Collected: 01/07/25 15:20
Matrix: Water
Date Received: 01/09/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			149.7 mL	5.0 mL	827034	01/13/25 07:03	NMF	EET SAC
Total/NA	Analysis	1633		1			827200	01/13/25 19:35	RS1	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118162-1

Client Sample ID: EB-01072025

Date Collected: 01/07/25 16:00
Date Received: 01/09/25 09:30

Lab Sample ID: 320-118162-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633	RA		149.8 mL	5.0 mL	827034	01/13/25 07:03	NMF	EET SAC
Total/NA	Analysis	1633	RA	1			827355	01/14/25 11:57	RS1	EET SAC
Total/NA	Prep	1633			149.8 mL	5.0 mL	827034	01/13/25 07:03	NMF	EET SAC
Total/NA	Analysis	1633		1			827200	01/13/25 20:25	RS1	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118162-1
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118162-1

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Solid-Phase Extraction (SPE)	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Job ID: 320-118162-1
Project/Site: Spokane International Airport

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118162-1	FB-01072025	Water	01/07/25 12:00	01/09/25 09:30
320-118162-2	W-MW-15-N-01072025	Water	01/07/25 09:35	01/09/25 09:30
320-118162-3	EA-MW-14A-N-01072025	Water	01/07/25 12:35	01/09/25 09:30
320-118162-4	EA-MW-14B-N-01072025	Water	01/07/25 13:40	01/09/25 09:30
320-118162-5	EA-MW-13A-N-01072025	Water	01/07/25 14:50	01/09/25 09:30
320-118162-6	EA-MW-13A-FD-01072025	Water	01/07/25 15:20	01/09/25 09:30
320-118162-7	EB-01072025	Water	01/07/25 16:00	01/09/25 09:30

HALEY ALDRICH

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447
Page 1 of 1

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	Cations EPA 200.7	Anions EPA 300.0	Bromide EPA 300.0	Alkalinity SM 2320 B	Number of Containers
FB-010725	1/7/25	–	H_2O	X					1
W-MW-15-N-010725	1/7/25	9:35	H_2O	X					3
EA-MW-14A-N-01072025	1/7/25	12:35	H_2O	X					3
EA-MW-14B-N-01072025	1/7/25	13:40	H_2O	X					3
EA-MW-13A-N-01072025	1/7/25	14:50	H_2O	X					3
EA-MW-13A-FD-01072025	1/7/25	15:20	H_2O	X					3
EB-01072025	1/7/25	16:00	H_2O	X					3

320-118162 Chain of Custody

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– Cations to be analyzed: Ca, Mg, K, Na
– Anions to be analyzed: Cl, NO_3^-, SO_4^{2-}
– Alkilinity to be mesaured by titration

3.9, 4.6 | R0006

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo	Print Mackay Moms
Firm H&A	Firm EET SPO
Date 1/7/2025 Time 1644	Date 1/7/25 1644
Relinquished by	**Received by**
Sign	Sign
Print Mackay Moms	Print Ryan Medrano
Firm EET SPO	Firm DE TECH
Date 1/8/25 Time 1457	Date 1/9/25 0930
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	SOLID
VOA Vial	VOA Vial
Amber Glass	Amber Glass
Plastic Bottle	Clear Glass
Preservative	Preservative
Volume	Volume

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
_____ This Chain of Custody Record (specify) _____includes _____does not include samples defined as Drinking Water Samples.
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

Form 3003 2.5

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory November 2024

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Tracking # : 4242 5962 9423

Job: _____ SOC: 320 118162 _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record ... Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Therm. ID: 112 Corr. Factor: (+ / -) _____ °C

Ice 1 Wet 1 Gel _____ Other _____

Cooler Custody Seal: 2287452

Cooler ID: _____

Temp Observed: 2.5 °C Corrected: 2.5 °C

From: Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: M Date: 1/9/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: _____ Date: 1.9.25

Notes: _____

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials: _____ Date: 1.9.25

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 1/15/2025 9:27:40 AM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118123-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Job Notes

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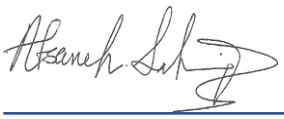
The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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1/15/2025 9:27:40 AM

Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118123-1
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-118123-1

Receipt
The samples were received on 1/8/2025 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.4º C.

LCMS
Method 1633: The Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: FB-01062025 (320-118123-8). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s).

Method 1633: The RPD of the laboratory control sample (LCS) and the laboratory control sample duplicate (LCSD) for preparation batch 320-826873 and analytical batch 320-827113 recovered outside control limits for the following analytes: Nonafluoro-3,6-dioxaheptanoic acid (NFDHA).

Method 1633: The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. The associated analytes have been flagged: LA-MW-12-N-01062025 (320-118123-5).

Method 1633: The method blank for preparation batch 320-826873 and analytical batch 320-827113 contained Perfluorobutanesulfonic acid (PFBS) above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction of samples was not performed.

Method 1633: The transition mass ratio was outside of the established ratio limit for 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) in LA-MW-8-N-01062025 (320-118123-1), LA-MW-10-N-01062025 (320-118123-2), LA-MW-10-FD-01062025 (320-118123-3), LA-MW-9-N-01062025 (320-118123-4), LA-MW-12-N-01062025 (320-118123-5), LA-MW-11-N-01062025 (320-118123-6), W-MW-17-N-01062025 (320-118123-7), FB-01062025 (320-118123-8), EB-01062025 (320-118123-9) and (CCV 320-827113/16) associated to this data set. This is indicated by the "R" flag in the raw data. As the flagged data is in control in the continuing calibration verification (CCV), there is no adverse impact to the data.

Method 1633: The following sample was re-analyzed because the sample is field blank (FB) but has been detected more than RL: FB-01062025 (320-118123-8) The re-analysis confirmed. There is insufficient volume for another extraction; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 1633: The following sample in preparation batch 320-826873 was light green in color prior to extraction. LA-MW-9-N-01062025 (320-118123-4)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118123-1

Client Sample ID: LA-MW-8-N-01062025 — Lab Sample ID: 320-118123-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	22		3.7	0.91	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	13		1.8	0.46	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	12		1.8	0.46	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	5.5		1.8	0.46	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	13		1.8	0.46	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	1.9		1.8	0.46	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.2	B	1.8	0.46	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	1.0	J	1.8	0.46	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.7		1.8	0.46	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	14		1.8	0.46	ng/L	1		1633	Total/NA
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.49	J	1.8	0.46	ng/L	1		1633	Total/NA

Client Sample ID: LA-MW-10-N-01062025 — Lab Sample ID: 320-118123-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	42		3.4	0.85	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	160		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	180		1.7	0.42	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	10		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.0	B	1.7	0.42	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.43	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.6		1.7	0.42	ng/L	1		1633	Total/NA

Client Sample ID: LA-MW-10-FD-01062025 — Lab Sample ID: 320-118123-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	37		3.4	0.85	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	170		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	180		1.7	0.42	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	10		1.7	0.42	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.8	B	1.7	0.42	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.47	J	1.7	0.42	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.7		1.7	0.42	ng/L	1		1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.5	J	3.4	0.85	ng/L	1		1633	Total/NA

Client Sample ID: LA-MW-9-N-01062025 — Lab Sample ID: 320-118123-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	12		3.5	0.87	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	20		1.7	0.44	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	22		1.7	0.44	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	7.7		1.7	0.44	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	24		1.7	0.44	ng/L	1		1633	Total/NA
Perfluorononanoic acid (PFNA)	4.9		1.7	0.44	ng/L	1		1633	Total/NA
Perfluorodecanoic acid (PFDA)	9.0		1.7	0.44	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.1	B	1.7	0.44	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	1.1	J	1.7	0.44	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	16		1.7	0.44	ng/L	1		1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: LA-MW-9-N-01062025 (Continued) — Lab Sample ID: 320-118123-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	11		1.7	0.44	ng/L	1		1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	1.4	J	3.5	0.87	ng/L	1		1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	6.0	J	8.7	2.2	ng/L	1		1633	Total/NA

Client Sample ID: LA-MW-12-N-01062025 — Lab Sample ID: 320-118123-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	3.5		3.2	0.81	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	7.0		1.6	0.40	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	6.0		1.6	0.40	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	4.5		1.6	0.40	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	7.2		1.6	0.40	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.0	B	1.6	0.40	ng/L	1		1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	1.1	J	1.6	0.40	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.7		1.6	0.40	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.2	I	1.6	0.40	ng/L	1		1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.88	J	3.2	0.81	ng/L	1		1633	Total/NA

Client Sample ID: LA-MW-11-N-01062025 — Lab Sample ID: 320-118123-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.61	J	1.6	0.39	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	7.6		1.6	0.39	ng/L	1		1633	Total/NA

Client Sample ID: W-MW-17-N-01062025 — Lab Sample ID: 320-118123-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	4.6		3.4	0.86	ng/L	1		1633	Total/NA
Perfluoropentanoic acid (PFPeA)	1.1	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	1.5	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.99	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	1.9		1.7	0.43	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.0	B	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.2	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.3		1.7	0.43	ng/L	1		1633	Total/NA

Client Sample ID: FB-01062025 — Lab Sample ID: 320-118123-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.40	J	1.5	0.38	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	11		1.5	0.38	ng/L	1		1633	Total/NA

Client Sample ID: EB-01062025 — Lab Sample ID: 320-118123-9

No Detections.

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118123-1

Client Sample ID: LA-MW-8-N-01062025
Date Collected: 01/06/25 10:05
Date Received: 01/08/25 09:30

Lab Sample ID: 320-118123-1
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**22**		3.7	0.91	ng/L		01/10/25 06:59	01/13/25 13:01	1
Perfluoropentanoic acid (PFPeA)	**13**		1.8	0.46	ng/L		01/10/25 06:59	01/13/25 13:01	1
Perfluorohexanoic acid (PFHxA)	**12**		1.8	0.46	ng/L		01/10/25 06:59	01/13/25 13:01	1
Perfluoroheptanoic acid (PFHpA)	**5.5**		1.8	0.46	ng/L		01/10/25 06:59	01/13/25 13:01	1
Perfluorooctanoic acid (PFOA)	**13**		1.8	0.46	ng/L		01/10/25 06:59	01/13/25 13:01	1
Perfluorononanoic acid (PFNA)	**1.9**		1.8	0.46	ng/L		01/10/25 06:59	01/13/25 13:01	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.46	ng/L		01/10/25 06:59	01/13/25 13:01	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.46	ng/L		01/10/25 06:59	01/13/25 13:01	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		01/10/25 06:59	01/13/25 13:01	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.53	ng/L		01/10/25 06:59	01/13/25 13:01	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.8	0.74	ng/L		01/10/25 06:59	01/13/25 13:01	1
Perfluorobutanesulfonic acid (PFBS)	**3.2**	**B**	1.8	0.46	ng/L		01/10/25 06:59	01/13/25 13:01	1
Perfluoropentanesulfonic acid (PFPeS)	**1.0**	**J**	1.8	0.46	ng/L		01/10/25 06:59	01/13/25 13:01	1
Perfluorohexanesulfonic acid (PFHxS)	**6.7**		1.8	0.46	ng/L		01/10/25 06:59	01/13/25 13:01	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.46	ng/L		01/10/25 06:59	01/13/25 13:01	1
Perfluorooctanesulfonic acid (PFOS)	**14**		1.8	0.46	ng/L		01/10/25 06:59	01/13/25 13:01	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.46	ng/L		01/10/25 06:59	01/13/25 13:01	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.46	ng/L		01/10/25 06:59	01/13/25 13:01	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.48	ng/L		01/10/25 06:59	01/13/25 13:01	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.7	0.91	ng/L		01/10/25 06:59	01/13/25 13:01	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.7	0.91	ng/L		01/10/25 06:59	01/13/25 13:01	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.7	0.91	ng/L		01/10/25 06:59	01/13/25 13:01	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.46	ng/L		01/10/25 06:59	01/13/25 13:01	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.8	0.46	ng/L		01/10/25 06:59	01/13/25 13:01	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.8	0.46	ng/L		01/10/25 06:59	01/13/25 13:01	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.8	0.46	ng/L		01/10/25 06:59	01/13/25 13:01	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.8	0.46	ng/L		01/10/25 06:59	01/13/25 13:01	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		9.1	2.3	ng/L		01/10/25 06:59	01/13/25 13:01	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		9.1	2.3	ng/L		01/10/25 06:59	01/13/25 13:01	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.4	0.36	ng/L		01/10/25 06:59	01/13/25 13:01	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.46	ng/L		01/10/25 06:59	01/13/25 13:01	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	**0.49**	**J**	1.8	0.46	ng/L		01/10/25 06:59	01/13/25 13:01	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.8	0.46	ng/L		01/10/25 06:59	01/13/25 13:01	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	1.8	0.66	ng/L		01/10/25 06:59	01/13/25 13:01	1

Client Sample ID: LA-MW-8-N-01062025

Lab Sample ID: 320-118123-1

Date Collected: 01/06/25 10:05

Matrix: Water

Date Received: 01/08/25 09:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.8	0.53	ng/L		01/10/25 06:59	01/13/25 13:01	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.8	0.46	ng/L		01/10/25 06:59	01/13/25 13:01	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.8	0.46	ng/L		01/10/25 06:59	01/13/25 13:01	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.7	0.91	ng/L		01/10/25 06:59	01/13/25 13:01	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		9.1	2.3	ng/L		01/10/25 06:59	01/13/25 13:01	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		9.1	2.3	ng/L		01/10/25 06:59	01/13/25 13:01	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*95.0*		*5 - 130*	*01/10/25 06:59*	*01/13/25 13:01*	*1*
13C5 PFPeA	*102*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:01*	*1*
13C5 PFHxA	*96.8*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:01*	*1*
13C4 PFHpA	*99.4*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:01*	*1*
13C8 PFOA	*92.6*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:01*	*1*
13C9 PFNA	*86.8*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:01*	*1*
13C6 PFDA	*87.5*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:01*	*1*
13C7 PFUnA	*99.8*		*30 - 130*	*01/10/25 06:59*	*01/13/25 13:01*	*1*
13C2 PFDoA	*91.1*		*10 - 130*	*01/10/25 06:59*	*01/13/25 13:01*	*1*
13C2 PFTeDA	*75.4*		*10 - 130*	*01/10/25 06:59*	*01/13/25 13:01*	*1*
13C3 PFBS	*103*		*40 - 135*	*01/10/25 06:59*	*01/13/25 13:01*	*1*
13C3 PFHxS	*95.8*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:01*	*1*
13C8 PFOS	*81.6*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:01*	*1*
13C8 FOSA	*76.2*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:01*	*1*
d3-NMeFOSAA	*80.0*		*40 - 170*	*01/10/25 06:59*	*01/13/25 13:01*	*1*
d5-NEtFOSAA	*77.6*		*25 - 135*	*01/10/25 06:59*	*01/13/25 13:01*	*1*
13C2 4:2 FTS	*85.8*		*40 - 200*	*01/10/25 06:59*	*01/13/25 13:01*	*1*
13C2 6:2 FTS	*97.4*		*40 - 200*	*01/10/25 06:59*	*01/13/25 13:01*	*1*
13C2 8:2 FTS	*82.7*		*40 - 300*	*01/10/25 06:59*	*01/13/25 13:01*	*1*
13C3 HFPO-DA	*96.7*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:01*	*1*
d7-N-MeFOSE-M	*61.0*		*10 - 130*	*01/10/25 06:59*	*01/13/25 13:01*	*1*
d9-N-EtFOSE-M	*57.5*		*10 - 130*	*01/10/25 06:59*	*01/13/25 13:01*	*1*
d5-NEtPFOSA	*66.8*		*10 - 130*	*01/10/25 06:59*	*01/13/25 13:01*	*1*
d3-NMePFOSA	*67.0*		*10 - 130*	*01/10/25 06:59*	*01/13/25 13:01*	*1*

Client Sample ID: LA-MW-10-N-01062025

Lab Sample ID: 320-118123-2

Date Collected: 01/06/25 11:15

Matrix: Water

Date Received: 01/08/25 09:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**42**		3.4	0.85	ng/L		01/10/25 06:59	01/13/25 13:17	1
Perfluoropentanoic acid (PFPeA)	**160**		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:17	1
Perfluorohexanoic acid (PFHxA)	**180**		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:17	1
Perfluoroheptanoic acid (PFHpA)	**10**		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:17	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:17	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:17	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:17	1

Client Sample ID: LA-MW-10-N-01062025
Date Collected: 01/06/25 11:15
Date Received: 01/08/25 09:30

Lab Sample ID: 320-118123-2
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:17	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		01/10/25 06:59	01/13/25 13:17	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.49	ng/L		01/10/25 06:59	01/13/25 13:17	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.69	ng/L		01/10/25 06:59	01/13/25 13:17	1
Perfluorobutanesulfonic acid (PFBS)	**2.0**	**B**	1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:17	1
Perfluoropentanesulfonic acid (PFPeS)	**0.43**	**J**	1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:17	1
Perfluorohexanesulfonic acid (PFHxS)	**2.6**		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:17	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:17	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:17	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:17	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:17	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.45	ng/L		01/10/25 06:59	01/13/25 13:17	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.4	0.85	ng/L		01/10/25 06:59	01/13/25 13:17	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.4	0.85	ng/L		01/10/25 06:59	01/13/25 13:17	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.4	0.85	ng/L		01/10/25 06:59	01/13/25 13:17	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:17	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:17	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:17	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.5	2.1	ng/L		01/10/25 06:59	01/13/25 13:17	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.5	2.1	ng/L		01/10/25 06:59	01/13/25 13:17	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/10/25 06:59	01/13/25 13:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:17	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:17	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:17	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	1.7	0.61	ng/L		01/10/25 06:59	01/13/25 13:17	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.49	ng/L		01/10/25 06:59	01/13/25 13:17	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:17	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:17	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.4	0.85	ng/L		01/10/25 06:59	01/13/25 13:17	1

Client Sample ID: LA-MW-10-N-01062025

Lab Sample ID: 320-118123-2

Date Collected: 01/06/25 11:15

Matrix: Water

Date Received: 01/08/25 09:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.5	2.1	ng/L		01/10/25 06:59	01/13/25 13:17	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.5	2.1	ng/L		01/10/25 06:59	01/13/25 13:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91.9*		*5 - 130*	*01/10/25 06:59*	*01/13/25 13:17*	*1*
13C5 PFPeA	*104*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:17*	*1*
13C5 PFHxA	*97.8*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:17*	*1*
13C4 PFHpA	*104*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:17*	*1*
13C8 PFOA	*94.1*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:17*	*1*
13C9 PFNA	*92.9*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:17*	*1*
13C6 PFDA	*93.0*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:17*	*1*
13C7 PFUnA	*91.6*		*30 - 130*	*01/10/25 06:59*	*01/13/25 13:17*	*1*
13C2 PFDoA	*89.0*		*10 - 130*	*01/10/25 06:59*	*01/13/25 13:17*	*1*
13C2 PFTeDA	*61.6*		*10 - 130*	*01/10/25 06:59*	*01/13/25 13:17*	*1*
13C3 PFBS	*80.0*		*40 - 135*	*01/10/25 06:59*	*01/13/25 13:17*	*1*
13C3 PFHxS	*95.4*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:17*	*1*
13C8 PFOS	*76.3*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:17*	*1*
13C8 FOSA	*76.1*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:17*	*1*
d3-NMeFOSAA	*80.9*		*40 - 170*	*01/10/25 06:59*	*01/13/25 13:17*	*1*
d5-NEtFOSAA	*74.7*		*25 - 135*	*01/10/25 06:59*	*01/13/25 13:17*	*1*
13C2 4:2 FTS	*63.4*		*40 - 200*	*01/10/25 06:59*	*01/13/25 13:17*	*1*
13C2 6:2 FTS	*85.2*		*40 - 200*	*01/10/25 06:59*	*01/13/25 13:17*	*1*
13C2 8:2 FTS	*72.2*		*40 - 300*	*01/10/25 06:59*	*01/13/25 13:17*	*1*
13C3 HFPO-DA	*99.1*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:17*	*1*
d7-N-MeFOSE-M	*66.1*		*10 - 130*	*01/10/25 06:59*	*01/13/25 13:17*	*1*
d9-N-EtFOSE-M	*68.5*		*10 - 130*	*01/10/25 06:59*	*01/13/25 13:17*	*1*
d5-NEtPFOSA	*67.4*		*10 - 130*	*01/10/25 06:59*	*01/13/25 13:17*	*1*
d3-NMePFOSA	*72.6*		*10 - 130*	*01/10/25 06:59*	*01/13/25 13:17*	*1*

Client Sample ID: LA-MW-10-FD-01062025

Lab Sample ID: 320-118123-3

Date Collected: 01/06/25 11:30

Matrix: Water

Date Received: 01/08/25 09:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**37**		3.4	0.85	ng/L		01/10/25 06:59	01/13/25 13:34	1
Perfluoropentanoic acid (PFPeA)	**170**		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:34	1
Perfluorohexanoic acid (PFHxA)	**180**		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:34	1
Perfluoroheptanoic acid (PFHpA)	**10**		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:34	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:34	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:34	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:34	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:34	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		01/10/25 06:59	01/13/25 13:34	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.49	ng/L		01/10/25 06:59	01/13/25 13:34	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.69	ng/L		01/10/25 06:59	01/13/25 13:34	1
Perfluorobutanesulfonic acid (PFBS)	**1.8**	**B**	1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:34	1
Perfluoropentanesulfonic acid (PFPeS)	**0.47**	**J**	1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:34	1

Client Sample ID: LA-MW-10-FD-01062025
Date Collected: 01/06/25 11:30
Date Received: 01/08/25 09:30

Lab Sample ID: 320-118123-3
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**2.7**		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:34	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:34	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:34	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:34	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:34	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.45	ng/L		01/10/25 06:59	01/13/25 13:34	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.4	0.85	ng/L		01/10/25 06:59	01/13/25 13:34	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**2.5**	**J**	3.4	0.85	ng/L		01/10/25 06:59	01/13/25 13:34	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.4	0.85	ng/L		01/10/25 06:59	01/13/25 13:34	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:34	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:34	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:34	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:34	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:34	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.5	2.1	ng/L		01/10/25 06:59	01/13/25 13:34	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.5	2.1	ng/L		01/10/25 06:59	01/13/25 13:34	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/10/25 06:59	01/13/25 13:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:34	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:34	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:34	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	1.7	0.61	ng/L		01/10/25 06:59	01/13/25 13:34	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.49	ng/L		01/10/25 06:59	01/13/25 13:34	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:34	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 13:34	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.4	0.85	ng/L		01/10/25 06:59	01/13/25 13:34	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.5	2.1	ng/L		01/10/25 06:59	01/13/25 13:34	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.5	2.1	ng/L		01/10/25 06:59	01/13/25 13:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*103*		*5 - 130*	*01/10/25 06:59*	*01/13/25 13:34*	*1*
13C5 PFPeA	*103*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:34*	*1*
13C5 PFHxA	*91.1*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:34*	*1*
13C4 PFHpA	*94.9*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:34*	*1*

Client Sample ID: LA-MW-10-FD-01062025

Lab Sample ID: 320-118123-3

Date Collected: 01/06/25 11:30

Matrix: Water

Date Received: 01/08/25 09:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOA	95.1		40 - 130	01/10/25 06:59	01/13/25 13:34	1
13C9 PFNA	93.6		40 - 130	01/10/25 06:59	01/13/25 13:34	1
13C6 PFDA	84.3		40 - 130	01/10/25 06:59	01/13/25 13:34	1
13C7 PFUnA	84.3		30 - 130	01/10/25 06:59	01/13/25 13:34	1
13C2 PFDoA	83.2		10 - 130	01/10/25 06:59	01/13/25 13:34	1
13C2 PFTeDA	60.8		10 - 130	01/10/25 06:59	01/13/25 13:34	1
13C3 PFBS	93.2		40 - 135	01/10/25 06:59	01/13/25 13:34	1
13C3 PFHxS	94.7		40 - 130	01/10/25 06:59	01/13/25 13:34	1
13C8 PFOS	81.5		40 - 130	01/10/25 06:59	01/13/25 13:34	1
13C8 FOSA	78.5		40 - 130	01/10/25 06:59	01/13/25 13:34	1
d3-NMeFOSAA	79.1		40 - 170	01/10/25 06:59	01/13/25 13:34	1
d5-NEtFOSAA	81.3		25 - 135	01/10/25 06:59	01/13/25 13:34	1
13C2 4:2 FTS	71.2		40 - 200	01/10/25 06:59	01/13/25 13:34	1
13C2 6:2 FTS	98.2		40 - 200	01/10/25 06:59	01/13/25 13:34	1
13C2 8:2 FTS	76.6		40 - 300	01/10/25 06:59	01/13/25 13:34	1
13C3 HFPO-DA	100		40 - 130	01/10/25 06:59	01/13/25 13:34	1
d7-N-MeFOSE-M	63.5		10 - 130	01/10/25 06:59	01/13/25 13:34	1
d9-N-EtFOSE-M	67.3		10 - 130	01/10/25 06:59	01/13/25 13:34	1
d5-NEtPFOSA	75.0		10 - 130	01/10/25 06:59	01/13/25 13:34	1
d3-NMePFOSA	73.2		10 - 130	01/10/25 06:59	01/13/25 13:34	1

Client Sample ID: LA-MW-9-N-01062025

Lab Sample ID: 320-118123-4

Date Collected: 01/06/25 12:40

Matrix: Water

Date Received: 01/08/25 09:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**12**		3.5	0.87	ng/L		01/10/25 06:59	01/13/25 13:50	1
Perfluoropentanoic acid (PFPeA)	**20**		1.7	0.44	ng/L		01/10/25 06:59	01/13/25 13:50	1
Perfluorohexanoic acid (PFHxA)	**22**		1.7	0.44	ng/L		01/10/25 06:59	01/13/25 13:50	1
Perfluoroheptanoic acid (PFHpA)	**7.7**		1.7	0.44	ng/L		01/10/25 06:59	01/13/25 13:50	1
Perfluorooctanoic acid (PFOA)	**24**		1.7	0.44	ng/L		01/10/25 06:59	01/13/25 13:50	1
Perfluorononanoic acid (PFNA)	**4.9**		1.7	0.44	ng/L		01/10/25 06:59	01/13/25 13:50	1
Perfluorodecanoic acid (PFDA)	**9.0**		1.7	0.44	ng/L		01/10/25 06:59	01/13/25 13:50	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.44	ng/L		01/10/25 06:59	01/13/25 13:50	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.48	ng/L		01/10/25 06:59	01/13/25 13:50	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.50	ng/L		01/10/25 06:59	01/13/25 13:50	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.71	ng/L		01/10/25 06:59	01/13/25 13:50	1
Perfluorobutanesulfonic acid (PFBS)	**4.1**	**B**	1.7	0.44	ng/L		01/10/25 06:59	01/13/25 13:50	1
Perfluoropentanesulfonic acid (PFPeS)	**1.1**	**J**	1.7	0.44	ng/L		01/10/25 06:59	01/13/25 13:50	1
Perfluorohexanesulfonic acid (PFHxS)	**16**		1.7	0.44	ng/L		01/10/25 06:59	01/13/25 13:50	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.44	ng/L		01/10/25 06:59	01/13/25 13:50	1
Perfluorooctanesulfonic acid (PFOS)	**11**		1.7	0.44	ng/L		01/10/25 06:59	01/13/25 13:50	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.44	ng/L		01/10/25 06:59	01/13/25 13:50	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.44	ng/L		01/10/25 06:59	01/13/25 13:50	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118123-1

Client Sample ID: LA-MW-9-N-01062025
Date Collected: 01/06/25 12:40
Date Received: 01/08/25 09:30

Lab Sample ID: 320-118123-4
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.46	ng/L		01/10/25 06:59	01/13/25 13:50	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.5	0.87	ng/L		01/10/25 06:59	01/13/25 13:50	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**1.4**	**J**	3.5	0.87	ng/L		01/10/25 06:59	01/13/25 13:50	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.5	0.87	ng/L		01/10/25 06:59	01/13/25 13:50	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.44	ng/L		01/10/25 06:59	01/13/25 13:50	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.44	ng/L		01/10/25 06:59	01/13/25 13:50	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.44	ng/L		01/10/25 06:59	01/13/25 13:50	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.44	ng/L		01/10/25 06:59	01/13/25 13:50	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.44	ng/L		01/10/25 06:59	01/13/25 13:50	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.7	2.2	ng/L		01/10/25 06:59	01/13/25 13:50	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.7	2.2	ng/L		01/10/25 06:59	01/13/25 13:50	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.34	ng/L		01/10/25 06:59	01/13/25 13:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.44	ng/L		01/10/25 06:59	01/13/25 13:50	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.44	ng/L		01/10/25 06:59	01/13/25 13:50	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.44	ng/L		01/10/25 06:59	01/13/25 13:50	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	1.7	0.63	ng/L		01/10/25 06:59	01/13/25 13:50	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.50	ng/L		01/10/25 06:59	01/13/25 13:50	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.44	ng/L		01/10/25 06:59	01/13/25 13:50	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.44	ng/L		01/10/25 06:59	01/13/25 13:50	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.5	0.87	ng/L		01/10/25 06:59	01/13/25 13:50	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**6.0**	**J**	8.7	2.2	ng/L		01/10/25 06:59	01/13/25 13:50	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.7	2.2	ng/L		01/10/25 06:59	01/13/25 13:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*95.9*		*5 - 130*	*01/10/25 06:59*	*01/13/25 13:50*	*1*
13C5 PFPeA	*94.0*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:50*	*1*
13C5 PFHxA	*105*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:50*	*1*
13C4 PFHpA	*102*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:50*	*1*
13C8 PFOA	*95.8*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:50*	*1*
13C9 PFNA	*91.7*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:50*	*1*
13C6 PFDA	*86.1*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:50*	*1*
13C7 PFUnA	*85.5*		*30 - 130*	*01/10/25 06:59*	*01/13/25 13:50*	*1*
13C2 PFDoA	*76.7*		*10 - 130*	*01/10/25 06:59*	*01/13/25 13:50*	*1*
13C2 PFTeDA	*62.8*		*10 - 130*	*01/10/25 06:59*	*01/13/25 13:50*	*1*

Client Sample ID: LA-MW-9-N-01062025

Lab Sample ID: 320-118123-4

Date Collected: 01/06/25 12:40
Matrix: Water
Date Received: 01/08/25 09:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*87.6*		*40 - 135*	*01/10/25 06:59*	*01/13/25 13:50*	*1*
13C3 PFHxS	*95.1*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:50*	*1*
13C8 PFOS	*88.1*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:50*	*1*
13C8 FOSA	*77.7*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:50*	*1*
d3-NMeFOSAA	*88.0*		*40 - 170*	*01/10/25 06:59*	*01/13/25 13:50*	*1*
d5-NEtFOSAA	*82.2*		*25 - 135*	*01/10/25 06:59*	*01/13/25 13:50*	*1*
13C2 4:2 FTS	*70.3*		*40 - 200*	*01/10/25 06:59*	*01/13/25 13:50*	*1*
13C2 6:2 FTS	*99.1*		*40 - 200*	*01/10/25 06:59*	*01/13/25 13:50*	*1*
13C2 8:2 FTS	*79.2*		*40 - 300*	*01/10/25 06:59*	*01/13/25 13:50*	*1*
13C3 HFPO-DA	*104*		*40 - 130*	*01/10/25 06:59*	*01/13/25 13:50*	*1*
d7-N-MeFOSE-M	*65.6*		*10 - 130*	*01/10/25 06:59*	*01/13/25 13:50*	*1*
d9-N-EtFOSE-M	*64.0*		*10 - 130*	*01/10/25 06:59*	*01/13/25 13:50*	*1*
d5-NEtPFOSA	*76.0*		*10 - 130*	*01/10/25 06:59*	*01/13/25 13:50*	*1*
d3-NMePFOSA	*78.1*		*10 - 130*	*01/10/25 06:59*	*01/13/25 13:50*	*1*

Client Sample ID: LA-MW-12-N-01062025

Lab Sample ID: 320-118123-5

Date Collected: 01/06/25 13:30
Matrix: Water
Date Received: 01/08/25 09:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.5**		3.2	0.81	ng/L		01/10/25 06:59	01/13/25 14:07	1
Perfluoropentanoic acid (PFPeA)	**7.0**		1.6	0.40	ng/L		01/10/25 06:59	01/13/25 14:07	1
Perfluorohexanoic acid (PFHxA)	**6.0**		1.6	0.40	ng/L		01/10/25 06:59	01/13/25 14:07	1
Perfluoroheptanoic acid (PFHpA)	**4.5**		1.6	0.40	ng/L		01/10/25 06:59	01/13/25 14:07	1
Perfluorooctanoic acid (PFOA)	**7.2**		1.6	0.40	ng/L		01/10/25 06:59	01/13/25 14:07	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.40	ng/L		01/10/25 06:59	01/13/25 14:07	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.40	ng/L		01/10/25 06:59	01/13/25 14:07	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.40	ng/L		01/10/25 06:59	01/13/25 14:07	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.44	ng/L		01/10/25 06:59	01/13/25 14:07	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.6	0.47	ng/L		01/10/25 06:59	01/13/25 14:07	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.6	0.66	ng/L		01/10/25 06:59	01/13/25 14:07	1
Perfluorobutanesulfonic acid (PFBS)	**4.0**	**B**	1.6	0.40	ng/L		01/10/25 06:59	01/13/25 14:07	1
Perfluoropentanesulfonic acid (PFPeS)	**1.1**	**J**	1.6	0.40	ng/L		01/10/25 06:59	01/13/25 14:07	1
Perfluorohexanesulfonic acid (PFHxS)	**4.7**		1.6	0.40	ng/L		01/10/25 06:59	01/13/25 14:07	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.40	ng/L		01/10/25 06:59	01/13/25 14:07	1
Perfluorooctanesulfonic acid (PFOS)	**2.2**	**I**	1.6	0.40	ng/L		01/10/25 06:59	01/13/25 14:07	1
Perfluorononanesulfonic acid (PFNS)	ND		1.6	0.40	ng/L		01/10/25 06:59	01/13/25 14:07	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.40	ng/L		01/10/25 06:59	01/13/25 14:07	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.6	0.43	ng/L		01/10/25 06:59	01/13/25 14:07	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.2	0.81	ng/L		01/10/25 06:59	01/13/25 14:07	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.88**	**J**	3.2	0.81	ng/L		01/10/25 06:59	01/13/25 14:07	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.2	0.81	ng/L		01/10/25 06:59	01/13/25 14:07	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118123-1

Client Sample ID: LA-MW-12-N-01062025
Date Collected: 01/06/25 13:30
Date Received: 01/08/25 09:30

Lab Sample ID: 320-118123-5
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.40	ng/L		01/10/25 06:59	01/13/25 14:07	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.6	0.40	ng/L		01/10/25 06:59	01/13/25 14:07	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.6	0.40	ng/L		01/10/25 06:59	01/13/25 14:07	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.6	0.40	ng/L		01/10/25 06:59	01/13/25 14:07	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.6	0.40	ng/L		01/10/25 06:59	01/13/25 14:07	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.1	2.0	ng/L		01/10/25 06:59	01/13/25 14:07	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.1	2.0	ng/L		01/10/25 06:59	01/13/25 14:07	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.2	0.32	ng/L		01/10/25 06:59	01/13/25 14:07	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.6	0.40	ng/L		01/10/25 06:59	01/13/25 14:07	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.6	0.40	ng/L		01/10/25 06:59	01/13/25 14:07	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.6	0.40	ng/L		01/10/25 06:59	01/13/25 14:07	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	1.6	0.58	ng/L		01/10/25 06:59	01/13/25 14:07	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.6	0.47	ng/L		01/10/25 06:59	01/13/25 14:07	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.6	0.40	ng/L		01/10/25 06:59	01/13/25 14:07	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.6	0.40	ng/L		01/10/25 06:59	01/13/25 14:07	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.2	0.81	ng/L		01/10/25 06:59	01/13/25 14:07	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.1	2.0	ng/L		01/10/25 06:59	01/13/25 14:07	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.1	2.0	ng/L		01/10/25 06:59	01/13/25 14:07	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*108*		*5 - 130*	*01/10/25 06:59*	*01/13/25 14:07*	*1*
13C5 PFPeA	*98.1*		*40 - 130*	*01/10/25 06:59*	*01/13/25 14:07*	*1*
13C5 PFHxA	*108*		*40 - 130*	*01/10/25 06:59*	*01/13/25 14:07*	*1*
13C4 PFHpA	*122*		*40 - 130*	*01/10/25 06:59*	*01/13/25 14:07*	*1*
13C8 PFOA	*102*		*40 - 130*	*01/10/25 06:59*	*01/13/25 14:07*	*1*
13C9 PFNA	*99.2*		*40 - 130*	*01/10/25 06:59*	*01/13/25 14:07*	*1*
13C6 PFDA	*97.3*		*40 - 130*	*01/10/25 06:59*	*01/13/25 14:07*	*1*
13C7 PFUnA	*93.0*		*30 - 130*	*01/10/25 06:59*	*01/13/25 14:07*	*1*
13C2 PFDoA	*85.8*		*10 - 130*	*01/10/25 06:59*	*01/13/25 14:07*	*1*
13C2 PFTeDA	*66.0*		*10 - 130*	*01/10/25 06:59*	*01/13/25 14:07*	*1*
13C3 PFBS	*107*		*40 - 135*	*01/10/25 06:59*	*01/13/25 14:07*	*1*
13C3 PFHxS	*105*		*40 - 130*	*01/10/25 06:59*	*01/13/25 14:07*	*1*
13C8 PFOS	*98.1*		*40 - 130*	*01/10/25 06:59*	*01/13/25 14:07*	*1*
13C8 FOSA	*84.4*		*40 - 130*	*01/10/25 06:59*	*01/13/25 14:07*	*1*
d3-NMeFOSAA	*92.4*		*40 - 170*	*01/10/25 06:59*	*01/13/25 14:07*	*1*
d5-NEtFOSAA	*90.1*		*25 - 135*	*01/10/25 06:59*	*01/13/25 14:07*	*1*
13C2 4:2 FTS	*88.9*		*40 - 200*	*01/10/25 06:59*	*01/13/25 14:07*	*1*

Client Sample ID: LA-MW-12-N-01062025

Lab Sample ID: 320-118123-5

Date Collected: 01/06/25 13:30

Matrix: Water

Date Received: 01/08/25 09:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 6:2 FTS	105		40 - 200	01/10/25 06:59	01/13/25 14:07	1
13C2 8:2 FTS	85.2		40 - 300	01/10/25 06:59	01/13/25 14:07	1
13C3 HFPO-DA	107		40 - 130	01/10/25 06:59	01/13/25 14:07	1
d7-N-MeFOSE-M	65.6		10 - 130	01/10/25 06:59	01/13/25 14:07	1
d9-N-EtFOSE-M	60.8		10 - 130	01/10/25 06:59	01/13/25 14:07	1
d5-NEtPFOSA	74.9		10 - 130	01/10/25 06:59	01/13/25 14:07	1
d3-NMePFOSA	76.0		10 - 130	01/10/25 06:59	01/13/25 14:07	1

Client Sample ID: LA-MW-11-N-01062025

Lab Sample ID: 320-118123-6

Date Collected: 01/06/25 14:20

Matrix: Water

Date Received: 01/08/25 09:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.1	0.79	ng/L		01/10/25 06:59	01/13/25 14:23	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.39	ng/L		01/10/25 06:59	01/13/25 14:23	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.39	ng/L		01/10/25 06:59	01/13/25 14:23	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.39	ng/L		01/10/25 06:59	01/13/25 14:23	1
Perfluorooctanoic acid (PFOA)	ND		1.6	0.39	ng/L		01/10/25 06:59	01/13/25 14:23	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.39	ng/L		01/10/25 06:59	01/13/25 14:23	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.39	ng/L		01/10/25 06:59	01/13/25 14:23	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.39	ng/L		01/10/25 06:59	01/13/25 14:23	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.43	ng/L		01/10/25 06:59	01/13/25 14:23	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.6	0.46	ng/L		01/10/25 06:59	01/13/25 14:23	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.6	0.64	ng/L		01/10/25 06:59	01/13/25 14:23	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.39	ng/L		01/10/25 06:59	01/13/25 14:23	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.6	0.39	ng/L		01/10/25 06:59	01/13/25 14:23	1
Perfluorohexanesulfonic acid (PFHxS)	**0.61**	**J**	1.6	0.39	ng/L		01/10/25 06:59	01/13/25 14:23	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.39	ng/L		01/10/25 06:59	01/13/25 14:23	1
Perfluorooctanesulfonic acid (PFOS)	**7.6**		1.6	0.39	ng/L		01/10/25 06:59	01/13/25 14:23	1
Perfluorononanesulfonic acid (PFNS)	ND		1.6	0.39	ng/L		01/10/25 06:59	01/13/25 14:23	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.39	ng/L		01/10/25 06:59	01/13/25 14:23	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.6	0.42	ng/L		01/10/25 06:59	01/13/25 14:23	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.1	0.79	ng/L		01/10/25 06:59	01/13/25 14:23	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.1	0.79	ng/L		01/10/25 06:59	01/13/25 14:23	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.1	0.79	ng/L		01/10/25 06:59	01/13/25 14:23	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.39	ng/L		01/10/25 06:59	01/13/25 14:23	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.6	0.39	ng/L		01/10/25 06:59	01/13/25 14:23	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.6	0.39	ng/L		01/10/25 06:59	01/13/25 14:23	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.6	0.39	ng/L		01/10/25 06:59	01/13/25 14:23	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.6	0.39	ng/L		01/10/25 06:59	01/13/25 14:23	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118123-1

Client Sample ID: LA-MW-11-N-01062025
Date Collected: 01/06/25 14:20
Date Received: 01/08/25 09:30

Lab Sample ID: 320-118123-6
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		7.9	2.0	ng/L		01/10/25 06:59	01/13/25 14:23	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		7.9	2.0	ng/L		01/10/25 06:59	01/13/25 14:23	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.2	0.31	ng/L		01/10/25 06:59	01/13/25 14:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.6	0.39	ng/L		01/10/25 06:59	01/13/25 14:23	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.6	0.39	ng/L		01/10/25 06:59	01/13/25 14:23	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.6	0.39	ng/L		01/10/25 06:59	01/13/25 14:23	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	1.6	0.57	ng/L		01/10/25 06:59	01/13/25 14:23	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.6	0.46	ng/L		01/10/25 06:59	01/13/25 14:23	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.6	0.39	ng/L		01/10/25 06:59	01/13/25 14:23	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.6	0.39	ng/L		01/10/25 06:59	01/13/25 14:23	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.1	0.79	ng/L		01/10/25 06:59	01/13/25 14:23	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		7.9	2.0	ng/L		01/10/25 06:59	01/13/25 14:23	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		7.9	2.0	ng/L		01/10/25 06:59	01/13/25 14:23	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*5 - 130*	*01/10/25 06:59*	*01/13/25 14:23*	*1*
13C5 PFPeA	*97.8*		*40 - 130*	*01/10/25 06:59*	*01/13/25 14:23*	*1*
13C5 PFHxA	*110*		*40 - 130*	*01/10/25 06:59*	*01/13/25 14:23*	*1*
13C4 PFHpA	*106*		*40 - 130*	*01/10/25 06:59*	*01/13/25 14:23*	*1*
13C8 PFOA	*101*		*40 - 130*	*01/10/25 06:59*	*01/13/25 14:23*	*1*
13C9 PFNA	*98.8*		*40 - 130*	*01/10/25 06:59*	*01/13/25 14:23*	*1*
13C6 PFDA	*88.3*		*40 - 130*	*01/10/25 06:59*	*01/13/25 14:23*	*1*
13C7 PFUnA	*89.3*		*30 - 130*	*01/10/25 06:59*	*01/13/25 14:23*	*1*
13C2 PFDoA	*91.2*		*10 - 130*	*01/10/25 06:59*	*01/13/25 14:23*	*1*
13C2 PFTeDA	*67.7*		*10 - 130*	*01/10/25 06:59*	*01/13/25 14:23*	*1*
13C3 PFBS	*102*		*40 - 135*	*01/10/25 06:59*	*01/13/25 14:23*	*1*
13C3 PFHxS	*106*		*40 - 130*	*01/10/25 06:59*	*01/13/25 14:23*	*1*
13C8 PFOS	*101*		*40 - 130*	*01/10/25 06:59*	*01/13/25 14:23*	*1*
13C8 FOSA	*84.2*		*40 - 130*	*01/10/25 06:59*	*01/13/25 14:23*	*1*
d3-NMeFOSAA	*97.2*		*40 - 170*	*01/10/25 06:59*	*01/13/25 14:23*	*1*
d5-NEtFOSAA	*96.7*		*25 - 135*	*01/10/25 06:59*	*01/13/25 14:23*	*1*
13C2 4:2 FTS	*75.9*		*40 - 200*	*01/10/25 06:59*	*01/13/25 14:23*	*1*
13C2 6:2 FTS	*96.1*		*40 - 200*	*01/10/25 06:59*	*01/13/25 14:23*	*1*
13C2 8:2 FTS	*85.4*		*40 - 300*	*01/10/25 06:59*	*01/13/25 14:23*	*1*
13C3 HFPO-DA	*97.3*		*40 - 130*	*01/10/25 06:59*	*01/13/25 14:23*	*1*
d7-N-MeFOSE-M	*71.8*		*10 - 130*	*01/10/25 06:59*	*01/13/25 14:23*	*1*
d9-N-EtFOSE-M	*72.0*		*10 - 130*	*01/10/25 06:59*	*01/13/25 14:23*	*1*
d5-NEtPFOSA	*80.9*		*10 - 130*	*01/10/25 06:59*	*01/13/25 14:23*	*1*
d3-NMePFOSA	*77.5*		*10 - 130*	*01/10/25 06:59*	*01/13/25 14:23*	*1*

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118123-1

Client Sample ID: W-MW-17-N-01062025
Date Collected: 01/06/25 16:15
Date Received: 01/08/25 09:30

Lab Sample ID: 320-118123-7
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**4.6**		3.4	0.86	ng/L		01/10/25 06:59	01/13/25 15:12	1
Perfluoropentanoic acid (PFPeA)	**1.1**	**J**	1.7	0.43	ng/L		01/10/25 06:59	01/13/25 15:12	1
Perfluorohexanoic acid (PFHxA)	**1.5**	**J**	1.7	0.43	ng/L		01/10/25 06:59	01/13/25 15:12	1
Perfluoroheptanoic acid (PFHpA)	**0.99**	**J**	1.7	0.43	ng/L		01/10/25 06:59	01/13/25 15:12	1
Perfluorooctanoic acid (PFOA)	**1.9**		1.7	0.43	ng/L		01/10/25 06:59	01/13/25 15:12	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.43	ng/L		01/10/25 06:59	01/13/25 15:12	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.43	ng/L		01/10/25 06:59	01/13/25 15:12	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		01/10/25 06:59	01/13/25 15:12	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		01/10/25 06:59	01/13/25 15:12	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.50	ng/L		01/10/25 06:59	01/13/25 15:12	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.70	ng/L		01/10/25 06:59	01/13/25 15:12	1
Perfluorobutanesulfonic acid (PFBS)	**3.0**	**B**	1.7	0.43	ng/L		01/10/25 06:59	01/13/25 15:12	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.43	ng/L		01/10/25 06:59	01/13/25 15:12	1
Perfluorohexanesulfonic acid (PFHxS)	**1.2**	**J**	1.7	0.43	ng/L		01/10/25 06:59	01/13/25 15:12	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.43	ng/L		01/10/25 06:59	01/13/25 15:12	1
Perfluorooctanesulfonic acid (PFOS)	**2.3**		1.7	0.43	ng/L		01/10/25 06:59	01/13/25 15:12	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.43	ng/L		01/10/25 06:59	01/13/25 15:12	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.43	ng/L		01/10/25 06:59	01/13/25 15:12	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.46	ng/L		01/10/25 06:59	01/13/25 15:12	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.4	0.86	ng/L		01/10/25 06:59	01/13/25 15:12	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.4	0.86	ng/L		01/10/25 06:59	01/13/25 15:12	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.4	0.86	ng/L		01/10/25 06:59	01/13/25 15:12	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.43	ng/L		01/10/25 06:59	01/13/25 15:12	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.43	ng/L		01/10/25 06:59	01/13/25 15:12	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.43	ng/L		01/10/25 06:59	01/13/25 15:12	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.43	ng/L		01/10/25 06:59	01/13/25 15:12	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.43	ng/L		01/10/25 06:59	01/13/25 15:12	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.6	2.1	ng/L		01/10/25 06:59	01/13/25 15:12	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.6	2.1	ng/L		01/10/25 06:59	01/13/25 15:12	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/10/25 06:59	01/13/25 15:12	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.43	ng/L		01/10/25 06:59	01/13/25 15:12	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.43	ng/L		01/10/25 06:59	01/13/25 15:12	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.43	ng/L		01/10/25 06:59	01/13/25 15:12	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	1.7	0.62	ng/L		01/10/25 06:59	01/13/25 15:12	1

Client Sample ID: W-MW-17-N-01062025

Lab Sample ID: 320-118123-7

Date Collected: 01/06/25 16:15

Matrix: Water

Date Received: 01/08/25 09:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.50	ng/L		01/10/25 06:59	01/13/25 15:12	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.43	ng/L		01/10/25 06:59	01/13/25 15:12	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.43	ng/L		01/10/25 06:59	01/13/25 15:12	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.4	0.86	ng/L		01/10/25 06:59	01/13/25 15:12	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.6	2.1	ng/L		01/10/25 06:59	01/13/25 15:12	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.6	2.1	ng/L		01/10/25 06:59	01/13/25 15:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*95.0*		*5 - 130*	*01/10/25 06:59*	*01/13/25 15:12*	*1*
13C5 PFPeA	*120*		*40 - 130*	*01/10/25 06:59*	*01/13/25 15:12*	*1*
13C5 PFHxA	*99.2*		*40 - 130*	*01/10/25 06:59*	*01/13/25 15:12*	*1*
13C4 PFHpA	*103*		*40 - 130*	*01/10/25 06:59*	*01/13/25 15:12*	*1*
13C8 PFOA	*101*		*40 - 130*	*01/10/25 06:59*	*01/13/25 15:12*	*1*
13C9 PFNA	*94.1*		*40 - 130*	*01/10/25 06:59*	*01/13/25 15:12*	*1*
13C6 PFDA	*92.7*		*40 - 130*	*01/10/25 06:59*	*01/13/25 15:12*	*1*
13C7 PFUnA	*88.9*		*30 - 130*	*01/10/25 06:59*	*01/13/25 15:12*	*1*
13C2 PFDoA	*84.9*		*10 - 130*	*01/10/25 06:59*	*01/13/25 15:12*	*1*
13C2 PFTeDA	*73.1*		*10 - 130*	*01/10/25 06:59*	*01/13/25 15:12*	*1*
13C3 PFBS	*101*		*40 - 135*	*01/10/25 06:59*	*01/13/25 15:12*	*1*
13C3 PFHxS	*97.7*		*40 - 130*	*01/10/25 06:59*	*01/13/25 15:12*	*1*
13C8 PFOS	*91.7*		*40 - 130*	*01/10/25 06:59*	*01/13/25 15:12*	*1*
13C8 FOSA	*85.5*		*40 - 130*	*01/10/25 06:59*	*01/13/25 15:12*	*1*
d3-NMeFOSAA	*94.9*		*40 - 170*	*01/10/25 06:59*	*01/13/25 15:12*	*1*
d5-NEtFOSAA	*95.7*		*25 - 135*	*01/10/25 06:59*	*01/13/25 15:12*	*1*
13C2 4:2 FTS	*67.9*		*40 - 200*	*01/10/25 06:59*	*01/13/25 15:12*	*1*
13C2 6:2 FTS	*93.4*		*40 - 200*	*01/10/25 06:59*	*01/13/25 15:12*	*1*
13C2 8:2 FTS	*78.2*		*40 - 300*	*01/10/25 06:59*	*01/13/25 15:12*	*1*
13C3 HFPO-DA	*105*		*40 - 130*	*01/10/25 06:59*	*01/13/25 15:12*	*1*
d7-N-MeFOSE-M	*73.1*		*10 - 130*	*01/10/25 06:59*	*01/13/25 15:12*	*1*
d9-N-EtFOSE-M	*70.7*		*10 - 130*	*01/10/25 06:59*	*01/13/25 15:12*	*1*
d5-NEtPFOSA	*80.0*		*10 - 130*	*01/10/25 06:59*	*01/13/25 15:12*	*1*
d3-NMePFOSA	*80.4*		*10 - 130*	*01/10/25 06:59*	*01/13/25 15:12*	*1*

Client Sample ID: FB-01062025

Lab Sample ID: 320-118123-8

Date Collected: 01/06/25 00:00

Matrix: Water

Date Received: 01/08/25 09:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.0	0.75	ng/L		01/10/25 06:59	01/13/25 15:29	1
Perfluoropentanoic acid (PFPeA)	ND		1.5	0.38	ng/L		01/10/25 06:59	01/13/25 15:29	1
Perfluorohexanoic acid (PFHxA)	ND		1.5	0.38	ng/L		01/10/25 06:59	01/13/25 15:29	1
Perfluoroheptanoic acid (PFHpA)	ND		1.5	0.38	ng/L		01/10/25 06:59	01/13/25 15:29	1
Perfluorooctanoic acid (PFOA)	ND		1.5	0.38	ng/L		01/10/25 06:59	01/13/25 15:29	1
Perfluorononanoic acid (PFNA)	ND		1.5	0.38	ng/L		01/10/25 06:59	01/13/25 15:29	1
Perfluorodecanoic acid (PFDA)	ND		1.5	0.38	ng/L		01/10/25 06:59	01/13/25 15:29	1

Client Sample ID: FB-01062025
Date Collected: 01/06/25 00:00
Date Received: 01/08/25 09:30

Lab Sample ID: 320-118123-8
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	ND		1.5	0.38	ng/L		01/10/25 06:59	01/13/25 15:29	1
Perfluorododecanoic acid (PFDoA)	ND		1.5	0.41	ng/L		01/10/25 06:59	01/13/25 15:29	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.5	0.44	ng/L		01/10/25 06:59	01/13/25 15:29	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.5	0.61	ng/L		01/10/25 06:59	01/13/25 15:29	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.5	0.38	ng/L		01/10/25 06:59	01/13/25 15:29	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.5	0.38	ng/L		01/10/25 06:59	01/13/25 15:29	1
Perfluorohexanesulfonic acid (PFHxS)	**0.40**	**J**	1.5	0.38	ng/L		01/10/25 06:59	01/13/25 15:29	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.5	0.38	ng/L		01/10/25 06:59	01/13/25 15:29	1
Perfluorooctanesulfonic acid (PFOS)	**11**		1.5	0.38	ng/L		01/10/25 06:59	01/13/25 15:29	1
Perfluorononanesulfonic acid (PFNS)	ND		1.5	0.38	ng/L		01/10/25 06:59	01/13/25 15:29	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.5	0.38	ng/L		01/10/25 06:59	01/13/25 15:29	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.5	0.40	ng/L		01/10/25 06:59	01/13/25 15:29	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.0	0.75	ng/L		01/10/25 06:59	01/13/25 15:29	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.0	0.75	ng/L		01/10/25 06:59	01/13/25 15:29	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.0	0.75	ng/L		01/10/25 06:59	01/13/25 15:29	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.5	0.38	ng/L		01/10/25 06:59	01/13/25 15:29	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.5	0.38	ng/L		01/10/25 06:59	01/13/25 15:29	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.5	0.38	ng/L		01/10/25 06:59	01/13/25 15:29	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.5	0.38	ng/L		01/10/25 06:59	01/13/25 15:29	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.5	0.38	ng/L		01/10/25 06:59	01/13/25 15:29	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		7.5	1.9	ng/L		01/10/25 06:59	01/13/25 15:29	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		7.5	1.9	ng/L		01/10/25 06:59	01/13/25 15:29	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.1	0.29	ng/L		01/10/25 06:59	01/13/25 15:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.5	0.38	ng/L		01/10/25 06:59	01/13/25 15:29	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.5	0.38	ng/L		01/10/25 06:59	01/13/25 15:29	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.5	0.38	ng/L		01/10/25 06:59	01/13/25 15:29	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	1.5	0.54	ng/L		01/10/25 06:59	01/13/25 15:29	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.5	0.44	ng/L		01/10/25 06:59	01/13/25 15:29	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.5	0.38	ng/L		01/10/25 06:59	01/13/25 15:29	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.5	0.38	ng/L		01/10/25 06:59	01/13/25 15:29	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.0	0.75	ng/L		01/10/25 06:59	01/13/25 15:29	1

Client Sample ID: FB-01062025
Date Collected: 01/06/25 00:00
Date Received: 01/08/25 09:30

Lab Sample ID: 320-118123-8
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		7.5	1.9	ng/L		01/10/25 06:59	01/13/25 15:29	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		7.5	1.9	ng/L		01/10/25 06:59	01/13/25 15:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*55.9*		*5 - 130*	*01/10/25 06:59*	*01/13/25 15:29*	*1*
13C5 PFPeA	*55.7*		*40 - 130*	*01/10/25 06:59*	*01/13/25 15:29*	*1*
13C5 PFHxA	*53.8*		*40 - 130*	*01/10/25 06:59*	*01/13/25 15:29*	*1*
13C4 PFHpA	*55.3*		*40 - 130*	*01/10/25 06:59*	*01/13/25 15:29*	*1*
13C8 PFOA	*49.8*		*40 - 130*	*01/10/25 06:59*	*01/13/25 15:29*	*1*
13C9 PFNA	*46.0*		*40 - 130*	*01/10/25 06:59*	*01/13/25 15:29*	*1*
13C6 PFDA	*47.0*		*40 - 130*	*01/10/25 06:59*	*01/13/25 15:29*	*1*
13C7 PFUnA	*45.5*		*30 - 130*	*01/10/25 06:59*	*01/13/25 15:29*	*1*
13C2 PFDoA	*45.0*		*10 - 130*	*01/10/25 06:59*	*01/13/25 15:29*	*1*
13C2 PFTeDA	*34.4*		*10 - 130*	*01/10/25 06:59*	*01/13/25 15:29*	*1*
13C3 PFBS	*48.5*		*40 - 135*	*01/10/25 06:59*	*01/13/25 15:29*	*1*
13C3 PFHxS	*49.2*		*40 - 130*	*01/10/25 06:59*	*01/13/25 15:29*	*1*
13C8 PFOS	*44.0*		*40 - 130*	*01/10/25 06:59*	*01/13/25 15:29*	*1*
13C8 FOSA	*38.6*	**5-*	*40 - 130*	*01/10/25 06:59*	*01/13/25 15:29*	*1*
d3-NMeFOSAA	*46.8*		*40 - 170*	*01/10/25 06:59*	*01/13/25 15:29*	*1*
d5-NEtFOSAA	*44.3*		*25 - 135*	*01/10/25 06:59*	*01/13/25 15:29*	*1*
13C2 4:2 FTS	*38.2*	**5-*	*40 - 200*	*01/10/25 06:59*	*01/13/25 15:29*	*1*
13C2 6:2 FTS	*52.4*		*40 - 200*	*01/10/25 06:59*	*01/13/25 15:29*	*1*
13C2 8:2 FTS	*40.5*		*40 - 300*	*01/10/25 06:59*	*01/13/25 15:29*	*1*
13C3 HFPO-DA	*55.6*		*40 - 130*	*01/10/25 06:59*	*01/13/25 15:29*	*1*
d7-N-MeFOSE-M	*35.4*		*10 - 130*	*01/10/25 06:59*	*01/13/25 15:29*	*1*
d9-N-EtFOSE-M	*34.0*		*10 - 130*	*01/10/25 06:59*	*01/13/25 15:29*	*1*
d5-NEtPFOSA	*37.5*		*10 - 130*	*01/10/25 06:59*	*01/13/25 15:29*	*1*
d3-NMePFOSA	*36.8*		*10 - 130*	*01/10/25 06:59*	*01/13/25 15:29*	*1*

Client Sample ID: EB-01062025
Date Collected: 01/06/25 16:25
Date Received: 01/08/25 09:30

Lab Sample ID: 320-118123-9
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.4	0.84	ng/L		01/10/25 06:59	01/13/25 15:45	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 15:45	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 15:45	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 15:45	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 15:45	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 15:45	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 15:45	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 15:45	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		01/10/25 06:59	01/13/25 15:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.49	ng/L		01/10/25 06:59	01/13/25 15:45	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.68	ng/L		01/10/25 06:59	01/13/25 15:45	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 15:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 15:45	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118123-1

Client Sample ID: EB-01062025
Date Collected: 01/06/25 16:25
Date Received: 01/08/25 09:30

Lab Sample ID: 320-118123-9
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 15:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 15:45	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 15:45	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 15:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 15:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.45	ng/L		01/10/25 06:59	01/13/25 15:45	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.4	0.84	ng/L		01/10/25 06:59	01/13/25 15:45	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.4	0.84	ng/L		01/10/25 06:59	01/13/25 15:45	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.4	0.84	ng/L		01/10/25 06:59	01/13/25 15:45	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 15:45	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 15:45	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 15:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 15:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 15:45	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.4	2.1	ng/L		01/10/25 06:59	01/13/25 15:45	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.4	2.1	ng/L		01/10/25 06:59	01/13/25 15:45	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.3	0.33	ng/L		01/10/25 06:59	01/13/25 15:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 15:45	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 15:45	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 15:45	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	1.7	0.61	ng/L		01/10/25 06:59	01/13/25 15:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.49	ng/L		01/10/25 06:59	01/13/25 15:45	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 15:45	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.42	ng/L		01/10/25 06:59	01/13/25 15:45	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.4	0.84	ng/L		01/10/25 06:59	01/13/25 15:45	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.4	2.1	ng/L		01/10/25 06:59	01/13/25 15:45	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.4	2.1	ng/L		01/10/25 06:59	01/13/25 15:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*97.9*		*5 - 130*	*01/10/25 06:59*	*01/13/25 15:45*	*1*
13C5 PFPeA	*105*		*40 - 130*	*01/10/25 06:59*	*01/13/25 15:45*	*1*
13C5 PFHxA	*104*		*40 - 130*	*01/10/25 06:59*	*01/13/25 15:45*	*1*
13C4 PFHpA	*87.4*		*40 - 130*	*01/10/25 06:59*	*01/13/25 15:45*	*1*
13C8 PFOA	*88.9*		*40 - 130*	*01/10/25 06:59*	*01/13/25 15:45*	*1*

Client: GSI Environmental Inc
Job ID: 320-118123-1
Project/Site: Spokane International Airport

Client Sample ID: EB-01062025
Lab Sample ID: 320-118123-9
Date Collected: 01/06/25 16:25
Matrix: Water
Date Received: 01/08/25 09:30

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C9 PFNA	86.7		40 - 130	01/10/25 06:59	01/13/25 15:45	1
13C6 PFDA	82.6		40 - 130	01/10/25 06:59	01/13/25 15:45	1
13C7 PFUnA	82.2		30 - 130	01/10/25 06:59	01/13/25 15:45	1
13C2 PFDoA	87.8		10 - 130	01/10/25 06:59	01/13/25 15:45	1
13C2 PFTeDA	65.0		10 - 130	01/10/25 06:59	01/13/25 15:45	1
13C3 PFBS	79.5		40 - 135	01/10/25 06:59	01/13/25 15:45	1
13C3 PFHxS	87.8		40 - 130	01/10/25 06:59	01/13/25 15:45	1
13C8 PFOS	81.9		40 - 130	01/10/25 06:59	01/13/25 15:45	1
13C8 FOSA	75.3		40 - 130	01/10/25 06:59	01/13/25 15:45	1
d3-NMeFOSAA	84.8		40 - 170	01/10/25 06:59	01/13/25 15:45	1
d5-NEtFOSAA	81.7		25 - 135	01/10/25 06:59	01/13/25 15:45	1
13C2 4:2 FTS	75.2		40 - 200	01/10/25 06:59	01/13/25 15:45	1
13C2 6:2 FTS	85.4		40 - 200	01/10/25 06:59	01/13/25 15:45	1
13C2 8:2 FTS	74.2		40 - 300	01/10/25 06:59	01/13/25 15:45	1
13C3 HFPO-DA	95.8		40 - 130	01/10/25 06:59	01/13/25 15:45	1
d7-N-MeFOSE-M	68.4		10 - 130	01/10/25 06:59	01/13/25 15:45	1
d9-N-EtFOSE-M	70.0		10 - 130	01/10/25 06:59	01/13/25 15:45	1
d5-NEtPFOSA	79.3		10 - 130	01/10/25 06:59	01/13/25 15:45	1
d3-NMePFOSA	81.0		10 - 130	01/10/25 06:59	01/13/25 15:45	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118123-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(5-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(30-130)
320-118123-1	LA-MW-8-N-01062025	95.0	102	96.8	99.4	92.6	86.8	87.5	99.8
320-118123-2	LA-MW-10-N-01062025	91.9	104	97.8	104	94.1	92.9	93.0	91.6
320-118123-3	LA-MW-10-FD-01062025	103	103	91.1	94.9	95.1	93.6	84.3	84.3
320-118123-4	LA-MW-9-N-01062025	95.9	94.0	105	102	95.8	91.7	86.1	85.5
320-118123-5	LA-MW-12-N-01062025	108	98.1	108	122	102	99.2	97.3	93.0
320-118123-6	LA-MW-11-N-01062025	101	97.8	110	106	101	98.8	88.3	89.3
320-118123-7	W-MW-17-N-01062025	95.0	120	99.2	103	101	94.1	92.7	88.9
320-118123-8	FB-01062025	55.9	55.7	53.8	55.3	49.8	46.0	47.0	45.5
320-118123-9	EB-01062025	97.9	105	104	87.4	88.9	86.7	82.6	82.2
LCS 320-826873/3-A	Lab Control Sample	103	101	97.5	88.3	80.2	71.4	71.2	66.6
LCSD 320-826873/4-A	Lab Control Sample Dup	104	96.0	101	100	95.8	86.7	89.8	95.4
LLCS 320-826873/2-A	Lab Control Sample	105	111	102	106	89.0	79.1	79.7	68.4
MB 320-826873/1-A	Method Blank	98.4	78.1	101	94.8	84.2	84.9	80.5	82.5

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(10-130)	(10-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-170)	(25-135)
320-118123-1	LA-MW-8-N-01062025	91.1	75.4	103	95.8	81.6	76.2	80.0	77.6
320-118123-2	LA-MW-10-N-01062025	89.0	61.6	80.0	95.4	76.3	76.1	80.9	74.7
320-118123-3	LA-MW-10-FD-01062025	83.2	60.8	93.2	94.7	81.5	78.5	79.1	81.3
320-118123-4	LA-MW-9-N-01062025	76.7	62.8	87.6	95.1	88.1	77.7	88.0	82.2
320-118123-5	LA-MW-12-N-01062025	85.8	66.0	107	105	98.1	84.4	92.4	90.1
320-118123-6	LA-MW-11-N-01062025	91.2	67.7	102	106	101	84.2	97.2	96.7
320-118123-7	W-MW-17-N-01062025	84.9	73.1	101	97.7	91.7	85.5	94.9	95.7
320-118123-8	FB-01062025	45.0	34.4	48.5	49.2	44.0	38.6 *5-	46.8	44.3
320-118123-9	EB-01062025	87.8	65.0	79.5	87.8	81.9	75.3	84.8	81.7
LCS 320-826873/3-A	Lab Control Sample	62.8	48.8	82.3	75.8	64.6	60.8	65.0	63.6
LCSD 320-826873/4-A	Lab Control Sample Dup	81.7	63.1	86.1	96.6	88.0	71.8	82.9	77.6
LLCS 320-826873/2-A	Lab Control Sample	70.9	49.6	97.3	88.2	75.2	67.8	75.4	68.8
MB 320-826873/1-A	Method Blank	82.9	55.9	86.4	88.8	83.4	73.0	79.8	76.5

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-200)	(40-200)	(40-300)	(40-130)	(10-130)	(10-130)	(10-130)	(10-130)
320-118123-1	LA-MW-8-N-01062025	85.8	97.4	82.7	96.7	61.0	57.5	66.8	67.0
320-118123-2	LA-MW-10-N-01062025	63.4	85.2	72.2	99.1	66.1	68.5	67.4	72.6
320-118123-3	LA-MW-10-FD-01062025	71.2	98.2	76.6	100	63.5	67.3	75.0	73.2
320-118123-4	LA-MW-9-N-01062025	70.3	99.1	79.2	104	65.6	64.0	76.0	78.1
320-118123-5	LA-MW-12-N-01062025	88.9	105	85.2	107	65.6	60.8	74.9	76.0
320-118123-6	LA-MW-11-N-01062025	75.9	96.1	85.4	97.3	71.8	72.0	80.9	77.5
320-118123-7	W-MW-17-N-01062025	67.9	93.4	78.2	105	73.1	70.7	80.0	80.4
320-118123-8	FB-01062025	38.2 *5-	52.4	40.5	55.6	35.4	34.0	37.5	36.8
320-118123-9	EB-01062025	75.2	85.4	74.2	95.8	68.4	70.0	79.3	81.0
LCS 320-826873/3-A	Lab Control Sample	60.0	78.9	59.3	92.8	56.8	51.8	57.4	55.3
LCSD 320-826873/4-A	Lab Control Sample Dup	67.6	84.4	70.9	94.1	67.3	57.0	61.9	60.0
LLCS 320-826873/2-A	Lab Control Sample	69.3	94.7	71.9	111	57.6	58.8	66.3	62.4
MB 320-826873/1-A	Method Blank	65.8	86.8	70.9	92.2	65.8	65.1	73.4	67.4

Surrogate Legend

PFBA = 13C4 PFBA

PFPeA = 13C5 PFPeA

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118123-1
Project/Site: Spokane International Airport

13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-826873/1-A
Matrix: Water
Analysis Batch: 827113

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 826873

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.0	1.0	ng/L		01/10/25 06:59	01/13/25 11:39	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.50	ng/L		01/10/25 06:59	01/13/25 11:39	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		01/10/25 06:59	01/13/25 11:39	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		01/10/25 06:59	01/13/25 11:39	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		01/10/25 06:59	01/13/25 11:39	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		01/10/25 06:59	01/13/25 11:39	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		01/10/25 06:59	01/13/25 11:39	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		01/10/25 06:59	01/13/25 11:39	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		01/10/25 06:59	01/13/25 11:39	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.58	ng/L		01/10/25 06:59	01/13/25 11:39	1
Perfluorotetradecanoic acid (PFTeDA)	ND		2.0	0.81	ng/L		01/10/25 06:59	01/13/25 11:39	1
Perfluorobutanesulfonic acid (PFBS)	0.765	J	2.0	0.50	ng/L		01/10/25 06:59	01/13/25 11:39	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		01/10/25 06:59	01/13/25 11:39	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		01/10/25 06:59	01/13/25 11:39	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.50	ng/L		01/10/25 06:59	01/13/25 11:39	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		01/10/25 06:59	01/13/25 11:39	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		01/10/25 06:59	01/13/25 11:39	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		01/10/25 06:59	01/13/25 11:39	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.53	ng/L		01/10/25 06:59	01/13/25 11:39	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		4.0	1.0	ng/L		01/10/25 06:59	01/13/25 11:39	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		4.0	1.0	ng/L		01/10/25 06:59	01/13/25 11:39	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		4.0	1.0	ng/L		01/10/25 06:59	01/13/25 11:39	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		01/10/25 06:59	01/13/25 11:39	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		2.0	0.50	ng/L		01/10/25 06:59	01/13/25 11:39	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		2.0	0.50	ng/L		01/10/25 06:59	01/13/25 11:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ng/L		01/10/25 06:59	01/13/25 11:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.50	ng/L		01/10/25 06:59	01/13/25 11:39	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		10	2.5	ng/L		01/10/25 06:59	01/13/25 11:39	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		10	2.5	ng/L		01/10/25 06:59	01/13/25 11:39	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.5	0.39	ng/L		01/10/25 06:59	01/13/25 11:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.50	ng/L		01/10/25 06:59	01/13/25 11:39	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	0.50	ng/L		01/10/25 06:59	01/13/25 11:39	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	0.50	ng/L		01/10/25 06:59	01/13/25 11:39	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	0.72	ng/L		01/10/25 06:59	01/13/25 11:39	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		2.0	0.58	ng/L		01/10/25 06:59	01/13/25 11:39	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-826873/1-A
Matrix: Water
Analysis Batch: 827113

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 826873

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	0.50	ng/L		01/10/25 06:59	01/13/25 11:39	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	0.50	ng/L		01/10/25 06:59	01/13/25 11:39	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		4.0	1.0	ng/L		01/10/25 06:59	01/13/25 11:39	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		10	2.5	ng/L		01/10/25 06:59	01/13/25 11:39	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		10	2.5	ng/L		01/10/25 06:59	01/13/25 11:39	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*98.4*		*5 - 130*	*01/10/25 06:59*	*01/13/25 11:39*	*1*
13C5 PFPeA	*78.1*		*40 - 130*	*01/10/25 06:59*	*01/13/25 11:39*	*1*
13C5 PFHxA	*101*		*40 - 130*	*01/10/25 06:59*	*01/13/25 11:39*	*1*
13C4 PFHpA	*94.8*		*40 - 130*	*01/10/25 06:59*	*01/13/25 11:39*	*1*
13C8 PFOA	*84.2*		*40 - 130*	*01/10/25 06:59*	*01/13/25 11:39*	*1*
13C9 PFNA	*84.9*		*40 - 130*	*01/10/25 06:59*	*01/13/25 11:39*	*1*
13C6 PFDA	*80.5*		*40 - 130*	*01/10/25 06:59*	*01/13/25 11:39*	*1*
13C7 PFUnA	*82.5*		*30 - 130*	*01/10/25 06:59*	*01/13/25 11:39*	*1*
13C2 PFDoA	*82.9*		*10 - 130*	*01/10/25 06:59*	*01/13/25 11:39*	*1*
13C2 PFTeDA	*55.9*		*10 - 130*	*01/10/25 06:59*	*01/13/25 11:39*	*1*
13C3 PFBS	*86.4*		*40 - 135*	*01/10/25 06:59*	*01/13/25 11:39*	*1*
13C3 PFHxS	*88.8*		*40 - 130*	*01/10/25 06:59*	*01/13/25 11:39*	*1*
13C8 PFOS	*83.4*		*40 - 130*	*01/10/25 06:59*	*01/13/25 11:39*	*1*
13C8 FOSA	*73.0*		*40 - 130*	*01/10/25 06:59*	*01/13/25 11:39*	*1*
d3-NMeFOSAA	*79.8*		*40 - 170*	*01/10/25 06:59*	*01/13/25 11:39*	*1*
d5-NEtFOSAA	*76.5*		*25 - 135*	*01/10/25 06:59*	*01/13/25 11:39*	*1*
13C2 4:2 FTS	*65.8*		*40 - 200*	*01/10/25 06:59*	*01/13/25 11:39*	*1*
13C2 6:2 FTS	*86.8*		*40 - 200*	*01/10/25 06:59*	*01/13/25 11:39*	*1*
13C2 8:2 FTS	*70.9*		*40 - 300*	*01/10/25 06:59*	*01/13/25 11:39*	*1*
13C3 HFPO-DA	*92.2*		*40 - 130*	*01/10/25 06:59*	*01/13/25 11:39*	*1*
d7-N-MeFOSE-M	*65.8*		*10 - 130*	*01/10/25 06:59*	*01/13/25 11:39*	*1*
d9-N-EtFOSE-M	*65.1*		*10 - 130*	*01/10/25 06:59*	*01/13/25 11:39*	*1*
d5-NEtPFOSA	*73.4*		*10 - 130*	*01/10/25 06:59*	*01/13/25 11:39*	*1*
d3-NMePFOSA	*67.4*		*10 - 130*	*01/10/25 06:59*	*01/13/25 11:39*	*1*

Lab Sample ID: LCS 320-826873/3-A
Matrix: Water
Analysis Batch: 827113

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 826873

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	79.3		ng/L		99	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	39.5		ng/L		99	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	42.9		ng/L		107	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	44.9		ng/L		112	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	43.0		ng/L		107	70 - 150
Perfluorononanoic acid (PFNA)	40.0	41.2		ng/L		103	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	43.1		ng/L		108	70 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-826873/3-A
Matrix: Water
Analysis Batch: 827113

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 826873

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	40.0	43.3		ng/L		108	70 - 145
Perfluorododecanoic acid (PFDoA)	40.0	40.2		ng/L		101	70 - 140
Perfluorotridecanoic acid (PFTrDA)	40.0	43.7		ng/L		109	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	40.0	40.6		ng/L		102	60 - 140
Perfluorobutanesulfonic acid (PFBS)	35.5	38.1		ng/L		107	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	40.9		ng/L		109	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	36.1		ng/L		99	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	40.6		ng/L		106	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	35.9		ng/L		97	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	38.0		ng/L		99	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	34.1		ng/L		88	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	33.1		ng/L		85	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	75.6		ng/L		101	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	80.1		ng/L		105	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	93.8		ng/L		122	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	40.4		ng/L		101	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	42.8		ng/L		107	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	41.8		ng/L		105	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	45.9		ng/L		115	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	43.0		ng/L		107	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	200		ng/L		100	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	216		ng/L		108	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	29.7		ng/L		99	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	41.4		ng/L		109	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	44.2		ng/L		110	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	42.1		ng/L		105	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	37.2		ng/L		93	50 - 150

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-826873/3-A
Matrix: Water
Analysis Batch: 827113

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 826873

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	31.4		ng/L		84	70 - 155		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	27.7		ng/L		73	55 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	35.4		ng/L		99	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	80.2		ng/L		100	65 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	180		ng/L		90	70 - 135		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	156		ng/L		78	50 - 145		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*103*		*5 - 130*
13C5 PFPeA	*101*		*40 - 130*
13C5 PFHxA	*97.5*		*40 - 130*
13C4 PFHpA	*88.3*		*40 - 130*
13C8 PFOA	*80.2*		*40 - 130*
13C9 PFNA	*71.4*		*40 - 130*
13C6 PFDA	*71.2*		*40 - 130*
13C7 PFUnA	*66.6*		*30 - 130*
13C2 PFDoA	*62.8*		*10 - 130*
13C2 PFTeDA	*48.8*		*10 - 130*
13C3 PFBS	*82.3*		*40 - 135*
13C3 PFHxS	*75.8*		*40 - 130*
13C8 PFOS	*64.6*		*40 - 130*
13C8 FOSA	*60.8*		*40 - 130*
d3-NMeFOSAA	*65.0*		*40 - 170*
d5-NEtFOSAA	*63.6*		*25 - 135*
13C2 4:2 FTS	*60.0*		*40 - 200*
13C2 6:2 FTS	*78.9*		*40 - 200*
13C2 8:2 FTS	*59.3*		*40 - 300*
13C3 HFPO-DA	*92.8*		*40 - 130*
d7-N-MeFOSE-M	*56.8*		*10 - 130*
d9-N-EtFOSE-M	*51.8*		*10 - 130*
d5-NEtPFOSA	*57.4*		*10 - 130*
d3-NMePFOSA	*55.3*		*10 - 130*

Lab Sample ID: LCSD 320-826873/4-A
Matrix: Water
Analysis Batch: 827113

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 826873

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			80.0	78.8		ng/L		99	70 - 140	1	30
Perfluoropentanoic acid (PFPeA)			40.0	40.9		ng/L		102	65 - 135	3	30
Perfluorohexanoic acid (PFHxA)			40.0	38.7		ng/L		97	70 - 145	10	30
Perfluoroheptanoic acid (PFHpA)			40.0	41.6		ng/L		104	70 - 150	8	30
Perfluorooctanoic acid (PFOA)			40.0	42.2		ng/L		106	70 - 150	2	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-826873/4-A
Matrix: Water
Analysis Batch: 827113

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 826873

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	40.0	41.6		ng/L		104	70 - 150	1	30
Perfluorodecanoic acid (PFDA)	40.0	40.6		ng/L		102	70 - 140	6	30
Perfluoroundecanoic acid (PFUnA)	40.0	39.2		ng/L		98	70 - 145	10	30
Perfluorododecanoic acid (PFDoA)	40.0	40.0		ng/L		100	70 - 140	1	30
Perfluorotridecanoic acid (PFTrDA)	40.0	40.6		ng/L		101	65 - 140	7	30
Perfluorotetradecanoic acid (PFTeDA)	40.0	42.6		ng/L		106	60 - 140	5	30
Perfluorobutanesulfonic acid (PFBS)	35.5	42.5		ng/L		120	60 - 145	11	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	35.3		ng/L		94	65 - 140	14	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	35.2		ng/L		96	65 - 145	3	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	39.8		ng/L		104	70 - 150	2	30
Perfluorooctanesulfonic acid (PFOS)	37.2	36.7		ng/L		99	55 - 150	2	30
Perfluorononanesulfonic acid (PFNS)	38.5	38.3		ng/L		99	65 - 145	1	30
Perfluorodecanesulfonic acid (PFDS)	38.6	35.1		ng/L		91	60 - 145	3	30
Perfluorododecanesulfonic acid (PFDoS)	38.8	34.9		ng/L		90	50 - 145	5	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	84.0		ng/L		112	70 - 145	11	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	83.5		ng/L		110	65 - 155	4	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	82.0		ng/L		107	60 - 150	13	30
Perfluorooctanesulfonamide (PFOSA)	40.0	39.8		ng/L		99	70 - 145	2	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	44.6		ng/L		111	60 - 150	4	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	43.9		ng/L		110	65 - 145	5	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	46.4		ng/L		116	50 - 140	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	42.5		ng/L		106	70 - 145	1	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	186		ng/L		93	70 - 145	7	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	203		ng/L		101	70 - 135	6	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	30.9		ng/L		103	70 - 140	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	43.5		ng/L		115	65 - 145	5	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	45.9		ng/L		115	55 - 140	4	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	46.1		ng/L		115	60 - 150	9	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-826873/4-A
Matrix: Water
Analysis Batch: 827113

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 826873

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			40.0	27.3	*1	ng/L		68	50 - 150	31	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	40.6		ng/L		109	70 - 155	26	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	34.3		ng/L		91	55 - 160	21	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	36.2		ng/L		102	70 - 140	2	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	77.6		ng/L		97	65 - 130	3	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	161		ng/L		80	70 - 135	11	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	150		ng/L		75	50 - 145	4	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*104*		*5 - 130*
13C5 PFPeA	*96.0*		*40 - 130*
13C5 PFHxA	*101*		*40 - 130*
13C4 PFHpA	*100*		*40 - 130*
13C8 PFOA	*95.8*		*40 - 130*
13C9 PFNA	*86.7*		*40 - 130*
13C6 PFDA	*89.8*		*40 - 130*
13C7 PFUnA	*95.4*		*30 - 130*
13C2 PFDoA	*81.7*		*10 - 130*
13C2 PFTeDA	*63.1*		*10 - 130*
13C3 PFBS	*86.1*		*40 - 135*
13C3 PFHxS	*96.6*		*40 - 130*
13C8 PFOS	*88.0*		*40 - 130*
13C8 FOSA	*71.8*		*40 - 130*
d3-NMeFOSAA	*82.9*		*40 - 170*
d5-NEtFOSAA	*77.6*		*25 - 135*
13C2 4:2 FTS	*67.6*		*40 - 200*
13C2 6:2 FTS	*84.4*		*40 - 200*
13C2 8:2 FTS	*70.9*		*40 - 300*
13C3 HFPO-DA	*94.1*		*40 - 130*
d7-N-MeFOSE-M	*67.3*		*10 - 130*
d9-N-EtFOSE-M	*57.0*		*10 - 130*
d5-NEtPFOSA	*61.9*		*10 - 130*
d3-NMePFOSA	*60.0*		*10 - 130*

Lab Sample ID: LLCS 320-826873/2-A
Matrix: Water
Analysis Batch: 827113

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 826873

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			8.00	8.13		ng/L		102	70 - 140
Perfluoropentanoic acid (PFPeA)			4.00	4.18		ng/L		105	65 - 135
Perfluorohexanoic acid (PFHxA)			4.00	4.23		ng/L		106	70 - 145

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-826873/2-A
Matrix: Water
Analysis Batch: 827113

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 826873

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	4.00	4.13		ng/L		103	70 - 150
Perfluorooctanoic acid (PFOA)	4.00	4.65		ng/L		116	70 - 150
Perfluorononanoic acid (PFNA)	4.00	4.29		ng/L		107	70 - 150
Perfluorodecanoic acid (PFDA)	4.00	4.03		ng/L		101	70 - 140
Perfluoroundecanoic acid (PFUnA)	4.00	4.61		ng/L		115	70 - 145
Perfluorododecanoic acid (PFDoA)	4.00	3.91		ng/L		98	70 - 140
Perfluorotridecanoic acid (PFTrDA)	4.00	4.25		ng/L		106	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	4.00	4.63		ng/L		116	60 - 140
Perfluorobutanesulfonic acid (PFBS)	3.55	4.45		ng/L		125	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.76	3.73		ng/L		99	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	3.65	3.69		ng/L		101	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.82	3.67		ng/L		96	70 - 150
Perfluorooctanesulfonic acid (PFOS)	3.72	3.71		ng/L		100	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.85	4.01		ng/L		104	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.86	3.58		ng/L		93	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.88	2.90		ng/L		75	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	7.50	9.30		ng/L		124	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.62	8.15		ng/L		107	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.68	8.86		ng/L		115	60 - 150
Perfluorooctanesulfonamide (PFOSA)	4.00	3.95		ng/L		99	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	4.00	3.86		ng/L		97	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	4.00	4.13		ng/L		103	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.00	4.48		ng/L		112	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.00	3.84		ng/L		96	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	20.0	19.3		ng/L		96	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	20.0	20.9		ng/L		104	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.00	2.95		ng/L		98	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	4.31		ng/L		114	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.00	4.55		ng/L		114	55 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-826873/2-A
Matrix: Water
Analysis Batch: 827113

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 826873

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			4.00	4.06		ng/L		101	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			4.00	4.89		ng/L		122	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			3.74	3.51		ng/L		94	70 - 155		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			3.78	3.16		ng/L		84	55 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			3.57	3.96		ng/L		111	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			8.00	8.86		ng/L		111	65 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			20.0	17.7		ng/L		88	70 - 135		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			20.0	16.8		ng/L		84	50 - 145		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*105*		*5 - 130*
13C5 PFPeA	*111*		*40 - 130*
13C5 PFHxA	*102*		*40 - 130*
13C4 PFHpA	*106*		*40 - 130*
13C8 PFOA	*89.0*		*40 - 130*
13C9 PFNA	*79.1*		*40 - 130*
13C6 PFDA	*79.7*		*40 - 130*
13C7 PFUnA	*68.4*		*30 - 130*
13C2 PFDoA	*70.9*		*10 - 130*
13C2 PFTeDA	*49.6*		*10 - 130*
13C3 PFBS	*97.3*		*40 - 135*
13C3 PFHxS	*88.2*		*40 - 130*
13C8 PFOS	*75.2*		*40 - 130*
13C8 FOSA	*67.8*		*40 - 130*
d3-NMeFOSAA	*75.4*		*40 - 170*
d5-NEtFOSAA	*68.8*		*25 - 135*
13C2 4:2 FTS	*69.3*		*40 - 200*
13C2 6:2 FTS	*94.7*		*40 - 200*
13C2 8:2 FTS	*71.9*		*40 - 300*
13C3 HFPO-DA	*111*		*40 - 130*
d7-N-MeFOSE-M	*57.6*		*10 - 130*
d9-N-EtFOSE-M	*58.8*		*10 - 130*
d5-NEtPFOSA	*66.3*		*10 - 130*
d3-NMePFOSA	*62.4*		*10 - 130*

QC Association Summary

Client: GSI Environmental Inc
Job ID: 320-118123-1
Project/Site: Spokane International Airport

LCMS

Prep Batch: 826873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118123-1	LA-MW-8-N-01062025	Total/NA	Water	1633	
320-118123-2	LA-MW-10-N-01062025	Total/NA	Water	1633	
320-118123-3	LA-MW-10-FD-01062025	Total/NA	Water	1633	
320-118123-4	LA-MW-9-N-01062025	Total/NA	Water	1633	
320-118123-5	LA-MW-12-N-01062025	Total/NA	Water	1633	
320-118123-6	LA-MW-11-N-01062025	Total/NA	Water	1633	
320-118123-7	W-MW-17-N-01062025	Total/NA	Water	1633	
320-118123-8	FB-01062025	Total/NA	Water	1633	
320-118123-9	EB-01062025	Total/NA	Water	1633	
MB 320-826873/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-826873/3-A	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-826873/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-826873/2-A	Lab Control Sample	Total/NA	Water	1633	

Analysis Batch: 827113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118123-1	LA-MW-8-N-01062025	Total/NA	Water	1633	826873
320-118123-2	LA-MW-10-N-01062025	Total/NA	Water	1633	826873
320-118123-3	LA-MW-10-FD-01062025	Total/NA	Water	1633	826873
320-118123-4	LA-MW-9-N-01062025	Total/NA	Water	1633	826873
320-118123-5	LA-MW-12-N-01062025	Total/NA	Water	1633	826873
320-118123-6	LA-MW-11-N-01062025	Total/NA	Water	1633	826873
320-118123-7	W-MW-17-N-01062025	Total/NA	Water	1633	826873
320-118123-8	FB-01062025	Total/NA	Water	1633	826873
320-118123-9	EB-01062025	Total/NA	Water	1633	826873
MB 320-826873/1-A	Method Blank	Total/NA	Water	1633	826873
LCS 320-826873/3-A	Lab Control Sample	Total/NA	Water	1633	826873
LCSD 320-826873/4-A	Lab Control Sample Dup	Total/NA	Water	1633	826873
LLCS 320-826873/2-A	Lab Control Sample	Total/NA	Water	1633	826873

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118123-1
Project/Site: Spokane International Airport

Client Sample ID: LA-MW-8-N-01062025
Lab Sample ID: 320-118123-1
Date Collected: 01/06/25 10:05
Matrix: Water
Date Received: 01/08/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			136.7 mL	5.0 mL	826873	01/10/25 06:59	NMF	EET SAC
Total/NA	Analysis	1633		1			827113	01/13/25 13:01	C1P	EET SAC

Client Sample ID: LA-MW-10-N-01062025
Lab Sample ID: 320-118123-2
Date Collected: 01/06/25 11:15
Matrix: Water
Date Received: 01/08/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			147.3 mL	5.0 mL	826873	01/10/25 06:59	NMF	EET SAC
Total/NA	Analysis	1633		1			827113	01/13/25 13:17	C1P	EET SAC

Client Sample ID: LA-MW-10-FD-01062025
Lab Sample ID: 320-118123-3
Date Collected: 01/06/25 11:30
Matrix: Water
Date Received: 01/08/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			147.5 mL	5.0 mL	826873	01/10/25 06:59	NMF	EET SAC
Total/NA	Analysis	1633		1			827113	01/13/25 13:34	C1P	EET SAC

Client Sample ID: LA-MW-9-N-01062025
Lab Sample ID: 320-118123-4
Date Collected: 01/06/25 12:40
Matrix: Water
Date Received: 01/08/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			143.6 mL	5.0 mL	826873	01/10/25 06:59	NMF	EET SAC
Total/NA	Analysis	1633		1			827113	01/13/25 13:50	C1P	EET SAC

Client Sample ID: LA-MW-12-N-01062025
Lab Sample ID: 320-118123-5
Date Collected: 01/06/25 13:30
Matrix: Water
Date Received: 01/08/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			154.5 mL	5.0 mL	826873	01/10/25 06:59	NMF	EET SAC
Total/NA	Analysis	1633		1			827113	01/13/25 14:07	C1P	EET SAC

Client Sample ID: LA-MW-11-N-01062025
Lab Sample ID: 320-118123-6
Date Collected: 01/06/25 14:20
Matrix: Water
Date Received: 01/08/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			159.2 mL	5.0 mL	826873	01/10/25 06:59	NMF	EET SAC
Total/NA	Analysis	1633		1			827113	01/13/25 14:23	C1P	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118123-1
Project/Site: Spokane International Airport

Client Sample ID: W-MW-17-N-01062025
Lab Sample ID: 320-118123-7

Date Collected: 01/06/25 16:15
Matrix: Water
Date Received: 01/08/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			145.6 mL	5.0 mL	826873	01/10/25 06:59	NMF	EET SAC
Total/NA	Analysis	1633		1			827113	01/13/25 15:12	C1P	EET SAC

Client Sample ID: FB-01062025
Lab Sample ID: 320-118123-8

Date Collected: 01/06/25 00:00
Matrix: Water
Date Received: 01/08/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			165.9 mL	5.0 mL	826873	01/10/25 06:59	NMF	EET SAC
Total/NA	Analysis	1633		1			827113	01/13/25 15:29	C1P	EET SAC

Client Sample ID: EB-01062025
Lab Sample ID: 320-118123-9

Date Collected: 01/06/25 16:25
Matrix: Water
Date Received: 01/08/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			148.5 mL	5.0 mL	826873	01/10/25 06:59	NMF	EET SAC
Total/NA	Analysis	1633		1			827113	01/13/25 15:45	C1P	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118123-1
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118123-1

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Solid-Phase Extraction (SPE)	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Job ID: 320-118123-1
Project/Site: Spokane International Airport

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118123-1	LA-MW-8-N-01062025	Water	01/06/25 10:05	01/08/25 09:30
320-118123-2	LA-MW-10-N-01062025	Water	01/06/25 11:15	01/08/25 09:30
320-118123-3	LA-MW-10-FD-01062025	Water	01/06/25 11:30	01/08/25 09:30
320-118123-4	LA-MW-9-N-01062025	Water	01/06/25 12:40	01/08/25 09:30
320-118123-5	LA-MW-12-N-01062025	Water	01/06/25 13:30	01/08/25 09:30
320-118123-6	LA-MW-11-N-01062025	Water	01/06/25 14:20	01/08/25 09:30
320-118123-7	W-MW-17-N-01062025	Water	01/06/25 16:15	01/08/25 09:30
320-118123-8	FB-01062025	Water	01/06/25 00:00	01/08/25 09:30
320-118123-9	EB-01062025	Water	01/06/25 16:25	01/08/25 09:30

HALEY ALDRICH

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447
Page 1 of 1

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	Cations EPA 200.7	Anions EPA 300.0	Bromide EPA 300.0	Alkalinity SM 2320 B	Number of Containers
LA-MW-8-N-01062025	1/6/25	10:05	H_2O	X	X	X	X	X	6
LA-MW-10-N-01062025	1/6/25	11:15	H_2O	X	X	X	X	X	6
LA-MW-10-FD-01062025	1/6/25	11:30	H_2O	X	X	X	X	X	6
LA-MW-9-N-01062025	1/6/25	12:40	H_2O	X	X	X	X	X	6
LA-MW-12-N-01062025	1/6/25	13:30	H_2O	X	X	X	X	X	6
LA-MW-11-N-01062025	1/6/25	14:20	H_2O	X	X	X	X	X	6
LA-MW-17-N-01062025	1/6/25	16:15	H_2O	X	X	X	X	X	6
FB-01062025	1/6/25	—	H_2O	X					1
EB-01062025	1/6/25	16:25	H_2O	X					3

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– Cations to be analyzed: Ca, Mg, K, Na
– Anions to be analyzed: Cl^-, NO_3^-, SO_4^{2-}
– Alkilinity to be mesaured by titration

320-118123 Chain of Custody

2.8, 3.3 cor

Sampled and Relinquished by	Received by
Sign	Sign
Print Breeyn Greer	Print Macky Morris
Firm HA	Firm EE 7820
Date 1/7/25 Time 0900	Date 1/7/25 900
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print
Firm EE 7820	Firm
Date 1/7/25 Time 1502	Date 1.8.25
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections.

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ RC-S2 ☐ RC-GW1 ☐ RC-GW2
☐ S1 ☐ S2 ☐ S3
☐ GW1 ☐ GW2 ☐ GW3

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

Form 3003

November 2024

1/15/2025

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc 320
118123

Job _____

Tracking # 4014856993659

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC

Therm ID: 211 Corr. Factor: (+ / -) _____ °C

Ice 1 Wet 1 Gel _____ Other _____

Cooler Custody Seal: 2037467

Cooler ID _____

Temp Observed: 3.4 °C Corrected 3.4 °C

From: Temp Blank ☐ Sandwich ☒ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☒	☐
Cooler Temperature is acceptable?	☒	☐	☐
Frozen samples show signs of thaw?	☐	☐	☒

Initials: _____ Date 1.8.25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☒	☐	☐
Samples compromised/tampered with?	☐	☒	☐
COC is complete w/o discrepancies	☒	☐	☐
Sample custody seal?	☐	☐	☒
Sample containers have legible labels?	☒	☐	☐
Sample date/times are provided?	☒	☐	☐
Appropriate containers are used?	☒	☐	☐
Sample bottles are completely filled?	☒	☐	☐
Sample preservatives verified?	☐	☐	☒
Is the Field Sampler's name on COC?	☐	☐	☒
Samples w/o discrepancies?	☒	☐	☐
Zero headspace?*	☐	☐	☒
Alkalinity has no headspace?	☐	☐	☒
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☒
Multiphasic samples are not present?	☒	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials _____ Date 1.8.25

Notes: _____

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☒	☐	☐
NCM Filed?	☐	☐	☒
Samples received within hold time?	☐	☐	☒
Log Release checked in TALS?	☐	☐	☒

Initials _____ Date 1.8.25

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 2/5/2025 8:30:54 AM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118639-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

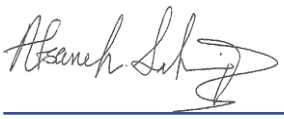
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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2/5/2025 8:30:54 AM

Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118639-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118639-1 — Eurofins Sacramento

Job Narrative
320-118639-1

Receipt
The samples were received on 1/30/2025 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.3º C and 1.7º C.

LCMS
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Job ID: 320-118639-1
Project/Site: Spokane International Airport

Client Sample ID: FB-01272025
Lab Sample ID: 320-118639-1

No Detections.

Client Sample ID: EB-01272025
Lab Sample ID: 320-118639-2

No Detections.

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118639-1

Client Sample ID: FB-01272025
Date Collected: 01/27/25 00:00
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118639-1
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.0	0.76	ng/L		02/03/25 04:35	02/04/25 04:19	1
Perfluoropentanoic acid (PFPeA)	ND		1.5	0.38	ng/L		02/03/25 04:35	02/04/25 04:19	1
Perfluorohexanoic acid (PFHxA)	ND		1.5	0.38	ng/L		02/03/25 04:35	02/04/25 04:19	1
Perfluoroheptanoic acid (PFHpA)	ND		1.5	0.38	ng/L		02/03/25 04:35	02/04/25 04:19	1
Perfluorooctanoic acid (PFOA)	ND		1.5	0.38	ng/L		02/03/25 04:35	02/04/25 04:19	1
Perfluorononanoic acid (PFNA)	ND		1.5	0.38	ng/L		02/03/25 04:35	02/04/25 04:19	1
Perfluorodecanoic acid (PFDA)	ND		1.5	0.38	ng/L		02/03/25 04:35	02/04/25 04:19	1
Perfluoroundecanoic acid (PFUnA)	ND		1.5	0.38	ng/L		02/03/25 04:35	02/04/25 04:19	1
Perfluorododecanoic acid (PFDoA)	ND		1.5	0.42	ng/L		02/03/25 04:35	02/04/25 04:19	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.5	0.44	ng/L		02/03/25 04:35	02/04/25 04:19	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.5	0.62	ng/L		02/03/25 04:35	02/04/25 04:19	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.5	0.38	ng/L		02/03/25 04:35	02/04/25 04:19	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.5	0.38	ng/L		02/03/25 04:35	02/04/25 04:19	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.5	0.38	ng/L		02/03/25 04:35	02/04/25 04:19	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.5	0.38	ng/L		02/03/25 04:35	02/04/25 04:19	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.5	0.38	ng/L		02/03/25 04:35	02/04/25 04:19	1
Perfluorononanesulfonic acid (PFNS)	ND		1.5	0.38	ng/L		02/03/25 04:35	02/04/25 04:19	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.5	0.38	ng/L		02/03/25 04:35	02/04/25 04:19	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.5	0.40	ng/L		02/03/25 04:35	02/04/25 04:19	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.0	0.76	ng/L		02/03/25 04:35	02/04/25 04:19	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.0	0.76	ng/L		02/03/25 04:35	02/04/25 04:19	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.0	0.76	ng/L		02/03/25 04:35	02/04/25 04:19	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.5	0.38	ng/L		02/03/25 04:35	02/04/25 04:19	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.5	0.38	ng/L		02/03/25 04:35	02/04/25 04:19	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.5	0.38	ng/L		02/03/25 04:35	02/04/25 04:19	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.5	0.38	ng/L		02/03/25 04:35	02/04/25 04:19	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.5	0.38	ng/L		02/03/25 04:35	02/04/25 04:19	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		7.6	1.9	ng/L		02/03/25 04:35	02/04/25 04:19	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		7.6	1.9	ng/L		02/03/25 04:35	02/04/25 04:19	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.1	0.30	ng/L		02/03/25 04:35	02/04/25 04:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.5	0.38	ng/L		02/03/25 04:35	02/04/25 04:19	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.5	0.38	ng/L		02/03/25 04:35	02/04/25 04:19	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.5	0.38	ng/L		02/03/25 04:35	02/04/25 04:19	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.5	0.55	ng/L		02/03/25 04:35	02/04/25 04:19	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.5	0.44	ng/L		02/03/25 04:35	02/04/25 04:19	1

Client Sample ID: FB-01272025

Date Collected: 01/27/25 00:00
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118639-1
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.5	0.38	ng/L		02/03/25 04:35	02/04/25 04:19	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.5	0.38	ng/L		02/03/25 04:35	02/04/25 04:19	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.0	0.76	ng/L		02/03/25 04:35	02/04/25 04:19	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		7.6	1.9	ng/L		02/03/25 04:35	02/04/25 04:19	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		7.6	1.9	ng/L		02/03/25 04:35	02/04/25 04:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*102*		*5 - 130*	*02/03/25 04:35*	*02/04/25 04:19*	*1*
13C5 PFPeA	*107*		*40 - 130*	*02/03/25 04:35*	*02/04/25 04:19*	*1*
13C5 PFHxA	*104*		*40 - 130*	*02/03/25 04:35*	*02/04/25 04:19*	*1*
13C4 PFHpA	*113*		*40 - 130*	*02/03/25 04:35*	*02/04/25 04:19*	*1*
13C8 PFOA	*104*		*40 - 130*	*02/03/25 04:35*	*02/04/25 04:19*	*1*
13C9 PFNA	*97.4*		*40 - 130*	*02/03/25 04:35*	*02/04/25 04:19*	*1*
13C6 PFDA	*91.5*		*40 - 130*	*02/03/25 04:35*	*02/04/25 04:19*	*1*
13C7 PFUnA	*96.3*		*30 - 130*	*02/03/25 04:35*	*02/04/25 04:19*	*1*
13C2 PFDoA	*92.8*		*10 - 130*	*02/03/25 04:35*	*02/04/25 04:19*	*1*
13C2 PFTeDA	*87.7*		*10 - 130*	*02/03/25 04:35*	*02/04/25 04:19*	*1*
13C3 PFBS	*104*		*40 - 135*	*02/03/25 04:35*	*02/04/25 04:19*	*1*
13C3 PFHxS	*107*		*40 - 130*	*02/03/25 04:35*	*02/04/25 04:19*	*1*
13C8 PFOS	*99.1*		*40 - 130*	*02/03/25 04:35*	*02/04/25 04:19*	*1*
13C8 FOSA	*92.6*		*40 - 130*	*02/03/25 04:35*	*02/04/25 04:19*	*1*
d3-NMeFOSAA	*104*		*40 - 170*	*02/03/25 04:35*	*02/04/25 04:19*	*1*
d5-NEtFOSAA	*99.3*		*25 - 135*	*02/03/25 04:35*	*02/04/25 04:19*	*1*
13C2 4:2 FTS	*108*		*40 - 200*	*02/03/25 04:35*	*02/04/25 04:19*	*1*
13C2 6:2 FTS	*105*		*40 - 200*	*02/03/25 04:35*	*02/04/25 04:19*	*1*
13C2 8:2 FTS	*103*		*40 - 300*	*02/03/25 04:35*	*02/04/25 04:19*	*1*
13C3 HFPO-DA	*98.9*		*40 - 130*	*02/03/25 04:35*	*02/04/25 04:19*	*1*
d7-N-MeFOSE-M	*93.9*		*10 - 130*	*02/03/25 04:35*	*02/04/25 04:19*	*1*
d9-N-EtFOSE-M	*94.4*		*10 - 130*	*02/03/25 04:35*	*02/04/25 04:19*	*1*
d5-NEtPFOSA	*76.0*		*10 - 130*	*02/03/25 04:35*	*02/04/25 04:19*	*1*
d3-NMePFOSA	*77.9*		*10 - 130*	*02/03/25 04:35*	*02/04/25 04:19*	*1*

Client Sample ID: EB-01272025

Date Collected: 01/27/25 09:00
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118639-2
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.3	0.83	ng/L		02/03/25 04:35	02/04/25 04:36	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.41	ng/L		02/03/25 04:35	02/04/25 04:36	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.41	ng/L		02/03/25 04:35	02/04/25 04:36	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.41	ng/L		02/03/25 04:35	02/04/25 04:36	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.41	ng/L		02/03/25 04:35	02/04/25 04:36	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.41	ng/L		02/03/25 04:35	02/04/25 04:36	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.41	ng/L		02/03/25 04:35	02/04/25 04:36	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.41	ng/L		02/03/25 04:35	02/04/25 04:36	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.45	ng/L		02/03/25 04:35	02/04/25 04:36	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118639-1

Client Sample ID: EB-01272025
Date Collected: 01/27/25 09:00
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118639-2
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.48	ng/L		02/03/25 04:35	02/04/25 04:36	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.7	0.67	ng/L		02/03/25 04:35	02/04/25 04:36	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.41	ng/L		02/03/25 04:35	02/04/25 04:36	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.41	ng/L		02/03/25 04:35	02/04/25 04:36	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.41	ng/L		02/03/25 04:35	02/04/25 04:36	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.41	ng/L		02/03/25 04:35	02/04/25 04:36	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.41	ng/L		02/03/25 04:35	02/04/25 04:36	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.41	ng/L		02/03/25 04:35	02/04/25 04:36	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.41	ng/L		02/03/25 04:35	02/04/25 04:36	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.44	ng/L		02/03/25 04:35	02/04/25 04:36	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.3	0.83	ng/L		02/03/25 04:35	02/04/25 04:36	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.3	0.83	ng/L		02/03/25 04:35	02/04/25 04:36	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.3	0.83	ng/L		02/03/25 04:35	02/04/25 04:36	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.41	ng/L		02/03/25 04:35	02/04/25 04:36	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.7	0.41	ng/L		02/03/25 04:35	02/04/25 04:36	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.7	0.41	ng/L		02/03/25 04:35	02/04/25 04:36	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.7	0.41	ng/L		02/03/25 04:35	02/04/25 04:36	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.7	0.41	ng/L		02/03/25 04:35	02/04/25 04:36	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.3	2.1	ng/L		02/03/25 04:35	02/04/25 04:36	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.3	2.1	ng/L		02/03/25 04:35	02/04/25 04:36	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.2	0.32	ng/L		02/03/25 04:35	02/04/25 04:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.41	ng/L		02/03/25 04:35	02/04/25 04:36	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.7	0.41	ng/L		02/03/25 04:35	02/04/25 04:36	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.7	0.41	ng/L		02/03/25 04:35	02/04/25 04:36	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.7	0.59	ng/L		02/03/25 04:35	02/04/25 04:36	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.7	0.48	ng/L		02/03/25 04:35	02/04/25 04:36	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.7	0.41	ng/L		02/03/25 04:35	02/04/25 04:36	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.7	0.41	ng/L		02/03/25 04:35	02/04/25 04:36	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.3	0.83	ng/L		02/03/25 04:35	02/04/25 04:36	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.3	2.1	ng/L		02/03/25 04:35	02/04/25 04:36	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.3	2.1	ng/L		02/03/25 04:35	02/04/25 04:36	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118639-1

Client Sample ID: EB-01272025
Date Collected: 01/27/25 09:00
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118639-2
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	99.6		5 - 130	02/03/25 04:35	02/04/25 04:36	1
13C5 PFPeA	106		40 - 130	02/03/25 04:35	02/04/25 04:36	1
13C5 PFHxA	101		40 - 130	02/03/25 04:35	02/04/25 04:36	1
13C4 PFHpA	102		40 - 130	02/03/25 04:35	02/04/25 04:36	1
13C8 PFOA	96.0		40 - 130	02/03/25 04:35	02/04/25 04:36	1
13C9 PFNA	87.3		40 - 130	02/03/25 04:35	02/04/25 04:36	1
13C6 PFDA	88.4		40 - 130	02/03/25 04:35	02/04/25 04:36	1
13C7 PFUnA	99.4		30 - 130	02/03/25 04:35	02/04/25 04:36	1
13C2 PFDoA	97.5		10 - 130	02/03/25 04:35	02/04/25 04:36	1
13C2 PFTeDA	85.2		10 - 130	02/03/25 04:35	02/04/25 04:36	1
13C3 PFBS	99.1		40 - 135	02/03/25 04:35	02/04/25 04:36	1
13C3 PFHxS	103		40 - 130	02/03/25 04:35	02/04/25 04:36	1
13C8 PFOS	95.5		40 - 130	02/03/25 04:35	02/04/25 04:36	1
13C8 FOSA	84.9		40 - 130	02/03/25 04:35	02/04/25 04:36	1
d3-NMeFOSAA	89.3		40 - 170	02/03/25 04:35	02/04/25 04:36	1
d5-NEtFOSAA	96.6		25 - 135	02/03/25 04:35	02/04/25 04:36	1
13C2 4:2 FTS	104		40 - 200	02/03/25 04:35	02/04/25 04:36	1
13C2 6:2 FTS	113		40 - 200	02/03/25 04:35	02/04/25 04:36	1
13C2 8:2 FTS	115		40 - 300	02/03/25 04:35	02/04/25 04:36	1
13C3 HFPO-DA	101		40 - 130	02/03/25 04:35	02/04/25 04:36	1
d7-N-MeFOSE-M	85.9		10 - 130	02/03/25 04:35	02/04/25 04:36	1
d9-N-EtFOSE-M	83.1		10 - 130	02/03/25 04:35	02/04/25 04:36	1
d5-NEtPFOSA	72.8		10 - 130	02/03/25 04:35	02/04/25 04:36	1
d3-NMePFOSA	82.2		10 - 130	02/03/25 04:35	02/04/25 04:36	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118639-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (5-130)	PFPeA (40-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (30-130)
320-118639-1	FB-01272025	102	107	104	113	104	97.4	91.5	96.3
320-118639-2	EB-01272025	99.6	106	101	102	96.0	87.3	88.4	99.4
LCS 320-830852/3-A	Lab Control Sample	102	99.3	97.9	103	105	93.9	88.6	88.0
LCSD 320-830852/4-A	Lab Control Sample Dup	102	104	104	105	99.4	93.0	93.2	89.4
LLCS 320-830852/2-A	Lab Control Sample	103	110	108	106	107	91.7	91.6	88.2
MB 320-830852/1-A	Method Blank	101	107	106	106	106	90.5	92.7	101

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (10-130)	PFTDA (10-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-170)	d5NEFOS (25-135)
320-118639-1	FB-01272025	92.8	87.7	104	107	99.1	92.6	104	99.3
320-118639-2	EB-01272025	97.5	85.2	99.1	103	95.5	84.9	89.3	96.6
LCS 320-830852/3-A	Lab Control Sample	88.6	78.4	98.3	99.3	98.6	84.5	93.7	91.7
LCSD 320-830852/4-A	Lab Control Sample Dup	94.8	83.4	102	106	94.1	86.6	104	98.9
LLCS 320-830852/2-A	Lab Control Sample	90.3	82.0	107	107	100	87.8	107	98.3
MB 320-830852/1-A	Method Blank	106	98.9	100	101	100	90.1	101	103

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-200)	M262FTS (40-200)	M282FTS (40-300)	HFPODA (40-130)	NMFM (10-130)	NEFM (10-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118639-1	FB-01272025	108	105	103	98.9	93.9	94.4	76.0	77.9
320-118639-2	EB-01272025	104	113	115	101	85.9	83.1	72.8	82.2
LCS 320-830852/3-A	Lab Control Sample	97.7	96.1	98.7	97.9	83.1	84.2	70.7	70.6
LCSD 320-830852/4-A	Lab Control Sample Dup	102	101	105	102	94.2	90.2	66.0	73.2
LLCS 320-830852/2-A	Lab Control Sample	108	108	104	106	92.5	92.7	70.3	73.5
MB 320-830852/1-A	Method Blank	100	109	106	105	94.7	90.6	64.6	70.6

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118639-1
Project/Site: Spokane International Airport

d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-830852/1-A
Matrix: Water
Analysis Batch: 831290

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830852

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.0	1.0	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.58	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorotetradecanoic acid (PFTeDA)	ND		2.0	0.81	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.53	ng/L		02/03/25 04:35	02/04/25 02:39	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		4.0	1.0	ng/L		02/03/25 04:35	02/04/25 02:39	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		4.0	1.0	ng/L		02/03/25 04:35	02/04/25 02:39	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		4.0	1.0	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		10	2.5	ng/L		02/03/25 04:35	02/04/25 02:39	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		10	2.5	ng/L		02/03/25 04:35	02/04/25 02:39	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.5	0.39	ng/L		02/03/25 04:35	02/04/25 02:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	0.72	ng/L		02/03/25 04:35	02/04/25 02:39	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		2.0	0.58	ng/L		02/03/25 04:35	02/04/25 02:39	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-830852/1-A
Matrix: Water
Analysis Batch: 831290

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830852

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		4.0	1.0	ng/L		02/03/25 04:35	02/04/25 02:39	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		10	2.5	ng/L		02/03/25 04:35	02/04/25 02:39	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		10	2.5	ng/L		02/03/25 04:35	02/04/25 02:39	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*5 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C5 PFPeA	*107*		*40 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C5 PFHxA	*106*		*40 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C4 PFHpA	*106*		*40 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C8 PFOA	*106*		*40 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C9 PFNA	*90.5*		*40 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C6 PFDA	*92.7*		*40 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C7 PFUnA	*101*		*30 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C2 PFDoA	*106*		*10 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C2 PFTeDA	*98.9*		*10 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C3 PFBS	*100*		*40 - 135*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C3 PFHxS	*101*		*40 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C8 PFOS	*100*		*40 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C8 FOSA	*90.1*		*40 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
d3-NMeFOSAA	*101*		*40 - 170*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
d5-NEtFOSAA	*103*		*25 - 135*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C2 4:2 FTS	*100*		*40 - 200*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C2 6:2 FTS	*109*		*40 - 200*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C2 8:2 FTS	*106*		*40 - 300*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C3 HFPO-DA	*105*		*40 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
d7-N-MeFOSE-M	*94.7*		*10 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
d9-N-EtFOSE-M	*90.6*		*10 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
d5-NEtPFOSA	*64.6*		*10 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
d3-NMePFOSA	*70.6*		*10 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*

Lab Sample ID: LCS 320-830852/3-A
Matrix: Water
Analysis Batch: 831290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830852

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	78.3		ng/L		98	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	43.3		ng/L		108	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	44.9		ng/L		112	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	42.1		ng/L		105	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	42.2		ng/L		105	70 - 150
Perfluorononanoic acid (PFNA)	40.0	37.2		ng/L		93	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	37.5		ng/L		94	70 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-830852/3-A
Matrix: Water
Analysis Batch: 831290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830852

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	40.0	40.7		ng/L		102	70 - 145
Perfluorododecanoic acid (PFDoA)	40.0	40.1		ng/L		100	70 - 140
Perfluorotridecanoic acid (PFTrDA)	40.0	41.1		ng/L		103	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	40.0	41.0		ng/L		102	60 - 140
Perfluorobutanesulfonic acid (PFBS)	35.5	35.0		ng/L		99	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	40.2		ng/L		107	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	38.8		ng/L		106	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	37.3		ng/L		98	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	41.0		ng/L		110	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	40.2		ng/L		104	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	38.6		ng/L		100	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	36.1		ng/L		93	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	76.9		ng/L		103	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	78.0		ng/L		102	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	82.4		ng/L		107	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	41.3		ng/L		103	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	47.0		ng/L		118	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	44.9		ng/L		112	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	45.5		ng/L		114	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	43.2		ng/L		108	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	196		ng/L		98	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	184		ng/L		92	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	29.9		ng/L		100	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	40.5		ng/L		107	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	44.7		ng/L		112	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	42.5		ng/L		106	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	44.7		ng/L		112	50 - 150

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-830852/3-A
Matrix: Water
Analysis Batch: 831290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830852

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	38.9		ng/L		104	70 - 155		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	38.2		ng/L		101	55 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	40.4		ng/L		113	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	81.4		ng/L		102	65 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	198		ng/L		99	70 - 135		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	192		ng/L		96	50 - 145		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*102*		*5 - 130*
13C5 PFPeA	*99.3*		*40 - 130*
13C5 PFHxA	*97.9*		*40 - 130*
13C4 PFHpA	*103*		*40 - 130*
13C8 PFOA	*105*		*40 - 130*
13C9 PFNA	*93.9*		*40 - 130*
13C6 PFDA	*88.6*		*40 - 130*
13C7 PFUnA	*88.0*		*30 - 130*
13C2 PFDoA	*88.6*		*10 - 130*
13C2 PFTeDA	*78.4*		*10 - 130*
13C3 PFBS	*98.3*		*40 - 135*
13C3 PFHxS	*99.3*		*40 - 130*
13C8 PFOS	*98.6*		*40 - 130*
13C8 FOSA	*84.5*		*40 - 130*
d3-NMeFOSAA	*93.7*		*40 - 170*
d5-NEtFOSAA	*91.7*		*25 - 135*
13C2 4:2 FTS	*97.7*		*40 - 200*
13C2 6:2 FTS	*96.1*		*40 - 200*
13C2 8:2 FTS	*98.7*		*40 - 300*
13C3 HFPO-DA	*97.9*		*40 - 130*
d7-N-MeFOSE-M	*83.1*		*10 - 130*
d9-N-EtFOSE-M	*84.2*		*10 - 130*
d5-NEtPFOSA	*70.7*		*10 - 130*
d3-NMePFOSA	*70.6*		*10 - 130*

Lab Sample ID: LCSD 320-830852/4-A
Matrix: Water
Analysis Batch: 831290

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830852

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			80.0	77.7		ng/L		97	70 - 140	1	30
Perfluoropentanoic acid (PFPeA)			40.0	42.9		ng/L		107	65 - 135	1	30
Perfluorohexanoic acid (PFHxA)			40.0	42.0		ng/L		105	70 - 145	7	30
Perfluoroheptanoic acid (PFHpA)			40.0	40.2		ng/L		100	70 - 150	5	30
Perfluorooctanoic acid (PFOA)			40.0	42.8		ng/L		107	70 - 150	1	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-830852/4-A
Matrix: Water
Analysis Batch: 831290

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830852

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	40.0	36.6		ng/L		91	70 - 150	2	30
Perfluorodecanoic acid (PFDA)	40.0	36.7		ng/L		92	70 - 140	2	30
Perfluoroundecanoic acid (PFUnA)	40.0	41.3		ng/L		103	70 - 145	1	30
Perfluorododecanoic acid (PFDoA)	40.0	39.3		ng/L		98	70 - 140	2	30
Perfluorotridecanoic acid (PFTrDA)	40.0	40.3		ng/L		101	65 - 140	2	30
Perfluorotetradecanoic acid (PFTeDA)	40.0	40.1		ng/L		100	60 - 140	2	30
Perfluorobutanesulfonic acid (PFBS)	35.5	37.0		ng/L		104	60 - 145	6	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	42.6		ng/L		113	65 - 140	6	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	36.3		ng/L		99	65 - 145	7	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	41.8		ng/L		109	70 - 150	11	30
Perfluorooctanesulfonic acid (PFOS)	37.2	41.0		ng/L		110	55 - 150	0	30
Perfluorononanesulfonic acid (PFNS)	38.5	42.5		ng/L		110	65 - 145	6	30
Perfluorodecanesulfonic acid (PFDS)	38.6	42.5		ng/L		110	60 - 145	10	30
Perfluorododecanesulfonic acid (PFDoS)	38.8	39.5		ng/L		102	50 - 145	9	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	72.2		ng/L		96	70 - 145	6	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	77.9		ng/L		102	65 - 155	0	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	78.8		ng/L		103	60 - 150	4	30
Perfluorooctanesulfonamide (PFOSA)	40.0	43.3		ng/L		108	70 - 145	5	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	45.4		ng/L		114	60 - 150	3	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	45.5		ng/L		114	65 - 145	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	44.2		ng/L		110	50 - 140	3	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	40.4		ng/L		101	70 - 145	7	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	192		ng/L		96	70 - 145	2	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	193		ng/L		97	70 - 135	5	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	31.6		ng/L		105	70 - 140	5	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	41.3		ng/L		109	65 - 145	2	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	43.9		ng/L		110	55 - 140	2	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	41.2		ng/L		103	60 - 150	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-830852/4-A
Matrix: Water
Analysis Batch: 831290

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830852

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			40.0	46.8		ng/L		117	50 - 150	5	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	36.9		ng/L		99	70 - 155	5	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	38.3		ng/L		101	55 - 160	0	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	38.0		ng/L		106	70 - 140	6	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	84.0		ng/L		105	65 - 130	3	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	200		ng/L		100	70 - 135	1	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	189		ng/L		94	50 - 145	2	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*102*		*5 - 130*
13C5 PFPeA	*104*		*40 - 130*
13C5 PFHxA	*104*		*40 - 130*
13C4 PFHpA	*105*		*40 - 130*
13C8 PFOA	*99.4*		*40 - 130*
13C9 PFNA	*93.0*		*40 - 130*
13C6 PFDA	*93.2*		*40 - 130*
13C7 PFUnA	*89.4*		*30 - 130*
13C2 PFDoA	*94.8*		*10 - 130*
13C2 PFTeDA	*83.4*		*10 - 130*
13C3 PFBS	*102*		*40 - 135*
13C3 PFHxS	*106*		*40 - 130*
13C8 PFOS	*94.1*		*40 - 130*
13C8 FOSA	*86.6*		*40 - 130*
d3-NMeFOSAA	*104*		*40 - 170*
d5-NEtFOSAA	*98.9*		*25 - 135*
13C2 4:2 FTS	*102*		*40 - 200*
13C2 6:2 FTS	*101*		*40 - 200*
13C2 8:2 FTS	*105*		*40 - 300*
13C3 HFPO-DA	*102*		*40 - 130*
d7-N-MeFOSE-M	*94.2*		*10 - 130*
d9-N-EtFOSE-M	*90.2*		*10 - 130*
d5-NEtPFOSA	*66.0*		*10 - 130*
d3-NMePFOSA	*73.2*		*10 - 130*

Lab Sample ID: LLCS 320-830852/2-A
Matrix: Water
Analysis Batch: 831290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830852

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			8.00	8.14		ng/L		102	70 - 140
Perfluoropentanoic acid (PFPeA)			4.00	3.80		ng/L		95	65 - 135
Perfluorohexanoic acid (PFHxA)			4.00	4.30		ng/L		107	70 - 145

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-830852/2-A
Matrix: Water
Analysis Batch: 831290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830852

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	4.00	4.32		ng/L		108	70 - 150
Perfluorooctanoic acid (PFOA)	4.00	4.37		ng/L		109	70 - 150
Perfluorononanoic acid (PFNA)	4.00	4.23		ng/L		106	70 - 150
Perfluorodecanoic acid (PFDA)	4.00	3.47		ng/L		87	70 - 140
Perfluoroundecanoic acid (PFUnA)	4.00	4.05		ng/L		101	70 - 145
Perfluorododecanoic acid (PFDoA)	4.00	4.04		ng/L		101	70 - 140
Perfluorotridecanoic acid (PFTrDA)	4.00	4.13		ng/L		103	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	4.00	3.60		ng/L		90	60 - 140
Perfluorobutanesulfonic acid (PFBS)	3.55	3.70		ng/L		104	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.76	4.38		ng/L		117	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	3.65	4.13		ng/L		113	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.82	3.84		ng/L		101	70 - 150
Perfluorooctanesulfonic acid (PFOS)	3.72	4.28		ng/L		115	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.85	4.33		ng/L		112	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.86	4.43		ng/L		115	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.88	4.24		ng/L		109	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	7.50	8.22		ng/L		110	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.62	7.60		ng/L		100	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.68	8.09		ng/L		105	60 - 150
Perfluorooctanesulfonamide (PFOSA)	4.00	4.45		ng/L		111	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	4.00	4.60		ng/L		115	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	4.00	3.52		ng/L		88	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.00	4.05		ng/L		101	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.00	4.50		ng/L		112	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	20.0	19.6		ng/L		98	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	20.0	18.7		ng/L		94	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.00	2.31		ng/L		77	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	4.24		ng/L		112	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.00	4.67		ng/L		117	55 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-830852/2-A
Matrix: Water
Analysis Batch: 831290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830852

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.00	4.24		ng/L		106	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.00	4.00		ng/L		100	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	3.74	4.13		ng/L		110	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	3.78	4.07		ng/L		108	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	3.57	4.03		ng/L		113	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	8.00	9.73		ng/L		122	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	20.0	21.8		ng/L		109	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	20.0	19.3		ng/L		96	50 - 145

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*103*		*5 - 130*
13C5 PFPeA	*110*		*40 - 130*
13C5 PFHxA	*108*		*40 - 130*
13C4 PFHpA	*106*		*40 - 130*
13C8 PFOA	*107*		*40 - 130*
13C9 PFNA	*91.7*		*40 - 130*
13C6 PFDA	*91.6*		*40 - 130*
13C7 PFUnA	*88.2*		*30 - 130*
13C2 PFDoA	*90.3*		*10 - 130*
13C2 PFTeDA	*82.0*		*10 - 130*
13C3 PFBS	*107*		*40 - 135*
13C3 PFHxS	*107*		*40 - 130*
13C8 PFOS	*100*		*40 - 130*
13C8 FOSA	*87.8*		*40 - 130*
d3-NMeFOSAA	*107*		*40 - 170*
d5-NEtFOSAA	*98.3*		*25 - 135*
13C2 4:2 FTS	*108*		*40 - 200*
13C2 6:2 FTS	*108*		*40 - 200*
13C2 8:2 FTS	*104*		*40 - 300*
13C3 HFPO-DA	*106*		*40 - 130*
d7-N-MeFOSE-M	*92.5*		*10 - 130*
d9-N-EtFOSE-M	*92.7*		*10 - 130*
d5-NEtPFOSA	*70.3*		*10 - 130*
d3-NMePFOSA	*73.5*		*10 - 130*

QC Association Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118639-1

LCMS

Prep Batch: 830852

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118639-1	FB-01272025	Total/NA	Water	1633	
320-118639-2	EB-01272025	Total/NA	Water	1633	
MB 320-830852/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-830852/3-A	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-830852/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-830852/2-A	Lab Control Sample	Total/NA	Water	1633	

Analysis Batch: 831290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118639-1	FB-01272025	Total/NA	Water	1633	830852
320-118639-2	EB-01272025	Total/NA	Water	1633	830852
MB 320-830852/1-A	Method Blank	Total/NA	Water	1633	830852
LCS 320-830852/3-A	Lab Control Sample	Total/NA	Water	1633	830852
LCSD 320-830852/4-A	Lab Control Sample Dup	Total/NA	Water	1633	830852
LLCS 320-830852/2-A	Lab Control Sample	Total/NA	Water	1633	830852

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118639-1
Project/Site: Spokane International Airport

Client Sample ID: FB-01272025
Lab Sample ID: 320-118639-1
Date Collected: 01/27/25 00:00
Matrix: Water
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			164.2 mL	5.0 mL	830852	02/03/25 04:35	GAT	EET SAC
Total/NA	Analysis	1633		1			831290	02/04/25 04:19	K1S	EET SAC

Client Sample ID: EB-01272025
Lab Sample ID: 320-118639-2
Date Collected: 01/27/25 09:00
Matrix: Water
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			151.3 mL	5.0 mL	830852	02/03/25 04:35	GAT	EET SAC
Total/NA	Analysis	1633		1			831290	02/04/25 04:36	K1S	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118639-1
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118639-1

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Solid-Phase Extraction (SPE)	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118639-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118639-1	FB-01272025	Water	01/27/25 00:00	01/30/25 09:30
320-118639-2	EB-01272025	Water	01/27/25 09:00	01/30/25 09:30

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
		DELIVERY DATE	1/27/25
		TURNAROUND TIME	Standard
		PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	Number of Containers
FB-01272025	1/27/2025	All Day	H20	X	2
EB-01272025	1/27/2025	0900		X	3

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.
– TOC: Total Organic Carbon

320-118639 Chain of Custody

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo da Silva	Print Luke Peden
Firm Haley Aldrich	Firm H&A
Date 01/27/2025 Time 1400	Date 1/27/25 1400
Relinquished by	**Received by**
Sign	Sign
Print Luke Peden	Print Jessica Brewer
Firm H&A	Firm Eurofins Spokane
Date 1/27/25 Time 15:20	Date 1/27/25 1530
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print D. Morris
Firm Eurofins	Firm Eurofins
Date 1/28/25 Time 1440	Date 01/31/25 0930

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments:

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

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Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118639

Tracking # 4242 5693 0828

Job _____ _____

SO (PO) / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC

Therm. ID: L06 Corr. Factor (+ / -) NA °C

Ice_____ Wet_____ Gel _____ Other _____

Cooler Custody Seal: 2691599

Cooler ID: 1 of 2

Temp Observed: 1.3 °C Corrected: 1.3 °C

From: Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: DM Date: 01/30/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: DM Date: 01/30/25

Notes:_____

Trizma Lot #(s): _____

Ammonium
Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials: DM Date: 01/30/25

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Sacramento Sample Receiving Notes (SSRN)

Tracking # 4242 5993 0839

Job: 320-118639

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSL / OnTrac / Goldstreak / USPS / Other

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC

Therm ID: L06 Corr Factor: (+ / -) NA °C

Ice ✓ Wet ✓ Gel ____ Other ____

Cooler Custody Seal: 26091594

Cooler ID: 2 of 2

Temp Observed: 1.7 °C Corrected: 1.7 °C

From: Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: DM Date: 01/30/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: DM Date: 01/30/25

Notes:

Trizma Lot #(s):

Ammonium Acetate Lot #(s):

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials: DM Date: 01/30/25

SIGNATURE
DATE
1/28/25
Custody S
eurofins
Environment Testing
TestAmerica
2691599
EUROFINS ENVIRONMENTAL SPOKANE
11922 E 1ST AVE
SPOKANE VALLEY, WA 99206
UNITED STATES US
CAD: 0941709/CAFE3855
BILL RECIPIENT
TO SHIPPING/RECEIVING
EUROFINS ENVIRONMENT TESTING N CAL
880 RIVERSIDE PARKWAY
WEST SACRAMENTO CA 95605
(916) 373-5600
REF:
INV:
PO:
DEPT:
FedEx
Express
1 of 2
TRK# 0201 4242 5693 0828
MASTER
XS BLUA
WED - 29 JAN 10:30A
PRIORITY OVERNIGHT
95605
CA-US SMF
eal
eurofins
Environment Testing
TestAmerica
2691599

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 2/5/2025 8:24:58 AM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118638-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Job Notes

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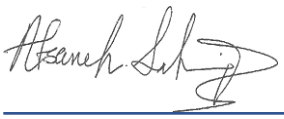

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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118638-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118638-1 — Eurofins Sacramento

Job Narrative
320-118638-1

Receipt
The samples were received on 1/30/2025 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.3º C and 1.7º C.

LCMS
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Job ID: 320-118638-1
Project/Site: Spokane International Airport

Client Sample ID: FB-01242025
Lab Sample ID: 320-118638-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118638-1

Client Sample ID: FB-01242025
Date Collected: 01/24/25 00:00
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118638-1
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.0	0.75	ng/L		02/03/25 04:35	02/04/25 04:02	1
Perfluoropentanoic acid (PFPeA)	ND		1.5	0.37	ng/L		02/03/25 04:35	02/04/25 04:02	1
Perfluorohexanoic acid (PFHxA)	ND		1.5	0.37	ng/L		02/03/25 04:35	02/04/25 04:02	1
Perfluoroheptanoic acid (PFHpA)	ND		1.5	0.37	ng/L		02/03/25 04:35	02/04/25 04:02	1
Perfluorooctanoic acid (PFOA)	ND		1.5	0.37	ng/L		02/03/25 04:35	02/04/25 04:02	1
Perfluorononanoic acid (PFNA)	ND		1.5	0.37	ng/L		02/03/25 04:35	02/04/25 04:02	1
Perfluorodecanoic acid (PFDA)	ND		1.5	0.37	ng/L		02/03/25 04:35	02/04/25 04:02	1
Perfluoroundecanoic acid (PFUnA)	ND		1.5	0.37	ng/L		02/03/25 04:35	02/04/25 04:02	1
Perfluorododecanoic acid (PFDoA)	ND		1.5	0.41	ng/L		02/03/25 04:35	02/04/25 04:02	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.5	0.43	ng/L		02/03/25 04:35	02/04/25 04:02	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.5	0.61	ng/L		02/03/25 04:35	02/04/25 04:02	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.5	0.37	ng/L		02/03/25 04:35	02/04/25 04:02	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.5	0.37	ng/L		02/03/25 04:35	02/04/25 04:02	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.5	0.37	ng/L		02/03/25 04:35	02/04/25 04:02	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.5	0.37	ng/L		02/03/25 04:35	02/04/25 04:02	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.5	0.37	ng/L		02/03/25 04:35	02/04/25 04:02	1
Perfluorononanesulfonic acid (PFNS)	ND		1.5	0.37	ng/L		02/03/25 04:35	02/04/25 04:02	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.5	0.37	ng/L		02/03/25 04:35	02/04/25 04:02	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.5	0.40	ng/L		02/03/25 04:35	02/04/25 04:02	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.0	0.75	ng/L		02/03/25 04:35	02/04/25 04:02	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.0	0.75	ng/L		02/03/25 04:35	02/04/25 04:02	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.0	0.75	ng/L		02/03/25 04:35	02/04/25 04:02	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.5	0.37	ng/L		02/03/25 04:35	02/04/25 04:02	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.5	0.37	ng/L		02/03/25 04:35	02/04/25 04:02	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.5	0.37	ng/L		02/03/25 04:35	02/04/25 04:02	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.5	0.37	ng/L		02/03/25 04:35	02/04/25 04:02	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.5	0.37	ng/L		02/03/25 04:35	02/04/25 04:02	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		7.5	1.9	ng/L		02/03/25 04:35	02/04/25 04:02	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		7.5	1.9	ng/L		02/03/25 04:35	02/04/25 04:02	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.1	0.29	ng/L		02/03/25 04:35	02/04/25 04:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.5	0.37	ng/L		02/03/25 04:35	02/04/25 04:02	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.5	0.37	ng/L		02/03/25 04:35	02/04/25 04:02	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.5	0.37	ng/L		02/03/25 04:35	02/04/25 04:02	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.5	0.54	ng/L		02/03/25 04:35	02/04/25 04:02	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.5	0.43	ng/L		02/03/25 04:35	02/04/25 04:02	1

Client Sample ID: FB-01242025
Date Collected: 01/24/25 00:00
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118638-1
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.5	0.37	ng/L		02/03/25 04:35	02/04/25 04:02	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.5	0.37	ng/L		02/03/25 04:35	02/04/25 04:02	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.0	0.75	ng/L		02/03/25 04:35	02/04/25 04:02	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		7.5	1.9	ng/L		02/03/25 04:35	02/04/25 04:02	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		7.5	1.9	ng/L		02/03/25 04:35	02/04/25 04:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*98.3*		*5 - 130*	*02/03/25 04:35*	*02/04/25 04:02*	*1*
13C5 PFPeA	*102*		*40 - 130*	*02/03/25 04:35*	*02/04/25 04:02*	*1*
13C5 PFHxA	*102*		*40 - 130*	*02/03/25 04:35*	*02/04/25 04:02*	*1*
13C4 PFHpA	*106*		*40 - 130*	*02/03/25 04:35*	*02/04/25 04:02*	*1*
13C8 PFOA	*101*		*40 - 130*	*02/03/25 04:35*	*02/04/25 04:02*	*1*
13C9 PFNA	*90.2*		*40 - 130*	*02/03/25 04:35*	*02/04/25 04:02*	*1*
13C6 PFDA	*91.1*		*40 - 130*	*02/03/25 04:35*	*02/04/25 04:02*	*1*
13C7 PFUnA	*93.4*		*30 - 130*	*02/03/25 04:35*	*02/04/25 04:02*	*1*
13C2 PFDoA	*94.4*		*10 - 130*	*02/03/25 04:35*	*02/04/25 04:02*	*1*
13C2 PFTeDA	*87.3*		*10 - 130*	*02/03/25 04:35*	*02/04/25 04:02*	*1*
13C3 PFBS	*104*		*40 - 135*	*02/03/25 04:35*	*02/04/25 04:02*	*1*
13C3 PFHxS	*108*		*40 - 130*	*02/03/25 04:35*	*02/04/25 04:02*	*1*
13C8 PFOS	*98.6*		*40 - 130*	*02/03/25 04:35*	*02/04/25 04:02*	*1*
13C8 FOSA	*84.7*		*40 - 130*	*02/03/25 04:35*	*02/04/25 04:02*	*1*
d3-NMeFOSAA	*90.6*		*40 - 170*	*02/03/25 04:35*	*02/04/25 04:02*	*1*
d5-NEtFOSAA	*93.8*		*25 - 135*	*02/03/25 04:35*	*02/04/25 04:02*	*1*
13C2 4:2 FTS	*111*		*40 - 200*	*02/03/25 04:35*	*02/04/25 04:02*	*1*
13C2 6:2 FTS	*99.9*		*40 - 200*	*02/03/25 04:35*	*02/04/25 04:02*	*1*
13C2 8:2 FTS	*109*		*40 - 300*	*02/03/25 04:35*	*02/04/25 04:02*	*1*
13C3 HFPO-DA	*114*		*40 - 130*	*02/03/25 04:35*	*02/04/25 04:02*	*1*
d7-N-MeFOSE-M	*88.5*		*10 - 130*	*02/03/25 04:35*	*02/04/25 04:02*	*1*
d9-N-EtFOSE-M	*92.5*		*10 - 130*	*02/03/25 04:35*	*02/04/25 04:02*	*1*
d5-NEtPFOSA	*77.9*		*10 - 130*	*02/03/25 04:35*	*02/04/25 04:02*	*1*
d3-NMePFOSA	*89.4*		*10 - 130*	*02/03/25 04:35*	*02/04/25 04:02*	*1*

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118638-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(5-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(30-130)
320-118638-1	FB-01242025	98.3	102	102	106	101	90.2	91.1	93.4
LCS 320-830852/3-A	Lab Control Sample	102	99.3	97.9	103	105	93.9	88.6	88.0
LCSD 320-830852/4-A	Lab Control Sample Dup	102	104	104	105	99.4	93.0	93.2	89.4
LLCS 320-830852/2-A	Lab Control Sample	103	110	108	106	107	91.7	91.6	88.2
MB 320-830852/1-A	Method Blank	101	107	106	106	106	90.5	92.7	101

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(10-130)	(10-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-170)	(25-135)
320-118638-1	FB-01242025	94.4	87.3	104	108	98.6	84.7	90.6	93.8
LCS 320-830852/3-A	Lab Control Sample	88.6	78.4	98.3	99.3	98.6	84.5	93.7	91.7
LCSD 320-830852/4-A	Lab Control Sample Dup	94.8	83.4	102	106	94.1	86.6	104	98.9
LLCS 320-830852/2-A	Lab Control Sample	90.3	82.0	107	107	100	87.8	107	98.3
MB 320-830852/1-A	Method Blank	106	98.9	100	101	100	90.1	101	103

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-200)	(40-200)	(40-300)	(40-130)	(10-130)	(10-130)	(10-130)	(10-130)
320-118638-1	FB-01242025	111	99.9	109	114	88.5	92.5	77.9	89.4
LCS 320-830852/3-A	Lab Control Sample	97.7	96.1	98.7	97.9	83.1	84.2	70.7	70.6
LCSD 320-830852/4-A	Lab Control Sample Dup	102	101	105	102	94.2	90.2	66.0	73.2
LLCS 320-830852/2-A	Lab Control Sample	108	108	104	106	92.5	92.7	70.3	73.5
MB 320-830852/1-A	Method Blank	100	109	106	105	94.7	90.6	64.6	70.6

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-830852/1-A
Matrix: Water
Analysis Batch: 831290

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830852

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.0	1.0	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.58	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorotetradecanoic acid (PFTeDA)	ND		2.0	0.81	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.53	ng/L		02/03/25 04:35	02/04/25 02:39	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		4.0	1.0	ng/L		02/03/25 04:35	02/04/25 02:39	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		4.0	1.0	ng/L		02/03/25 04:35	02/04/25 02:39	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		4.0	1.0	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		10	2.5	ng/L		02/03/25 04:35	02/04/25 02:39	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		10	2.5	ng/L		02/03/25 04:35	02/04/25 02:39	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.5	0.39	ng/L		02/03/25 04:35	02/04/25 02:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	0.72	ng/L		02/03/25 04:35	02/04/25 02:39	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		2.0	0.58	ng/L		02/03/25 04:35	02/04/25 02:39	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-830852/1-A
Matrix: Water
Analysis Batch: 831290

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830852

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	0.50	ng/L		02/03/25 04:35	02/04/25 02:39	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		4.0	1.0	ng/L		02/03/25 04:35	02/04/25 02:39	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		10	2.5	ng/L		02/03/25 04:35	02/04/25 02:39	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		10	2.5	ng/L		02/03/25 04:35	02/04/25 02:39	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*5 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C5 PFPeA	*107*		*40 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C5 PFHxA	*106*		*40 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C4 PFHpA	*106*		*40 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C8 PFOA	*106*		*40 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C9 PFNA	*90.5*		*40 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C6 PFDA	*92.7*		*40 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C7 PFUnA	*101*		*30 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C2 PFDoA	*106*		*10 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C2 PFTeDA	*98.9*		*10 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C3 PFBS	*100*		*40 - 135*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C3 PFHxS	*101*		*40 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C8 PFOS	*100*		*40 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C8 FOSA	*90.1*		*40 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
d3-NMeFOSAA	*101*		*40 - 170*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
d5-NEtFOSAA	*103*		*25 - 135*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C2 4:2 FTS	*100*		*40 - 200*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C2 6:2 FTS	*109*		*40 - 200*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C2 8:2 FTS	*106*		*40 - 300*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
13C3 HFPO-DA	*105*		*40 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
d7-N-MeFOSE-M	*94.7*		*10 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
d9-N-EtFOSE-M	*90.6*		*10 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
d5-NEtPFOSA	*64.6*		*10 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*
d3-NMePFOSA	*70.6*		*10 - 130*	*02/03/25 04:35*	*02/04/25 02:39*	*1*

Lab Sample ID: LCS 320-830852/3-A
Matrix: Water
Analysis Batch: 831290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830852

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	78.3		ng/L		98	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	43.3		ng/L		108	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	44.9		ng/L		112	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	42.1		ng/L		105	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	42.2		ng/L		105	70 - 150
Perfluorononanoic acid (PFNA)	40.0	37.2		ng/L		93	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	37.5		ng/L		94	70 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-830852/3-A
Matrix: Water
Analysis Batch: 831290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830852

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	40.0	40.7		ng/L		102	70 - 145
Perfluorododecanoic acid (PFDoA)	40.0	40.1		ng/L		100	70 - 140
Perfluorotridecanoic acid (PFTrDA)	40.0	41.1		ng/L		103	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	40.0	41.0		ng/L		102	60 - 140
Perfluorobutanesulfonic acid (PFBS)	35.5	35.0		ng/L		99	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	40.2		ng/L		107	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	38.8		ng/L		106	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	37.3		ng/L		98	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	41.0		ng/L		110	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	40.2		ng/L		104	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	38.6		ng/L		100	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	36.1		ng/L		93	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	76.9		ng/L		103	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	78.0		ng/L		102	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	82.4		ng/L		107	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	41.3		ng/L		103	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	47.0		ng/L		118	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	44.9		ng/L		112	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	45.5		ng/L		114	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	43.2		ng/L		108	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	196		ng/L		98	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	184		ng/L		92	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	29.9		ng/L		100	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	40.5		ng/L		107	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	44.7		ng/L		112	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	42.5		ng/L		106	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	44.7		ng/L		112	50 - 150

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-830852/3-A
Matrix: Water
Analysis Batch: 831290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830852

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	38.9		ng/L		104	70 - 155		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	38.2		ng/L		101	55 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	40.4		ng/L		113	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	81.4		ng/L		102	65 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	198		ng/L		99	70 - 135		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	192		ng/L		96	50 - 145		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*102*		*5 - 130*
13C5 PFPeA	*99.3*		*40 - 130*
13C5 PFHxA	*97.9*		*40 - 130*
13C4 PFHpA	*103*		*40 - 130*
13C8 PFOA	*105*		*40 - 130*
13C9 PFNA	*93.9*		*40 - 130*
13C6 PFDA	*88.6*		*40 - 130*
13C7 PFUnA	*88.0*		*30 - 130*
13C2 PFDoA	*88.6*		*10 - 130*
13C2 PFTeDA	*78.4*		*10 - 130*
13C3 PFBS	*98.3*		*40 - 135*
13C3 PFHxS	*99.3*		*40 - 130*
13C8 PFOS	*98.6*		*40 - 130*
13C8 FOSA	*84.5*		*40 - 130*
d3-NMeFOSAA	*93.7*		*40 - 170*
d5-NEtFOSAA	*91.7*		*25 - 135*
13C2 4:2 FTS	*97.7*		*40 - 200*
13C2 6:2 FTS	*96.1*		*40 - 200*
13C2 8:2 FTS	*98.7*		*40 - 300*
13C3 HFPO-DA	*97.9*		*40 - 130*
d7-N-MeFOSE-M	*83.1*		*10 - 130*
d9-N-EtFOSE-M	*84.2*		*10 - 130*
d5-NEtPFOSA	*70.7*		*10 - 130*
d3-NMePFOSA	*70.6*		*10 - 130*

Lab Sample ID: LCSD 320-830852/4-A
Matrix: Water
Analysis Batch: 831290

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830852

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			80.0	77.7		ng/L		97	70 - 140	1	30
Perfluoropentanoic acid (PFPeA)			40.0	42.9		ng/L		107	65 - 135	1	30
Perfluorohexanoic acid (PFHxA)			40.0	42.0		ng/L		105	70 - 145	7	30
Perfluoroheptanoic acid (PFHpA)			40.0	40.2		ng/L		100	70 - 150	5	30
Perfluorooctanoic acid (PFOA)			40.0	42.8		ng/L		107	70 - 150	1	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-830852/4-A
Matrix: Water
Analysis Batch: 831290

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830852

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	40.0	36.6		ng/L		91	70 - 150	2	30
Perfluorodecanoic acid (PFDA)	40.0	36.7		ng/L		92	70 - 140	2	30
Perfluoroundecanoic acid (PFUnA)	40.0	41.3		ng/L		103	70 - 145	1	30
Perfluorododecanoic acid (PFDoA)	40.0	39.3		ng/L		98	70 - 140	2	30
Perfluorotridecanoic acid (PFTrDA)	40.0	40.3		ng/L		101	65 - 140	2	30
Perfluorotetradecanoic acid (PFTeDA)	40.0	40.1		ng/L		100	60 - 140	2	30
Perfluorobutanesulfonic acid (PFBS)	35.5	37.0		ng/L		104	60 - 145	6	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	42.6		ng/L		113	65 - 140	6	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	36.3		ng/L		99	65 - 145	7	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	41.8		ng/L		109	70 - 150	11	30
Perfluorooctanesulfonic acid (PFOS)	37.2	41.0		ng/L		110	55 - 150	0	30
Perfluorononanesulfonic acid (PFNS)	38.5	42.5		ng/L		110	65 - 145	6	30
Perfluorodecanesulfonic acid (PFDS)	38.6	42.5		ng/L		110	60 - 145	10	30
Perfluorododecanesulfonic acid (PFDoS)	38.8	39.5		ng/L		102	50 - 145	9	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	72.2		ng/L		96	70 - 145	6	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	77.9		ng/L		102	65 - 155	0	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	78.8		ng/L		103	60 - 150	4	30
Perfluorooctanesulfonamide (PFOSA)	40.0	43.3		ng/L		108	70 - 145	5	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	45.4		ng/L		114	60 - 150	3	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	45.5		ng/L		114	65 - 145	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	44.2		ng/L		110	50 - 140	3	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	40.4		ng/L		101	70 - 145	7	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	192		ng/L		96	70 - 145	2	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	193		ng/L		97	70 - 135	5	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	31.6		ng/L		105	70 - 140	5	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	41.3		ng/L		109	65 - 145	2	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	43.9		ng/L		110	55 - 140	2	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	41.2		ng/L		103	60 - 150	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-830852/4-A
Matrix: Water
Analysis Batch: 831290

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830852

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			40.0	46.8		ng/L		117	50 - 150	5	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	36.9		ng/L		99	70 - 155	5	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	38.3		ng/L		101	55 - 160	0	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	38.0		ng/L		106	70 - 140	6	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	84.0		ng/L		105	65 - 130	3	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	200		ng/L		100	70 - 135	1	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	189		ng/L		94	50 - 145	2	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*102*		*5 - 130*
13C5 PFPeA	*104*		*40 - 130*
13C5 PFHxA	*104*		*40 - 130*
13C4 PFHpA	*105*		*40 - 130*
13C8 PFOA	*99.4*		*40 - 130*
13C9 PFNA	*93.0*		*40 - 130*
13C6 PFDA	*93.2*		*40 - 130*
13C7 PFUnA	*89.4*		*30 - 130*
13C2 PFDoA	*94.8*		*10 - 130*
13C2 PFTeDA	*83.4*		*10 - 130*
13C3 PFBS	*102*		*40 - 135*
13C3 PFHxS	*106*		*40 - 130*
13C8 PFOS	*94.1*		*40 - 130*
13C8 FOSA	*86.6*		*40 - 130*
d3-NMeFOSAA	*104*		*40 - 170*
d5-NEtFOSAA	*98.9*		*25 - 135*
13C2 4:2 FTS	*102*		*40 - 200*
13C2 6:2 FTS	*101*		*40 - 200*
13C2 8:2 FTS	*105*		*40 - 300*
13C3 HFPO-DA	*102*		*40 - 130*
d7-N-MeFOSE-M	*94.2*		*10 - 130*
d9-N-EtFOSE-M	*90.2*		*10 - 130*
d5-NEtPFOSA	*66.0*		*10 - 130*
d3-NMePFOSA	*73.2*		*10 - 130*

Lab Sample ID: LLCS 320-830852/2-A
Matrix: Water
Analysis Batch: 831290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830852

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			8.00	8.14		ng/L		102	70 - 140
Perfluoropentanoic acid (PFPeA)			4.00	3.80		ng/L		95	65 - 135
Perfluorohexanoic acid (PFHxA)			4.00	4.30		ng/L		107	70 - 145

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-830852/2-A
Matrix: Water
Analysis Batch: 831290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830852

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	4.00	4.32		ng/L		108	70 - 150
Perfluorooctanoic acid (PFOA)	4.00	4.37		ng/L		109	70 - 150
Perfluorononanoic acid (PFNA)	4.00	4.23		ng/L		106	70 - 150
Perfluorodecanoic acid (PFDA)	4.00	3.47		ng/L		87	70 - 140
Perfluoroundecanoic acid (PFUnA)	4.00	4.05		ng/L		101	70 - 145
Perfluorododecanoic acid (PFDoA)	4.00	4.04		ng/L		101	70 - 140
Perfluorotridecanoic acid (PFTrDA)	4.00	4.13		ng/L		103	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	4.00	3.60		ng/L		90	60 - 140
Perfluorobutanesulfonic acid (PFBS)	3.55	3.70		ng/L		104	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.76	4.38		ng/L		117	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	3.65	4.13		ng/L		113	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.82	3.84		ng/L		101	70 - 150
Perfluorooctanesulfonic acid (PFOS)	3.72	4.28		ng/L		115	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.85	4.33		ng/L		112	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.86	4.43		ng/L		115	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.88	4.24		ng/L		109	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	7.50	8.22		ng/L		110	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.62	7.60		ng/L		100	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.68	8.09		ng/L		105	60 - 150
Perfluorooctanesulfonamide (PFOSA)	4.00	4.45		ng/L		111	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	4.00	4.60		ng/L		115	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	4.00	3.52		ng/L		88	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.00	4.05		ng/L		101	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.00	4.50		ng/L		112	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	20.0	19.6		ng/L		98	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	20.0	18.7		ng/L		94	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.00	2.31		ng/L		77	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	4.24		ng/L		112	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.00	4.67		ng/L		117	55 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-830852/2-A
Matrix: Water
Analysis Batch: 831290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830852

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.00	4.24		ng/L		106	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.00	4.00		ng/L		100	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	3.74	4.13		ng/L		110	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	3.78	4.07		ng/L		108	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	3.57	4.03		ng/L		113	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	8.00	9.73		ng/L		122	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	20.0	21.8		ng/L		109	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	20.0	19.3		ng/L		96	50 - 145

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*103*		*5 - 130*
13C5 PFPeA	*110*		*40 - 130*
13C5 PFHxA	*108*		*40 - 130*
13C4 PFHpA	*106*		*40 - 130*
13C8 PFOA	*107*		*40 - 130*
13C9 PFNA	*91.7*		*40 - 130*
13C6 PFDA	*91.6*		*40 - 130*
13C7 PFUnA	*88.2*		*30 - 130*
13C2 PFDoA	*90.3*		*10 - 130*
13C2 PFTeDA	*82.0*		*10 - 130*
13C3 PFBS	*107*		*40 - 135*
13C3 PFHxS	*107*		*40 - 130*
13C8 PFOS	*100*		*40 - 130*
13C8 FOSA	*87.8*		*40 - 130*
d3-NMeFOSAA	*107*		*40 - 170*
d5-NEtFOSAA	*98.3*		*25 - 135*
13C2 4:2 FTS	*108*		*40 - 200*
13C2 6:2 FTS	*108*		*40 - 200*
13C2 8:2 FTS	*104*		*40 - 300*
13C3 HFPO-DA	*106*		*40 - 130*
d7-N-MeFOSE-M	*92.5*		*10 - 130*
d9-N-EtFOSE-M	*92.7*		*10 - 130*
d5-NEtPFOSA	*70.3*		*10 - 130*
d3-NMePFOSA	*73.5*		*10 - 130*

QC Association Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118638-1

LCMS

Prep Batch: 830852

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118638-1	FB-01242025	Total/NA	Water	1633	
MB 320-830852/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-830852/3-A	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-830852/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-830852/2-A	Lab Control Sample	Total/NA	Water	1633	

Analysis Batch: 831290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118638-1	FB-01242025	Total/NA	Water	1633	830852
MB 320-830852/1-A	Method Blank	Total/NA	Water	1633	830852
LCS 320-830852/3-A	Lab Control Sample	Total/NA	Water	1633	830852
LCSD 320-830852/4-A	Lab Control Sample Dup	Total/NA	Water	1633	830852
LLCS 320-830852/2-A	Lab Control Sample	Total/NA	Water	1633	830852

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118638-1

Client Sample ID: FB-01242025

Date Collected: 01/24/25 00:00
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118638-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			167.1 mL	5.0 mL	830852	02/03/25 04:35	GAT	EET SAC
Total/NA	Analysis	1633		1			831290	02/04/25 04:02	K1S	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118638-1
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118638-1

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Solid-Phase Extraction (SPE)	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118638-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118638-1	FB-01242025	Water	01/24/25 00:00	01/30/25 09:30

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
		DELIVERY DATE	1/27/25
		TURNAROUND TIME	Standard
		PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	Number of Containers
FB-01242025	1/24/2025	All Day	H20	X	2

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118638 Chain of Custody

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo da Silva	Print Luke Pede
Firm Haley Aldrich	Firm H&A
Date 01/24/2025 Time 1800	Date 1/27/25 1800
Relinquished by	**Received by**
Sign	Sign
Print Luke Pede	Print Jeremy Pierce
Firm H&A	Firm CH4 Spike
Date 1/27/25 Time 15:20	Date 1/27/25 1535
Relinquished by	**Received by**
Sign	Sign
Print Macky Moms	Print D Mommsen
Firm EETSPO	Firm EETSPO
Date 1/28/25 Time 1446	Date 01/30/25 0930

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments:

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are requ

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

2/5/2025

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118638

Tracking # 4242 5693 0828

Job:_____ _____

SO (PO) / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC

Therm. ID: L06 Corr. Factor (+/-) NA °C

Ice_____ Wet_____ Gel_____ Other_____

Cooler Custody Seal: 2691599

Cooler ID: 1 of 2

Temp Observed: 1.3 °C Corrected: 1.3 °C

From: Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	**Yes**	**No**	**NA**
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials DM Date: 01/30/25

Unpacking/Labeling The Samples	**Yes**	**No**	**NA**
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials DM Date. 01/30/25

Notes:_____

Trizma Lot #(s):_____

Ammonium Acetate Lot #(s):_____

Login Completion	**Yes**	**No**	**NA**
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials: DM Date: 01/30/25

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Tracking # 4242 5930 8539

Job: 320-118638

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC

Therm ID: L06 Corr Factor (+/-) NA °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: 26091594

Cooler ID: 2 of 2

Temp Observed: 1.7 °C Corrected: 1.7 °C

From: Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: DM Date: 01/30/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: DM Date 01/30/25

Notes: _____

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials: DM Date: 01/30/25

SIGNATURE
DATE 1/28/25
Custody S

eurofins | Environment Testing TestAmerica

2691599

EUROFINS ENVIRONMENTAL SPOKANE
11922 E 1ST AVE

SPOKANE VALLEY, WA 99206
UNITED STATES US

CAD: 0941709/CAFE3855

BILL RECIPIENT

Part # 156469-LM NT EXP 09

TO SHIPPING/RECEIVING
EUROFINS ENVIRONMENT TESTING N CAL
880 RIVERSIDE PARKWAY

WEST SACRAMENTO CA 95605

(916) 373-5600 REF:
INV:
PO: DEPT:

FedEx Express

J243824070401uv

1 of 2

TRK# 0201 4242 5693 0828

WED - 29 JAN 10:30A
PRIORITY OVERNIGHT

MASTER

XS BLUA

95605
CA-US SMF

eal

eurofins | Environment Testing TestAmerica

2691599

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 4/2/2025 11:00:27 AM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118635-4

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Job Notes

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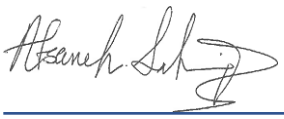

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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-4

Qualifiers

LCMS

Qualifier	Qualifier Description
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118635-4 — Eurofins Sacramento

Job Narrative
320-118635-4

Receipt
The samples were received on 1/30/2025 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.3º C and 1.7º C.

Receipt Exceptions

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): FMB-002-N-S013-01242028 (320-118635-14).

Sample #14 container label lists the following ID: FMB-002-N-S013-01252025.

The samples were logged in and labeled according to the COC.

LCMS
Method 1633: The low level continuing calibration verification (CCVL) associated with batch 320-843420 recovered above the upper control limit for Perfluoropentanoic acid (PFPeA). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: FMB-002-N-S013-01242025 (320-118635-14) and (CCVL 320-843420/2).

Method 1633: Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: (CCB 320-843420/1). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 1633: The transition mass ratio was outside of the established ratio limit for Perfluoropentanoic acid (PFPeA) and Perfluorooctanesulfonamide (PFOSA) in (CCVL 320-843420/2) associated to this data set. This is indicated by the "R" flag in the raw data. As the flagged data is in control in the low level continuing calibration verification (CCVL), there is no adverse impact to the data.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 28 days. The following samples in analytical batch 320-841906 were prepared and analyzed outside this time period because the request for the analysis came after 28 days had passed : FMB-002-N-S013-01242025 (320-118635-14).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-4

Client Sample ID: FMB-002-N-S013-01242025

Lab Sample ID: 320-118635-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.063	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.13	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.10	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-4

Client Sample ID: FMB-002-N-S013-01242025
Date Collected: 01/24/25 09:25
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-14
Matrix: Solid
Percent Solids: 85.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
Perfluoropentanoic acid (PFPeA)	ND	^+	0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
Perfluorohexanoic acid (PFHxA)	**0.063**	**J**	0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
Perfluorohexanesulfonic acid (PFHxS)	**0.13**	**J**	0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
Perfluorooctanesulfonic acid (PFOS)	**0.10**	**J**	0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-4

Client Sample ID: FMB-002-N-S013-01242025
Date Collected: 01/24/25 09:25
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-14
Matrix: Solid
Percent Solids: 85.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	03/31/25 07:16	04/01/25 06:55	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*93.2*		*8 - 130*	*03/31/25 07:16*	*04/01/25 06:55*	*1*
13C5 PFPeA	*77.5*		*35 - 130*	*03/31/25 07:16*	*04/01/25 06:55*	*1*
13C5 PFHxA	*87.7*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:55*	*1*
13C4 PFHpA	*83.2*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:55*	*1*
13C8 PFOA	*94.3*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:55*	*1*
13C9 PFNA	*83.9*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:55*	*1*
13C6 PFDA	*82.7*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:55*	*1*
13C7 PFUnA	*74.3*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:55*	*1*
13C2 PFDoA	*67.7*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:55*	*1*
13C2 PFTeDA	*54.9*		*20 - 130*	*03/31/25 07:16*	*04/01/25 06:55*	*1*
13C3 PFBS	*80.1*		*40 - 135*	*03/31/25 07:16*	*04/01/25 06:55*	*1*
13C3 PFHxS	*79.9*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:55*	*1*
13C8 PFOS	*74.5*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:55*	*1*
13C8 FOSA	*68.5*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:55*	*1*
d3-NMeFOSAA	*63.6*		*40 - 135*	*03/31/25 07:16*	*04/01/25 06:55*	*1*
d5-NEtFOSAA	*59.7*		*40 - 150*	*03/31/25 07:16*	*04/01/25 06:55*	*1*
13C2 4:2 FTS	*61.1*		*40 - 165*	*03/31/25 07:16*	*04/01/25 06:55*	*1*
13C2 6:2 FTS	*59.6*		*40 - 215*	*03/31/25 07:16*	*04/01/25 06:55*	*1*
13C2 8:2 FTS	*60.7*		*40 - 275*	*03/31/25 07:16*	*04/01/25 06:55*	*1*
13C3 HFPO-DA	*91.4*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:55*	*1*
d7-N-MeFOSE-M	*57.6*		*20 - 130*	*03/31/25 07:16*	*04/01/25 06:55*	*1*
d9-N-EtFOSE-M	*52.8*		*15 - 130*	*03/31/25 07:16*	*04/01/25 06:55*	*1*
d5-NEtPFOSA	*49.6*		*10 - 130*	*03/31/25 07:16*	*04/01/25 06:55*	*1*
d3-NMePFOSA	*47.6*		*10 - 130*	*03/31/25 07:16*	*04/01/25 06:55*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**14**	**H**	0.10	0.10	%			03/24/25 13:12	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-4

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(8-130)	(35-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)
320-118635-14	FMB-002-N-S013-01242025	93.2	77.5	87.7	83.2	94.3	83.9	82.7	74.3
LCS 320-843241/3-A	Lab Control Sample	94.9	76.7	95.7	99.1	98.9	95.6	92.6	83.3
LCSD 320-843241/4-A	Lab Control Sample Dup	93.8	75.6	94.6	96.3	93.0	91.9	92.5	85.1
LLCS 320-843241/2-A	Lab Control Sample	97.8	76.3	96.9	99.5	92.7	95.3	89.7	81.2
MB 320-843241/1-A	Method Blank	97.4	75.7	94.0	103	97.1	94.2	89.8	75.6

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(40-130)	(20-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-135)	(40-150)
320-118635-14	FMB-002-N-S013-01242025	67.7	54.9	80.1	79.9	74.5	68.5	63.6	59.7
LCS 320-843241/3-A	Lab Control Sample	75.0	62.2	87.1	87.5	84.3	78.1	78.6	72.3
LCSD 320-843241/4-A	Lab Control Sample Dup	82.1	68.0	92.5	83.6	82.1	87.9	81.2	77.1
LLCS 320-843241/2-A	Lab Control Sample	85.1	70.9	83.3	83.5	84.3	87.7	82.6	79.5
MB 320-843241/1-A	Method Blank	66.7	60.5	83.8	86.1	85.6	75.2	75.1	68.9

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-165)	(40-215)	(40-275)	(40-130)	(20-130)	(15-130)	(10-130)	(10-130)
320-118635-14	FMB-002-N-S013-01242025	61.1	59.6	60.7	91.4	57.6	52.8	49.6	47.6
LCS 320-843241/3-A	Lab Control Sample	74.0	68.7	70.9	105	63.7	60.2	56.5	55.6
LCSD 320-843241/4-A	Lab Control Sample Dup	70.8	70.1	76.1	104	69.2	71.3	63.4	57.4
LLCS 320-843241/2-A	Lab Control Sample	70.9	65.6	76.9	102	80.0	76.4	58.6	58.0
MB 320-843241/1-A	Method Blank	67.7	68.5	72.0	105	58.4	60.5	54.6	52.0

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-843241/1-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 843241

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-843241/1-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 843241

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 02:32	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*97.4*		*8 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C5 PFPeA	*75.7*		*35 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C5 PFHxA	*94.0*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C4 PFHpA	*103*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C8 PFOA	*97.1*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C9 PFNA	*94.2*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C6 PFDA	*89.8*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C7 PFUnA	*75.6*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 PFDoA	*66.7*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 PFTeDA	*60.5*		*20 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C3 PFBS	*83.8*		*40 - 135*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C3 PFHxS	*86.1*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C8 PFOS	*85.6*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C8 FOSA	*75.2*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d3-NMeFOSAA	*75.1*		*40 - 135*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d5-NEtFOSAA	*68.9*		*40 - 150*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 4:2 FTS	*67.7*		*40 - 165*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 6:2 FTS	*68.5*		*40 - 215*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 8:2 FTS	*72.0*		*40 - 275*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C3 HFPO-DA	*105*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d7-N-MeFOSE-M	*58.4*		*20 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d9-N-EtFOSE-M	*60.5*		*15 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d5-NEtPFOSA	*54.6*		*10 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d3-NMePFOSA	*52.0*		*10 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*

Lab Sample ID: LCS 320-843241/3-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.68		ug/Kg		94	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.96		ug/Kg		118	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.31		ug/Kg		92	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.48		ug/Kg		99	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.42		ug/Kg		97	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.51		ug/Kg		101	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.51		ug/Kg		101	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-843241/3-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.63		ug/Kg		105	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.51		ug/Kg		100	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.70		ug/Kg		108	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	3.03		ug/Kg		121	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.07		ug/Kg		93	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.17		ug/Kg		92	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.03		ug/Kg		89	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.53		ug/Kg		106	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.17		ug/Kg		93	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.38		ug/Kg		99	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.09		ug/Kg		87	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	1.91		ug/Kg		79	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.09		ug/Kg		87	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.54		ug/Kg		95	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.57		ug/Kg		95	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.39		ug/Kg		96	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.45		ug/Kg		98	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.26		ug/Kg		90	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.19		ug/Kg		88	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.21		ug/Kg		88	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.1		ug/Kg		97	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.5		ug/Kg		100	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.66		ug/Kg		89	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	1.87		ug/Kg		79	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.57		ug/Kg		103	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.96		ug/Kg		118	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.17		ug/Kg		87	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-843241/3-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.07		ug/Kg		89	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.70		ug/Kg		72	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.99		ug/Kg		89	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.25		ug/Kg		105	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.8		ug/Kg		86	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.4		ug/Kg		91	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*94.9*		*8 - 130*
13C5 PFPeA	*76.7*		*35 - 130*
13C5 PFHxA	*95.7*		*40 - 130*
13C4 PFHpA	*99.1*		*40 - 130*
13C8 PFOA	*98.9*		*40 - 130*
13C9 PFNA	*95.6*		*40 - 130*
13C6 PFDA	*92.6*		*40 - 130*
13C7 PFUnA	*83.3*		*40 - 130*
13C2 PFDoA	*75.0*		*40 - 130*
13C2 PFTeDA	*62.2*		*20 - 130*
13C3 PFBS	*87.1*		*40 - 135*
13C3 PFHxS	*87.5*		*40 - 130*
13C8 PFOS	*84.3*		*40 - 130*
13C8 FOSA	*78.1*		*40 - 130*
d3-NMeFOSAA	*78.6*		*40 - 135*
d5-NEtFOSAA	*72.3*		*40 - 150*
13C2 4:2 FTS	*74.0*		*40 - 165*
13C2 6:2 FTS	*68.7*		*40 - 215*
13C2 8:2 FTS	*70.9*		*40 - 275*
13C3 HFPO-DA	*105*		*40 - 130*
d7-N-MeFOSE-M	*63.7*		*20 - 130*
d9-N-EtFOSE-M	*60.2*		*15 - 130*
d5-NEtPFOSA	*56.5*		*10 - 130*
d3-NMePFOSA	*55.6*		*10 - 130*

Lab Sample ID: LCSD 320-843241/4-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.58		ug/Kg		92	70 - 140	2	30
Perfluoropentanoic acid (PFPeA)			2.50	2.90		ug/Kg		116	60 - 150	2	30
Perfluorohexanoic acid (PFHxA)			2.50	2.30		ug/Kg		92	65 - 140	0	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.49		ug/Kg		100	65 - 145	0	30
Perfluorooctanoic acid (PFOA)			2.50	2.49		ug/Kg		99	70 - 150	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-843241/4-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.57		ug/Kg		103	70 - 155	2	30
Perfluorodecanoic acid (PFDA)	2.50	2.67		ug/Kg		107	70 - 155	6	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.64		ug/Kg		105	70 - 155	0	30
Perfluorododecanoic acid (PFDoA)	2.50	2.49		ug/Kg		100	70 - 150	1	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.57		ug/Kg		103	65 - 150	5	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.95		ug/Kg		118	65 - 150	3	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.01		ug/Kg		90	65 - 145	3	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.20		ug/Kg		94	55 - 160	1	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.11		ug/Kg		93	60 - 150	4	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.62		ug/Kg		110	65 - 155	4	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.29		ug/Kg		98	65 - 160	6	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.48		ug/Kg		103	55 - 140	4	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.24		ug/Kg		93	40 - 155	7	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.09		ug/Kg		86	25 - 160	9	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.52		ug/Kg		96	60 - 150	10	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.39		ug/Kg		92	55 - 200	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.48		ug/Kg		93	70 - 150	2	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.45		ug/Kg		98	70 - 140	2	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.54		ug/Kg		101	70 - 155	3	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.18		ug/Kg		87	70 - 140	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.28		ug/Kg		91	65 - 155	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.22		ug/Kg		89	65 - 165	0	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.6		ug/Kg		101	70 - 140	4	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	11.5		ug/Kg		92	70 - 135	8	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.63		ug/Kg		87	70 - 145	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	1.84		ug/Kg		78	70 - 160	1	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.44		ug/Kg		98	30 - 140	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.77		ug/Kg		111	60 - 150	6	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-843241/4-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.22		ug/Kg		89	60 - 155	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	1.94		ug/Kg		83	70 - 150	7	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.61		ug/Kg		68	45 - 160	5	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.97		ug/Kg		88	70 - 140	1	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.17		ug/Kg		103	45 - 130	2	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.8		ug/Kg		87	60 - 130	0	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 150	1	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*93.8*		*8 - 130*
13C5 PFPeA	*75.6*		*35 - 130*
13C5 PFHxA	*94.6*		*40 - 130*
13C4 PFHpA	*96.3*		*40 - 130*
13C8 PFOA	*93.0*		*40 - 130*
13C9 PFNA	*91.9*		*40 - 130*
13C6 PFDA	*92.5*		*40 - 130*
13C7 PFUnA	*85.1*		*40 - 130*
13C2 PFDoA	*82.1*		*40 - 130*
13C2 PFTeDA	*68.0*		*20 - 130*
13C3 PFBS	*92.5*		*40 - 135*
13C3 PFHxS	*83.6*		*40 - 130*
13C8 PFOS	*82.1*		*40 - 130*
13C8 FOSA	*87.9*		*40 - 130*
d3-NMeFOSAA	*81.2*		*40 - 135*
d5-NEtFOSAA	*77.1*		*40 - 150*
13C2 4:2 FTS	*70.8*		*40 - 165*
13C2 6:2 FTS	*70.1*		*40 - 215*
13C2 8:2 FTS	*76.1*		*40 - 275*
13C3 HFPO-DA	*104*		*40 - 130*
d7-N-MeFOSE-M	*69.2*		*20 - 130*
d9-N-EtFOSE-M	*71.3*		*15 - 130*
d5-NEtPFOSA	*63.4*		*10 - 130*
d3-NMePFOSA	*57.4*		*10 - 130*

Lab Sample ID: LLCS 320-843241/2-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.807		ug/Kg		101	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.501		ug/Kg		125	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.408		ug/Kg		102	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-843241/2-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.419		ug/Kg		105	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.447		ug/Kg		112	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.441		ug/Kg		110	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.438		ug/Kg		110	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.437		ug/Kg		109	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.423		ug/Kg		106	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.473		ug/Kg		118	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.545		ug/Kg		136	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.336		ug/Kg		94	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.372		ug/Kg		99	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.349		ug/Kg		96	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.438		ug/Kg		115	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.373		ug/Kg		100	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.414		ug/Kg		107	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.379		ug/Kg		98	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.409		ug/Kg		105	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.754		ug/Kg		101	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.726		ug/Kg		95	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.738		ug/Kg		96	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.404		ug/Kg		101	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.403		ug/Kg		101	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.394		ug/Kg		98	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.399		ug/Kg		100	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.357		ug/Kg		89	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	2.01		ug/Kg		100	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.15		ug/Kg		107	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.291		ug/Kg		97	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.334		ug/Kg		88	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.436		ug/Kg		109	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-843241/2-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.484		ug/Kg		121	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.350		ug/Kg		87	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.364		ug/Kg		97	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.338		ug/Kg		90	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.319		ug/Kg		89	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.848		ug/Kg		106	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	1.81		ug/Kg		91	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	1.99		ug/Kg		100	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*97.8*		*8 - 130*
13C5 PFPeA	*76.3*		*35 - 130*
13C5 PFHxA	*96.9*		*40 - 130*
13C4 PFHpA	*99.5*		*40 - 130*
13C8 PFOA	*92.7*		*40 - 130*
13C9 PFNA	*95.3*		*40 - 130*
13C6 PFDA	*89.7*		*40 - 130*
13C7 PFUnA	*81.2*		*40 - 130*
13C2 PFDoA	*85.1*		*40 - 130*
13C2 PFTeDA	*70.9*		*20 - 130*
13C3 PFBS	*83.3*		*40 - 135*
13C3 PFHxS	*83.5*		*40 - 130*
13C8 PFOS	*84.3*		*40 - 130*
13C8 FOSA	*87.7*		*40 - 130*
d3-NMeFOSAA	*82.6*		*40 - 135*
d5-NEtFOSAA	*79.5*		*40 - 150*
13C2 4:2 FTS	*70.9*		*40 - 165*
13C2 6:2 FTS	*65.6*		*40 - 215*
13C2 8:2 FTS	*76.9*		*40 - 275*
13C3 HFPO-DA	*102*		*40 - 130*
d7-N-MeFOSE-M	*80.0*		*20 - 130*
d9-N-EtFOSE-M	*76.4*		*15 - 130*
d5-NEtPFOSA	*58.6*		*10 - 130*
d3-NMePFOSA	*58.0*		*10 - 130*

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-4

Method: 1633 - Percent Moisture

Lab Sample ID: 320-118635-14 DU
Matrix: Solid
Analysis Batch: 841906

Client Sample ID: FMB-002-N-S013-01242025
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	14	H		15		%				3	20

QC Association Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-4

LCMS

Prep Batch: 843241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-14	FMB-002-N-S013-01242025	Total/NA	Solid	1633 Shake	
MB 320-843241/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-843241/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-843241/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-843241/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 843420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-14	FMB-002-N-S013-01242025	Total/NA	Solid	1633	843241
MB 320-843241/1-A	Method Blank	Total/NA	Solid	1633	843241
LCS 320-843241/3-A	Lab Control Sample	Total/NA	Solid	1633	843241
LCSD 320-843241/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	843241
LLCS 320-843241/2-A	Lab Control Sample	Total/NA	Solid	1633	843241

General Chemistry

Analysis Batch: 841906

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-14	FMB-002-N-S013-01242025	Total/NA	Solid	1633	
320-118635-14 DU	FMB-002-N-S013-01242025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118635-4
Project/Site: Spokane International Airport

Client Sample ID: FMB-002-N-S013-01242025
Lab Sample ID: 320-118635-14

Date Collected: 01/24/25 09:25
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			841906	03/24/25 13:12	JCB	EET SAC

Client Sample ID: FMB-002-N-S013-01242025
Lab Sample ID: 320-118635-14

Date Collected: 01/24/25 09:25
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 85.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.34 g	5.0 mL	843241	03/31/25 07:16	CGL	EET SAC
Total/NA	Analysis	1633		1			843420	04/01/25 06:55	N1K	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118635-4
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-4

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-4

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118635-14	FMB-002-N-S013-01242025	Solid	01/24/25 09:25	01/30/25 09:30

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE	1/27/25		
TURNAROUND TIME	Standard		
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633										HOLD	Number of Containers
FMB-003-N-S0005-01242025	1/24/2025	0800	Soil											X	1
FMB-003-N-S001-01242025	1/24/2025	0805	Soil	X											1
FMB-003-FD-S001-01242025	1/24/2025	0835	Soil	X											1
FMB-003-N-S003-01242025	1/24/2025	0810	Soil	X											1
FMB-003-N-S006-01242025	1/24/2025	0815	Soil											X	1
FMB-003-N-S010-01242025	1/24/2025	0820	Soil	X											1
FMB-003-FD-S010-01242025	1/24/2025	0850	Soil	X											1
FMB-003-N-S015-01242025	1/24/2025	0825	Soil											X	1
FMB-002-N-S0005-01242025	1/24/2025	0900	Soil											X	1
FMB-002-N-S001-01242025	1/24/2025	0905	Soil	X											1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118635 Chain of Custody

Obs Temp: 6.4°C Corr Temp: 6.8°C 10x# IRocks

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo da Silva	Print Luke Peden
Firm Haley Aldrich	Firm H&A
Date 01/24/2025 Time 1800	Date 1/24/25 1800
Relinquished by	**Received by**
Sign	Sign
Print Luke Peden	Print Jenny Pierce
Firm H&A	Firm Catalyst
Date 1/27/25 Time 15:70	Date 1/27/25 1535
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print B. Morrow
Firm EELSPO	Firm EELSpo
Date 1/28/25 Time 1440	Date 01/31/25 0930

LIQUID	SOLID
VOA Vial	VOA Vial
Amber Glass	Amber Glass
Plastic Bottle	Clear Glass
Preservative	Preservative
Volume	Volume

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are requ

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory

November 2024

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-001
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 11922 E 1st Ave, Spokane Valley, WA 99206
CONTACT Randee Arrington

DELIVERY DATE 1/27/25
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633											HOLD	Number of Containers
FMB-002-N-S003-01242025	1/24/2025	0910	Soil	X												1
FMB-002-N-S006-01242026	1/24/2025	0915	Soil												X	1
FMB-002-N-S010-01242027	1/24/2025	0920	Soil												X	1
FMB-002-N-S013-01242028	1/24/2025	0925	Soil												X	1
CFH-007-N-S000-01242025	1/24/2025	1100	Soil												X	1
CFH-007-N-S001-01242025	1/24/2025	1105	Soil	X												1
CFH-007-FD-S001-01242025	1/24/2025	1135	Soil	X												1
CFH-007-N-S003-01242025	1/24/2025	1110	Soil	X												1
CFH-006-N-S000-01242025	1/24/2025	1145	Soil												X	1
CFH-006-N-S001-01242025	1/24/2025	1150	Soil	X												1

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo da Silva	Print Luke Peden
Firm Haley Aldrich	Firm H&A
Date 01/24/2025 Time 1800	Date 1/28/25 1800
Relinquished by	**Received by**
Sign	Sign
Print Luke Peden	Print Jimmy Pulido
Firm H&A	Firm ETA spiked
Date 1/27/25 Time 15:20	Date 1/27/25 1535
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print D. Morrison
Firm EET SPO	Firm EET Spk
Date 1/28/25 Time 1440	Date 1/30/25 0930

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are requ

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE	1/27/25		
TURNAROUND TIME	Standard		
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633										HOLD	Number of Containers
CFH-005-N-S000-01242025	1/24/2025	1200	Soil											X	1
CFH-005-N-S001-01242025	1/24/2025	1205	Soil	X											1
CFH-005-N-S003-01242025	1/24/2025	1210	Soil	X											1
CFH-005-FD-S003-01242025	1/24/2025	1240	Soil	X											1
CFH-005-N-S006-01242025	1/24/2025	1215	Soil											X	1
CFH-004-N-S000-01242025	1/24/2025	1300	Soil											X	1
CFH-004-N-S001-01242025	1/24/2025	1305	Soil	X											1
CFH-004-N-S003-01242025	1/24/2025	1310	Soil	X											1
CFH-004-N-S006-01242025	1/24/2025	1315	Soil											X	1
CFH-004-N-S010-01242025	1/24/2025	1320	Soil	X											1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo da Silva	Print Luke Peba
Firm Haley Aldrich	Firm HSA
Date 01/24/2025 Time 1400	Date 1/24/25 1800
Relinquished by	**Received by**
Sign	Sign
Print Luke Peba	Print Jonny Pavlic
Firm HSA	Firm Eta Sola
Date 1/27/25 Time 15:19	Date 1/27/25 832
Relinquished by	**Received by**
Sign	Sign
Print Mackey Morris	Print D. Morrison
Firm EES&PO	Firm FEDEX
Date 1/28/25 Time 1440	Date 01/30/25 1920

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume
SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

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Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	1/27/25
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley WA 99206	TURNAROUND TIME	Standard
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633										HOLD	Number of Containers
CFH-004-FD-S010-01242025	1/24/2025	1350	Soil	X											1
CFH-004-N-S015-01242025	1/24/2025	1325	Soil											X	1
CFH-003-N-S000-01242025	1/24/2025	1415	Soil											X	1
CFH-003-N-S001-01242025	1/24/2025	1420	Soil	X											1
CFH-003-N-S003-01242025	1/24/2025	1425	Soil	X											1
CFH-003-N-S006-01242025	1/24/2025	1430	Soil											X	1
CFH-003-N-S009-01242025	1/24/2025	1435	Soil	X											1
CFH-003-FD-S009-01242025	1/24/2025	1505	Soil	X											1
CFH-002-N-S000-01242025	1/24/2025	1500	Soil											X	1
CFH-002-N-S001-01242025	1/24/2025	1505	Soil	X											1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo da Silva	Print Luke Peka
Firm Haley Aldrich	Firm H&A
Date 01/24/2025 Time 1800	Date 1/24/25 1800
Relinquished by	**Received by**
Sign	Sign
Print Luke Peka	Print Joey Parker
Firm H&A	Firm Eurofins
Date 1/27/25 Time 15:20	Date 1/27/25 1535
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print D. Morris
Firm EFTSPO	Firm Eurofins
Date 1/28/25 Time 1440	Date 01/30/25 0930

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

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☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

HALE ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
		DELIVERY DATE	1/27/25
		TURNAROUND TIME	Standard
		PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633										HOLD	Number of Containers
CFH-002-FD-S001-01242025	1/24/2025	1535	Soil	X											1
CFH-002-N-S003-01242025	1/24/2025	1510	Soil	X											1
CFH-002-N-S006-01242025	1/24/2025	1515	Soil											X	1
CFH-002-N-S010-01242025	1/24/2025	1520	Soil											X	1
CFH-002-N-S012-01242025	1/24/2025	1525	Soil											X	1
CFH-001-N-S000-01242025	1/24/2025	1545	Soil											X	1
CFH-001-N-S001-01242025	1/24/2025	1550	Soil	X											1
CFH-001-N-S003-01242025	1/24/2025	1555	Soil	X											1
CFH-001-N-S006-01242025	1/24/2025	1600	Soil											X	1
CFH-001-N-S010-01242025	1/24/2025	1605	Soil											X	1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo da Silva	Print Luke Peden
Firm Haley Aldrich	Firm H&A
Date 01/24/2025 Time 1800	Date 1/[illegible]/25 1800
Relinquished by	**Received by**
Sign	Sign
Print Luke Peden	Print [illegible]
Firm H&A	Firm [illegible]
Date 1/27/25 Time 15:20	Date 1/27/25 1535
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print D. Mercurio
Firm E/ET SPO	Firm ETS
Date 1/28/25 Time 1410	Date 01/31/25 0930

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume
SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

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☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory **CANARY** - Project Manager **PINK** Haley & Aldrich Laboratory

November 2024

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
		DELIVERY DATE	1/27/25
		TURNAROUND TIME	Standard
		PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	HOLD	Number of Containers
CFH-001-N-S013-01242025	1/24/2025	1610	Soil		X	1
CFH-006-N-S003-01242025	1/24/2025	1155	Soil	X	I2LP	1

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo da Silva	Print Luke Peden
Firm Haley Aldrich	Firm H&A
Date 01/24/2025 Time 1800	Date 1/27/25 1800
Relinquished by	**Received by**
Sign	Sign
Print Luke Peden	Print Chris Spitzer
Firm H&A	Firm Jones-Parker
Date 1/27/25 Time 15:70	Date 1/27/25 1535
Relinquished by	**Received by**
Sign	Sign
Print Macky Moms	Print D. Monument
Firm EST SPO	Firm EUROFINS
Date 1/28/25 Time 1440	Date 01/31/25 0920

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

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Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118635

Tracking # 4242 5693 0828

Job: _____ _____

SO (PO) / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID: L06 Corr Factor (+/-) NA °C

Ice _____ Wet _____ Gel _____ Other _____

Cooler Custody Seal: 2691599

Cooler ID: 1 of 2

Temp Observed 1.3 °C Corrected 1.3 °C

From Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: DM Date: 01/30/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: DM Date 01/30/25

Notes: _____

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials DM Date 01/30/25

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Tracking # 4242 5993 0839

Job: 320-118635

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID LOV Corr Factor (+/-) NA °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal 26091594

Cooler ID 2 of 2

Temp Observed 1.7 °C Corrected 1.7 °C

From Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials DM Date: 01/30/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials DM Date 01/30/25

Notes: #14 : FMB-002-N-S013-012420250
#13, #12
#38: No "-FD-"
CFH-003-N-S009-012420250
Sample #28 not received.

Trizma Lot #(s) _____

Ammonium
Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials DM Date 01/30/25

SIGNATURE
DATE 1/28/25
Custody S

eurofins | Environment Testing TestAmerica

2691599

EUROFINS ENVIRONMENTAL SPOKANE
11922 E 1ST AVE
SPOKANE VALLEY, WA 99206
UNITED STATES US

CAD: 0941709/CAFE3855
BILL RECIPIENT

Par # 159490-441 Exp 05 Jan 25
5R8C3/FC17/FF2B

TO SHIPPING/RECEIVING
EUROFINS ENVIRONMENT TESTING N CAL
880 RIVERSIDE PARKWAY

WEST SACRAMENTO CA 95605
(916) 373-5600 REF:
INV:
PO: DEPT:

FedEx Express

J24382407040 1 ua

1 of 2
TRK# 0201 4242 5693 0828
MASTER
XS BLUA

WED - 29 JAN 10:30A
PRIORITY OVERNIGHT

95605
CA-US SMF

eal

eurofins | Environment Testing TestAmerica

2691599

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 3/4/2025 1:47:55 PM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118635-2

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

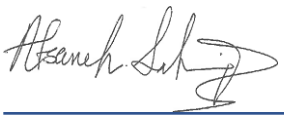
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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3/4/2025 1:47:55 PM

Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Sample Summary 75
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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118635-2
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
*3	ISTD response or retention time outside acceptable limits.
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118635-2 — Eurofins Sacramento

Job Narrative
320-118635-2

Receipt
The samples were received on 1/30/2025 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.3º C and 1.7º C.

Receipt Exceptions

The following sample was listed on the Chain of Custody (COC); however, no sample was received: CFH-005-N-S006-01242025 (320-118635-25).

LCMS
Method 1633: The low level continuing calibration verification (CCVL) associated with batch 320-835510 recovered above the upper control limit for Perfluorododecanesulfonic acid (PFDoS). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported:(CCVL 320-835510/2).

Method 1633: The low level continuing calibration verification (CCVL) associated with batch 320-836600 recovered above the upper control limit for isotope dilution analytes (IDA) 13C2 6:2 FTS, 13C2 8:2 FTS and d3-NMeFOSAA, The associated target analytes, 1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS), 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) and N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA), were within control limits in the CCV, therefore the data is reported: (CCVL 320-836600/2).

Method 1633: Results for samples CFH-006-N-S000-01242025 (320-118635-19) ,CFH-005-N-S000-01242025 (320-118635-21) , CFH-004-N-S000-01242025 (320-118635-26) and CFH-004-N-S006-01242025 (320-118635-29) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

Method 1633: The Isotope Dilution Analyte (IDA) recovery associated with the following samples are below the method recommended limit: CFH-006-N-S000-01242025 (320-118635-19), CFH-005-N-S000-01242025 (320-118635-21) , CFH-004-N-S000-01242025 (320-118635-26), CFH-003-N-S000-01242025 (320-118635-33), CFH-003-N-S006-01242025 (320-118635-36) and CFH-002-N-S000-01242025 (320-118635-39). . Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the samples.

Method 1633: The continuing calibration verification (CCV) associated with batch 320-836644 recovered above the upper control limit for isotope dilution analytes (IDA) 13C2 4:2 FTS and 13C2 8:2 FTS. The associated target analytes, 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) and 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) were within control limits in the CCV, therefore the data is reported: (CCV 320-836644/1).

Method 1633: The continuing calibration verifications (CCV) associated with batch 320-836644 recovered above the upper control limit for the isotope dilution analytes (IDA) 13C2 4:2 FTS, 13C2 6:2 FTS and 13C2 8:2 FTS. The associated target analytes, 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS), 1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) and 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) were within control limits in the CCVs, therefore the data is reported: FMB-003-N-S0005-01242025 (320-118635-1), FMB-003-N-S006-01242025 (320-118635-5), FMB-003-N-S015-01242025 (320-118635-8), FMB-002-N-S0005-01242025 (320-118635-9), FMB-002-N-S006-01242026 (320-118635-12), (CCV 320-836644/13) and (CCV 320-836644/25).

Method 1633: Internal standard (ISTD) response for the following sample was outside control limits: CFH-005-N-S000-01242025 (320-118635-21). The sample was re-analyzed and ISTD response was outside control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-2

Client Sample ID: FMB-003-N-S0005-01242025 — Lab Sample ID: 320-118635-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.14	J	0.20	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.24		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.096	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.69		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.12	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.30		0.20	0.057	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FMB-003-N-S006-01242025 — Lab Sample ID: 320-118635-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.18	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.33		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.077	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	1.0		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.091	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.62		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.12	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	17		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	0.60	J	0.99	0.25	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA	19		0.39	0.099	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA	1.3		0.39	0.099	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FMB-003-N-S015-01242025 — Lab Sample ID: 320-118635-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.052	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.23		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA	0.27	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FMB-002-N-S0005-01242025 — Lab Sample ID: 320-118635-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.32		0.19	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.084	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.40		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.23		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.82		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.097	J	0.19	0.056	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.49		0.19	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FMB-002-N-S006-01242026 — Lab Sample ID: 320-118635-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.13	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.30		0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-007-N-S000-01242025 — Lab Sample ID: 320-118635-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorodecanoic acid (PFDA)	0.10	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Client Sample ID: CFH-007-N-S000-01242025 (Continued) — Lab Sample ID: 320-118635-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorododecanoic acid (PFDoA)	0.074	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.39		0.19	0.048	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-006-N-S000-01242025 — Lab Sample ID: 320-118635-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.38	J	0.41	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.23		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	1.2		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.055	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.25		0.20	0.063	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.45		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	5.6		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	8.2		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	1.2		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	2.4		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.43		0.20	0.059	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.15	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.84		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.20		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	1.1		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	1.3		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanesulfonic acid (PFDoS)	0.16	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	12		0.41	0.10	ug/Kg	1	☼	1633	Total/NA
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.65		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.39		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.053	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	0.38	J	1.0	0.25	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	100		4.1	1.0	ug/Kg	20	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - DL	65		8.1	2.0	ug/Kg	20	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA) - DL	25		4.1	1.3	ug/Kg	20	☼	1633	Total/NA

Client Sample ID: CFH-005-N-S000-01242025 — Lab Sample ID: 320-118635-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.65		0.41	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	1.1		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.88		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.13	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.63		0.20	0.063	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	3.8		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	6.3		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	6.7		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	1.3		0.20	0.051	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CFH-005-N-S000-01242025 (Continued) — Lab Sample ID: 320-118635-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorotridecanoic acid (PFTrDA)	2.0		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.34		0.20	0.059	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.11	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.22		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.5		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	1.1		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.64		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	1.0		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanesulfonic acid (PFDoS)	0.12	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.1		0.41	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	12		0.20	0.064	ug/Kg	1	☼	1633	Total/NA
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.15	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.076	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.61		0.41	0.10	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	2.4		1.0	0.25	ug/Kg	1	☼	1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	1.9		1.0	0.25	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	420		20	5.1	ug/Kg	100	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - DL	80		41	10	ug/Kg	100	☼	1633	Total/NA

Client Sample ID: CFH-004-N-S000-01242025 — Lab Sample ID: 320-118635-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.57		0.39	0.099	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	1.4		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.78		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.30		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	3.4		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	7.5		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	4.2		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	2.6		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.23		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.26		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.18	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	1.5		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	14		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	1.5		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.41		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.30		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	3.4		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.21	J	0.39	0.099	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CFH-004-N-S000-01242025 (Continued) — Lab Sample ID: 320-118635-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
3-Perfluoropentylpropanoic acid (5:3 FTCA)	1.8		0.99	0.25	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	390		20	4.9	ug/Kg	100	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA	8.9		0.39	0.099	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA	4.7		0.39	0.099	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-004-N-S006-01242025 — Lab Sample ID: 320-118635-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.37	J	0.39	0.099	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.94		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	1.4		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.22		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	1.2		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	1.1		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.97		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.40		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.076	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.54		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.87		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	5.7		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.53		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.067	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.057	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	12		0.39	0.099	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	18		0.39	0.099	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.92		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	120		3.9	0.99	ug/Kg	20	☼	1633	Total/NA

Client Sample ID: CFH-004-N-S015-01242025 — Lab Sample ID: 320-118635-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.056	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.080	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.15	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.4		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.73		0.40	0.10	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-003-N-S000-01242025 — Lab Sample ID: 320-118635-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.29	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.60		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.22		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.32		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.29		0.20	0.063	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CFH-003-N-S000-01242025 (Continued) — Lab Sample ID: 320-118635-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorononanoic acid (PFNA)	0.27		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.94		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.099	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.8		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.78		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	0.92	J	1.0	0.25	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-003-N-S006-01242025 — Lab Sample ID: 320-118635-36

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.31		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.18	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.085	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.059	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.13	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-002-N-S000-01242025 — Lab Sample ID: 320-118635-39

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.21	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.49		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.41		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.059	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.43		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.73		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.26		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.19	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.064	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.074	J	0.20	0.058	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.069	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.082	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	18		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	24		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.0		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.14	J	0.20	0.063	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.62		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	7.6		1.0	0.25	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-001-N-S000-01242025 — Lab Sample ID: 320-118635-46

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.17	J	0.19	0.047	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.080	J	0.19	0.047	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.26		0.19	0.047	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	1.0		0.19	0.047	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.18	J	0.19	0.047	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CFH-001-N-S000-01242025 (Continued) — Lab Sample ID: 320-118635-46

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorododecanoic acid (PFDoA)	0.062	J	0.19	0.047	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.058	J	0.19	0.047	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	10		0.19	0.047	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.45		0.38	0.095	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.15	J	0.38	0.095	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.091	J	0.19	0.060	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-001-N-S006-01242025 — Lab Sample ID: 320-118635-49

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.19	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.14	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.14	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.20		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.058	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-2

Client Sample ID: FMB-003-N-S0005-01242025
Date Collected: 01/24/25 08:00
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-1
Matrix: Solid
Percent Solids: 88.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
Perfluorooctanoic acid (PFOA)	**0.14**	**J**	0.20	0.060	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
Perfluorodecanoic acid (PFDA)	**0.24**		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
Perfluoroundecanoic acid (PFUnA)	**0.096**	**J**	0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
Perfluorododecanoic acid (PFDoA)	**0.69**		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
Perfluorotridecanoic acid (PFTrDA)	**0.12**	**J**	0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
Perfluorotetradecanoic acid (PFTeDA)	**0.30**		0.20	0.057	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.061	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.24	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.24	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.060	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1

Client Sample ID: FMB-003-N-S0005-01242025

Lab Sample ID: 320-118635-1
Date Collected: 01/24/25 08:00
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 88.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.073	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	02/27/25 09:28	02/28/25 21:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*89.4*		*8 - 130*	*02/27/25 09:28*	*02/28/25 21:53*	*1*
13C5 PFPeA	*86.6*		*35 - 130*	*02/27/25 09:28*	*02/28/25 21:53*	*1*
13C5 PFHxA	*81.9*		*40 - 130*	*02/27/25 09:28*	*02/28/25 21:53*	*1*
13C4 PFHpA	*89.0*		*40 - 130*	*02/27/25 09:28*	*02/28/25 21:53*	*1*
13C8 PFOA	*86.6*		*40 - 130*	*02/27/25 09:28*	*02/28/25 21:53*	*1*
13C9 PFNA	*92.8*		*40 - 130*	*02/27/25 09:28*	*02/28/25 21:53*	*1*
13C6 PFDA	*87.1*		*40 - 130*	*02/27/25 09:28*	*02/28/25 21:53*	*1*
13C7 PFUnA	*83.7*		*40 - 130*	*02/27/25 09:28*	*02/28/25 21:53*	*1*
13C2 PFDoA	*83.5*		*40 - 130*	*02/27/25 09:28*	*02/28/25 21:53*	*1*
13C2 PFTeDA	*72.9*		*20 - 130*	*02/27/25 09:28*	*02/28/25 21:53*	*1*
13C3 PFBS	*69.3*		*40 - 135*	*02/27/25 09:28*	*02/28/25 21:53*	*1*
13C3 PFHxS	*74.6*		*40 - 130*	*02/27/25 09:28*	*02/28/25 21:53*	*1*
13C8 PFOS	*80.1*		*40 - 130*	*02/27/25 09:28*	*02/28/25 21:53*	*1*
13C8 FOSA	*76.9*		*40 - 130*	*02/27/25 09:28*	*02/28/25 21:53*	*1*
d3-NMeFOSAA	*101*		*40 - 135*	*02/27/25 09:28*	*02/28/25 21:53*	*1*
d5-NEtFOSAA	*102*		*40 - 150*	*02/27/25 09:28*	*02/28/25 21:53*	*1*
13C2 4:2 FTS	*127*		*40 - 165*	*02/27/25 09:28*	*02/28/25 21:53*	*1*
13C2 6:2 FTS	*123*		*40 - 215*	*02/27/25 09:28*	*02/28/25 21:53*	*1*
13C2 8:2 FTS	*144*		*40 - 275*	*02/27/25 09:28*	*02/28/25 21:53*	*1*
13C3 HFPO-DA	*98.9*		*40 - 130*	*02/27/25 09:28*	*02/28/25 21:53*	*1*
d7-N-MeFOSE-M	*68.6*		*20 - 130*	*02/27/25 09:28*	*02/28/25 21:53*	*1*
d9-N-EtFOSE-M	*56.5*		*15 - 130*	*02/27/25 09:28*	*02/28/25 21:53*	*1*
d5-NEtPFOSA	*64.5*		*10 - 130*	*02/27/25 09:28*	*02/28/25 21:53*	*1*
d3-NMePFOSA	*66.8*		*10 - 130*	*02/27/25 09:28*	*02/28/25 21:53*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**12**		0.10	0.10	%			02/21/25 13:36	1

Client Sample ID: FMB-003-N-S006-01242025

Lab Sample ID: 320-118635-5
Date Collected: 01/24/25 08:15
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 70.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.099	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
Perfluoropentanoic acid (PFPeA)	**0.18**	**J**	0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
Perfluorohexanoic acid (PFHxA)	**0.33**		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-2

Client Sample ID: FMB-003-N-S006-01242025
Date Collected: 01/24/25 08:15
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-5
Matrix: Solid
Percent Solids: 70.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	**0.077**	**J**	0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
Perfluorooctanoic acid (PFOA)	**1.0**		0.20	0.061	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
Perfluorononanoic acid (PFNA)	**0.091**	**J**	0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
Perfluorohexanesulfonic acid (PFHxS)	**0.62**		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.12**	**J**	0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
Perfluorooctanesulfonic acid (PFOS)	**17**		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.099	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.099	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1

Client Sample ID: FMB-003-N-S006-01242025

Lab Sample ID: 320-118635-5
Date Collected: 01/24/25 08:15
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 70.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**0.60**	**J**	0.99	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 22:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*86.1*		*8 - 130*	*02/27/25 09:28*	*02/28/25 22:10*	*1*
13C5 PFPeA	*80.7*		*35 - 130*	*02/27/25 09:28*	*02/28/25 22:10*	*1*
13C5 PFHxA	*83.6*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:10*	*1*
13C4 PFHpA	*83.2*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:10*	*1*
13C8 PFOA	*85.2*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:10*	*1*
13C9 PFNA	*85.4*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:10*	*1*
13C6 PFDA	*83.9*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:10*	*1*
13C7 PFUnA	*86.6*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:10*	*1*
13C2 PFDoA	*88.6*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:10*	*1*
13C2 PFTeDA	*86.1*		*20 - 130*	*02/27/25 09:28*	*02/28/25 22:10*	*1*
13C3 PFBS	*65.0*		*40 - 135*	*02/27/25 09:28*	*02/28/25 22:10*	*1*
13C3 PFHxS	*75.3*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:10*	*1*
13C8 PFOS	*80.0*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:10*	*1*
13C8 FOSA	*70.5*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:10*	*1*
d3-NMeFOSAA	*93.6*		*40 - 135*	*02/27/25 09:28*	*02/28/25 22:10*	*1*
d5-NEtFOSAA	*97.8*		*40 - 150*	*02/27/25 09:28*	*02/28/25 22:10*	*1*
13C2 4:2 FTS	*101*		*40 - 165*	*02/27/25 09:28*	*02/28/25 22:10*	*1*
13C3 HFPO-DA	*96.2*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:10*	*1*
d7-N-MeFOSE-M	*75.6*		*20 - 130*	*02/27/25 09:28*	*02/28/25 22:10*	*1*
d9-N-EtFOSE-M	*60.5*		*15 - 130*	*02/27/25 09:28*	*02/28/25 22:10*	*1*
d5-NEtPFOSA	*63.0*		*10 - 130*	*02/27/25 09:28*	*02/28/25 22:10*	*1*
d3-NMePFOSA	*61.3*		*10 - 130*	*02/27/25 09:28*	*02/28/25 22:10*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**19**		0.39	0.099	ug/Kg	☼	02/27/25 09:28	03/03/25 22:37	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**1.3**		0.39	0.099	ug/Kg	☼	02/27/25 09:28	03/03/25 22:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 6:2 FTS	*89.3*		*40 - 215*	*02/27/25 09:28*	*03/03/25 22:37*	*1*
13C2 8:2 FTS	*95.8*		*40 - 275*	*02/27/25 09:28*	*03/03/25 22:37*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**29**		0.10	0.10	%			02/21/25 13:36	1

Client Sample ID: FMB-003-N-S015-01242025

Lab Sample ID: 320-118635-8
Date Collected: 01/24/25 08:25
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 89.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
Perfluoropentanoic acid (PFPeA)	**0.052**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1

Client Sample ID: FMB-003-N-S015-01242025
Date Collected: 01/24/25 08:25
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-8
Matrix: Solid
Percent Solids: 89.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
Perfluorooctanesulfonic acid (PFOS)	**0.23**		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1

Client Sample ID: FMB-003-N-S015-01242025

Lab Sample ID: 320-118635-8
Date Collected: 01/24/25 08:25
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 89.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 22:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*94.9*		*8 - 130*	*02/27/25 09:28*	*02/28/25 22:26*	*1*
13C5 PFPeA	*90.9*		*35 - 130*	*02/27/25 09:28*	*02/28/25 22:26*	*1*
13C5 PFHxA	*89.4*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:26*	*1*
13C4 PFHpA	*97.9*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:26*	*1*
13C8 PFOA	*92.1*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:26*	*1*
13C9 PFNA	*87.6*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:26*	*1*
13C6 PFDA	*89.2*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:26*	*1*
13C7 PFUnA	*85.9*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:26*	*1*
13C2 PFDoA	*93.4*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:26*	*1*
13C2 PFTeDA	*84.2*		*20 - 130*	*02/27/25 09:28*	*02/28/25 22:26*	*1*
13C3 PFBS	*77.2*		*40 - 135*	*02/27/25 09:28*	*02/28/25 22:26*	*1*
13C3 PFHxS	*78.2*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:26*	*1*
13C8 PFOS	*80.0*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:26*	*1*
13C8 FOSA	*74.5*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:26*	*1*
d3-NMeFOSAA	*98.8*		*40 - 135*	*02/27/25 09:28*	*02/28/25 22:26*	*1*
d5-NEtFOSAA	*105*		*40 - 150*	*02/27/25 09:28*	*02/28/25 22:26*	*1*
13C2 4:2 FTS	*126*		*40 - 165*	*02/27/25 09:28*	*02/28/25 22:26*	*1*
13C2 8:2 FTS	*152*		*40 - 275*	*02/27/25 09:28*	*02/28/25 22:26*	*1*
13C3 HFPO-DA	*99.9*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:26*	*1*
d7-N-MeFOSE-M	*79.5*		*20 - 130*	*02/27/25 09:28*	*02/28/25 22:26*	*1*
d9-N-EtFOSE-M	*64.9*		*15 - 130*	*02/27/25 09:28*	*02/28/25 22:26*	*1*
d5-NEtPFOSA	*55.5*		*10 - 130*	*02/27/25 09:28*	*02/28/25 22:26*	*1*
d3-NMePFOSA	*57.3*		*10 - 130*	*02/27/25 09:28*	*02/28/25 22:26*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.27**	**J**	0.40	0.10	ug/Kg	☼	02/27/25 09:28	03/03/25 22:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 6:2 FTS	*110*		*40 - 215*	*02/27/25 09:28*	*03/03/25 22:53*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**11**		0.10	0.10	%			02/21/25 13:36	1

Client Sample ID: FMB-002-N-S0005-01242025

Lab Sample ID: 320-118635-9
Date Collected: 01/24/25 09:00
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 78.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.097	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
Perfluorooctanoic acid (PFOA)	**0.32**		0.19	0.060	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-2

Client Sample ID: FMB-002-N-S0005-01242025
Date Collected: 01/24/25 09:00
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-9
Matrix: Solid
Percent Solids: 78.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	**0.084**	**J**	0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
Perfluorodecanoic acid (PFDA)	**0.40**		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
Perfluoroundecanoic acid (PFUnA)	**0.23**		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
Perfluorododecanoic acid (PFDoA)	**0.82**		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
Perfluorotetradecanoic acid (PFTeDA)	**0.097**	**J**	0.19	0.056	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
Perfluorooctanesulfonic acid (PFOS)	**0.49**		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.073	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1

Client Sample ID: FMB-002-N-S0005-01242025

Lab Sample ID: 320-118635-9
Date Collected: 01/24/25 09:00
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 78.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	02/27/25 09:28	02/28/25 22:43	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*90.5*		*8 - 130*	*02/27/25 09:28*	*02/28/25 22:43*	*1*
13C5 PFPeA	*91.2*		*35 - 130*	*02/27/25 09:28*	*02/28/25 22:43*	*1*
13C5 PFHxA	*88.4*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:43*	*1*
13C4 PFHpA	*96.3*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:43*	*1*
13C8 PFOA	*91.1*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:43*	*1*
13C9 PFNA	*90.3*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:43*	*1*
13C6 PFDA	*87.0*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:43*	*1*
13C7 PFUnA	*84.3*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:43*	*1*
13C2 PFDoA	*86.2*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:43*	*1*
13C2 PFTeDA	*79.4*		*20 - 130*	*02/27/25 09:28*	*02/28/25 22:43*	*1*
13C3 PFBS	*75.2*		*40 - 135*	*02/27/25 09:28*	*02/28/25 22:43*	*1*
13C3 PFHxS	*75.2*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:43*	*1*
13C8 PFOS	*77.3*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:43*	*1*
13C8 FOSA	*70.7*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:43*	*1*
d3-NMeFOSAA	*98.3*		*40 - 135*	*02/27/25 09:28*	*02/28/25 22:43*	*1*
d5-NEtFOSAA	*96.0*		*40 - 150*	*02/27/25 09:28*	*02/28/25 22:43*	*1*
13C2 4:2 FTS	*128*		*40 - 165*	*02/27/25 09:28*	*02/28/25 22:43*	*1*
13C2 6:2 FTS	*131*		*40 - 215*	*02/27/25 09:28*	*02/28/25 22:43*	*1*
13C2 8:2 FTS	*144*		*40 - 275*	*02/27/25 09:28*	*02/28/25 22:43*	*1*
13C3 HFPO-DA	*104*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:43*	*1*
d7-N-MeFOSE-M	*67.0*		*20 - 130*	*02/27/25 09:28*	*02/28/25 22:43*	*1*
d9-N-EtFOSE-M	*53.4*		*15 - 130*	*02/27/25 09:28*	*02/28/25 22:43*	*1*
d5-NEtPFOSA	*52.1*		*10 - 130*	*02/27/25 09:28*	*02/28/25 22:43*	*1*
d3-NMePFOSA	*51.9*		*10 - 130*	*02/27/25 09:28*	*02/28/25 22:43*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**22**		0.10	0.10	%			02/21/25 13:36	1

Client Sample ID: FMB-002-N-S006-01242026

Lab Sample ID: 320-118635-12
Date Collected: 01/24/25 09:15
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 88.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
Perfluoroheptanoic acid (PFHpA)	**0.13**	**J**	0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1

Client Sample ID: FMB-002-N-S006-01242026
Date Collected: 01/24/25 09:15
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-12
Matrix: Solid
Percent Solids: 88.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
Perfluorohexanesulfonic acid (PFHxS)	**0.30**		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1

Client Sample ID: FMB-002-N-S006-01242026
Lab Sample ID: 320-118635-12
Date Collected: 01/24/25 09:15
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 88.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 22:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*78.1*		*8 - 130*	*02/27/25 09:28*	*02/28/25 22:59*	*1*
13C5 PFPeA	*80.3*		*35 - 130*	*02/27/25 09:28*	*02/28/25 22:59*	*1*
13C5 PFHxA	*80.8*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:59*	*1*
13C4 PFHpA	*86.0*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:59*	*1*
13C8 PFOA	*89.0*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:59*	*1*
13C9 PFNA	*86.8*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:59*	*1*
13C6 PFDA	*82.7*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:59*	*1*
13C7 PFUnA	*85.3*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:59*	*1*
13C2 PFDoA	*85.2*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:59*	*1*
13C2 PFTeDA	*73.4*		*20 - 130*	*02/27/25 09:28*	*02/28/25 22:59*	*1*
13C3 PFBS	*73.3*		*40 - 135*	*02/27/25 09:28*	*02/28/25 22:59*	*1*
13C3 PFHxS	*76.5*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:59*	*1*
13C8 PFOS	*77.6*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:59*	*1*
13C8 FOSA	*76.2*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:59*	*1*
d3-NMeFOSAA	*107*		*40 - 135*	*02/27/25 09:28*	*02/28/25 22:59*	*1*
d5-NEtFOSAA	*110*		*40 - 150*	*02/27/25 09:28*	*02/28/25 22:59*	*1*
13C2 4:2 FTS	*120*		*40 - 165*	*02/27/25 09:28*	*02/28/25 22:59*	*1*
13C2 6:2 FTS	*130*		*40 - 215*	*02/27/25 09:28*	*02/28/25 22:59*	*1*
13C2 8:2 FTS	*138*		*40 - 275*	*02/27/25 09:28*	*02/28/25 22:59*	*1*
13C3 HFPO-DA	*91.1*		*40 - 130*	*02/27/25 09:28*	*02/28/25 22:59*	*1*
d7-N-MeFOSE-M	*76.7*		*20 - 130*	*02/27/25 09:28*	*02/28/25 22:59*	*1*
d9-N-EtFOSE-M	*60.5*		*15 - 130*	*02/27/25 09:28*	*02/28/25 22:59*	*1*
d5-NEtPFOSA	*68.7*		*10 - 130*	*02/27/25 09:28*	*02/28/25 22:59*	*1*
d3-NMePFOSA	*67.4*		*10 - 130*	*02/27/25 09:28*	*02/28/25 22:59*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**12**		0.10	0.10	%			02/21/25 13:36	1

Client Sample ID: CFH-007-N-S000-01242025
Lab Sample ID: 320-118635-15
Date Collected: 01/24/25 11:00
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 87.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.38	0.095	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.059	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
Perfluorodecanoic acid (PFDA)	**0.10**	**J**	0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
Perfluorododecanoic acid (PFDoA)	**0.074**	**J**	0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.055	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-2

Client Sample ID: CFH-007-N-S000-01242025
Date Collected: 01/24/25 11:00
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-15
Matrix: Solid
Percent Solids: 87.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
Perfluorooctanesulfonic acid (PFOS)	**0.39**		0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.38	0.095	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.38	0.095	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.38	0.095	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.060	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.95	0.24	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.95	0.24	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.059	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.072	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.38	0.095	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.95	0.24	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.95	0.24	ug/Kg	☼	02/24/25 07:04	02/25/25 21:43	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*73.0*		*8 - 130*	*02/24/25 07:04*	*02/25/25 21:43*	*1*

Client Sample ID: CFH-007-N-S000-01242025

Lab Sample ID: 320-118635-15

Date Collected: 01/24/25 11:00
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 87.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	54.5		35 - 130	02/24/25 07:04	02/25/25 21:43	1
13C5 PFHxA	71.9		40 - 130	02/24/25 07:04	02/25/25 21:43	1
13C4 PFHpA	59.1		40 - 130	02/24/25 07:04	02/25/25 21:43	1
13C8 PFOA	64.1		40 - 130	02/24/25 07:04	02/25/25 21:43	1
13C9 PFNA	56.0		40 - 130	02/24/25 07:04	02/25/25 21:43	1
13C6 PFDA	56.0		40 - 130	02/24/25 07:04	02/25/25 21:43	1
13C7 PFUnA	58.4		40 - 130	02/24/25 07:04	02/25/25 21:43	1
13C2 PFDoA	53.9		40 - 130	02/24/25 07:04	02/25/25 21:43	1
13C2 PFTeDA	43.4		20 - 130	02/24/25 07:04	02/25/25 21:43	1
13C3 PFBS	62.3		40 - 135	02/24/25 07:04	02/25/25 21:43	1
13C3 PFHxS	69.5		40 - 130	02/24/25 07:04	02/25/25 21:43	1
13C8 PFOS	51.2		40 - 130	02/24/25 07:04	02/25/25 21:43	1
13C8 FOSA	47.3		40 - 130	02/24/25 07:04	02/25/25 21:43	1
d3-NMeFOSAA	51.8		40 - 135	02/24/25 07:04	02/25/25 21:43	1
d5-NEtFOSAA	52.9		40 - 150	02/24/25 07:04	02/25/25 21:43	1
13C2 4:2 FTS	67.6		40 - 165	02/24/25 07:04	02/25/25 21:43	1
13C2 6:2 FTS	62.7		40 - 215	02/24/25 07:04	02/25/25 21:43	1
13C2 8:2 FTS	66.9		40 - 275	02/24/25 07:04	02/25/25 21:43	1
13C3 HFPO-DA	56.2		40 - 130	02/24/25 07:04	02/25/25 21:43	1
d7-N-MeFOSE-M	36.5		20 - 130	02/24/25 07:04	02/25/25 21:43	1
d9-N-EtFOSE-M	31.5		15 - 130	02/24/25 07:04	02/25/25 21:43	1
d5-NEtPFOSA	22.7		10 - 130	02/24/25 07:04	02/25/25 21:43	1
d3-NMePFOSA	25.5		10 - 130	02/24/25 07:04	02/25/25 21:43	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	12		0.10	0.10	%			02/20/25 15:17	1

Client Sample ID: CFH-006-N-S000-01242025

Lab Sample ID: 320-118635-19

Date Collected: 01/24/25 11:45
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 93.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.38	J	0.41	0.10	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
Perfluoropentanoic acid (PFPeA)	0.23		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
Perfluorohexanoic acid (PFHxA)	1.2		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
Perfluoroheptanoic acid (PFHpA)	0.055	J	0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
Perfluorooctanoic acid (PFOA)	0.25		0.20	0.063	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
Perfluorononanoic acid (PFNA)	0.45		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
Perfluorodecanoic acid (PFDA)	5.6		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
Perfluoroundecanoic acid (PFUnA)	8.2		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
Perfluorododecanoic acid (PFDoA)	1.2		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
Perfluorotridecanoic acid (PFTrDA)	2.4		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
Perfluorotetradecanoic acid (PFTeDA)	0.43		0.20	0.059	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
Perfluorobutanesulfonic acid (PFBS)	0.15	J	0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1

Client Sample ID: CFH-006-N-S000-01242025
Date Collected: 01/24/25 11:45
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-19
Matrix: Solid
Percent Solids: 93.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
Perfluorohexanesulfonic acid (PFHxS)	**0.84**		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.20**		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
Perfluorononanesulfonic acid (PFNS)	**1.1**		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
Perfluorodecanesulfonic acid (PFDS)	**1.3**		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
Perfluorododecanesulfonic acid (PFDoS)	**0.16**	**J**	0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.41	0.10	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**12**		0.41	0.10	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	**0.65**		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	**0.39**		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**0.053**	**J**	0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.41	0.10	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**0.38**	**J**	1.0	0.25	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/24/25 07:04	02/26/25 00:44	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*59.0*		*8 - 130*	*02/24/25 07:04*	*02/26/25 00:44*	*1*
13C5 PFPeA	*45.8*		*35 - 130*	*02/24/25 07:04*	*02/26/25 00:44*	*1*
13C5 PFHxA	*58.9*		*40 - 130*	*02/24/25 07:04*	*02/26/25 00:44*	*1*
13C4 PFHpA	*55.0*		*40 - 130*	*02/24/25 07:04*	*02/26/25 00:44*	*1*

Client Sample ID: CFH-006-N-S000-01242025

Lab Sample ID: 320-118635-19

Date Collected: 01/24/25 11:45
Date Received: 01/30/25 09:30

Matrix: Solid
Percent Solids: 93.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOA	55.6		40 - 130	02/24/25 07:04	02/26/25 00:44	1
13C9 PFNA	47.5		40 - 130	02/24/25 07:04	02/26/25 00:44	1
13C6 PFDA	47.2		40 - 130	02/24/25 07:04	02/26/25 00:44	1
13C7 PFUnA	42.0		40 - 130	02/24/25 07:04	02/26/25 00:44	1
13C2 PFDoA	40.2		40 - 130	02/24/25 07:04	02/26/25 00:44	1
13C2 PFTeDA	34.0		20 - 130	02/24/25 07:04	02/26/25 00:44	1
13C3 PFBS	50.5		40 - 135	02/24/25 07:04	02/26/25 00:44	1
13C3 PFHxS	60.7		40 - 130	02/24/25 07:04	02/26/25 00:44	1
13C8 PFOS	52.5		40 - 130	02/24/25 07:04	02/26/25 00:44	1
d3-NMeFOSAA	50.7		40 - 135	02/24/25 07:04	02/26/25 00:44	1
d5-NEtFOSAA	50.0		40 - 150	02/24/25 07:04	02/26/25 00:44	1
13C2 4:2 FTS	55.1		40 - 165	02/24/25 07:04	02/26/25 00:44	1
13C2 6:2 FTS	52.9		40 - 215	02/24/25 07:04	02/26/25 00:44	1
13C3 HFPO-DA	48.5		40 - 130	02/24/25 07:04	02/26/25 00:44	1
d7-N-MeFOSE-M	42.3		20 - 130	02/24/25 07:04	02/26/25 00:44	1
d9-N-EtFOSE-M	41.5		15 - 130	02/24/25 07:04	02/26/25 00:44	1
d5-NEtPFOSA	31.1		10 - 130	02/24/25 07:04	02/26/25 00:44	1
d3-NMePFOSA	33.8		10 - 130	02/24/25 07:04	02/26/25 00:44	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	100		4.1	1.0	ug/Kg	☼	02/24/25 07:04	02/26/25 00:11	20
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	65		8.1	2.0	ug/Kg	☼	02/24/25 07:04	02/26/25 00:11	20
Perfluorooctanesulfonamide (PFOSA)	25		4.1	1.3	ug/Kg	☼	02/24/25 07:04	02/26/25 00:11	20

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	43.0	*3	40 - 130	02/24/25 07:04	02/26/25 00:11	20
13C8 FOSA	35.0	*3 *5-	40 - 130	02/24/25 07:04	02/26/25 00:11	20
13C2 8:2 FTS	45.0	*3	40 - 275	02/24/25 07:04	02/26/25 00:11	20

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	6.3		0.10	0.10	%			02/20/25 15:17	1

Client Sample ID: CFH-005-N-S000-01242025

Lab Sample ID: 320-118635-21

Date Collected: 01/24/25 12:00
Date Received: 01/30/25 09:30

Matrix: Solid
Percent Solids: 78.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.65		0.41	0.10	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
Perfluoropentanoic acid (PFPeA)	1.1		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
Perfluorohexanoic acid (PFHxA)	0.88		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
Perfluoroheptanoic acid (PFHpA)	0.13	J	0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
Perfluorooctanoic acid (PFOA)	0.63		0.20	0.063	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
Perfluorononanoic acid (PFNA)	3.8		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
Perfluorodecanoic acid (PFDA)	6.3		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
Perfluoroundecanoic acid (PFUnA)	6.7		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1

Client Sample ID: CFH-005-N-S000-01242025
Date Collected: 01/24/25 12:00
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-21
Matrix: Solid
Percent Solids: 78.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	**1.3**		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
Perfluorotridecanoic acid (PFTrDA)	**2.0**		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
Perfluorotetradecanoic acid (PFTeDA)	**0.34**		0.20	0.059	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
Perfluorobutanesulfonic acid (PFBS)	**0.11**	**J**	0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
Perfluoropentanesulfonic acid (PFPeS)	**0.22**		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
Perfluorohexanesulfonic acid (PFHxS)	**2.5**		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
Perfluoroheptanesulfonic acid (PFHpS)	**1.1**		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
Perfluorononanesulfonic acid (PFNS)	**0.64**		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
Perfluorodecanesulfonic acid (PFDS)	**1.0**		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
Perfluorododecanesulfonic acid (PFDoS)	**0.12**	**J**	0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.41	0.10	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**7.1**		0.41	0.10	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
Perfluorooctanesulfonamide (PFOSA)	**12**		0.20	0.064	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	**0.15**	**J**	0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	**0.076**	**J**	0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	**0.61**		0.41	0.10	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1

Client Sample ID: CFH-005-N-S000-01242025

Lab Sample ID: 320-118635-21
Date Collected: 01/24/25 12:00
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 78.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	2.4		1.0	0.25	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	1.9		1.0	0.25	ug/Kg	☼	02/24/25 07:04	02/28/25 14:23	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*85.7*		*8 - 130*	*02/24/25 07:04*	*02/28/25 14:23*	*1*
13C5 PFPeA	*71.2*		*35 - 130*	*02/24/25 07:04*	*02/28/25 14:23*	*1*
13C5 PFHxA	*83.9*		*40 - 130*	*02/24/25 07:04*	*02/28/25 14:23*	*1*
13C4 PFHpA	*70.0*		*40 - 130*	*02/24/25 07:04*	*02/28/25 14:23*	*1*
13C8 PFOA	*69.8*		*40 - 130*	*02/24/25 07:04*	*02/28/25 14:23*	*1*
13C9 PFNA	*59.2*		*40 - 130*	*02/24/25 07:04*	*02/28/25 14:23*	*1*
13C6 PFDA	*51.9*		*40 - 130*	*02/24/25 07:04*	*02/28/25 14:23*	*1*
13C7 PFUnA	*40.9*		*40 - 130*	*02/24/25 07:04*	*02/28/25 14:23*	*1*
13C2 PFDoA	*31.6*	*5-	*40 - 130*	*02/24/25 07:04*	*02/28/25 14:23*	*1*
13C2 PFTeDA	*49.5*		*20 - 130*	*02/24/25 07:04*	*02/28/25 14:23*	*1*
13C3 PFBS	*70.8*		*40 - 135*	*02/24/25 07:04*	*02/28/25 14:23*	*1*
13C3 PFHxS	*84.0*		*40 - 130*	*02/24/25 07:04*	*02/28/25 14:23*	*1*
13C8 PFOS	*73.8*	*3	*40 - 130*	*02/24/25 07:04*	*02/28/25 14:23*	*1*
13C8 FOSA	*84.0*	*3	*40 - 130*	*02/24/25 07:04*	*02/28/25 14:23*	*1*
d3-NMeFOSAA	*90.1*	*3	*40 - 135*	*02/24/25 07:04*	*02/28/25 14:23*	*1*
d5-NEtFOSAA	*76.4*	*3	*40 - 150*	*02/24/25 07:04*	*02/28/25 14:23*	*1*
13C2 4:2 FTS	*94.5*		*40 - 165*	*02/24/25 07:04*	*02/28/25 14:23*	*1*
13C2 6:2 FTS	*85.5*		*40 - 215*	*02/24/25 07:04*	*02/28/25 14:23*	*1*
13C3 HFPO-DA	*70.3*		*40 - 130*	*02/24/25 07:04*	*02/28/25 14:23*	*1*
d7-N-MeFOSE-M	*68.4*	*3	*20 - 130*	*02/24/25 07:04*	*02/28/25 14:23*	*1*
d9-N-EtFOSE-M	*57.4*	*3	*15 - 130*	*02/24/25 07:04*	*02/28/25 14:23*	*1*
d5-NEtPFOSA	*57.7*	*3	*10 - 130*	*02/24/25 07:04*	*02/28/25 14:23*	*1*
d3-NMePFOSA	*57.8*	*3	*10 - 130*	*02/24/25 07:04*	*02/28/25 14:23*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	420		20	5.1	ug/Kg	☼	02/24/25 07:04	02/27/25 15:13	100
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	80		41	10	ug/Kg	☼	02/24/25 07:04	02/27/25 15:13	100

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*71.5*	*3	*40 - 130*	*02/24/25 07:04*	*02/27/25 15:13*	*100*
13C2 8:2 FTS	*60.1*	*3	*40 - 275*	*02/24/25 07:04*	*02/27/25 15:13*	*100*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	21		0.10	0.10	%			02/20/25 15:17	1

Client Sample ID: CFH-004-N-S000-01242025

Lab Sample ID: 320-118635-26
Date Collected: 01/24/25 13:00
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 81.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.57		0.39	0.099	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
Perfluoropentanoic acid (PFPeA)	1.4		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-2

Client Sample ID: CFH-004-N-S000-01242025
Date Collected: 01/24/25 13:00
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-26
Matrix: Solid
Percent Solids: 81.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.78**		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
Perfluoroheptanoic acid (PFHpA)	**0.30**		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
Perfluorooctanoic acid (PFOA)	**3.4**		0.20	0.061	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
Perfluorononanoic acid (PFNA)	**7.5**		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
Perfluorodecanoic acid (PFDA)	**4.2**		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
Perfluoroundecanoic acid (PFUnA)	**2.6**		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
Perfluorododecanoic acid (PFDoA)	**0.23**		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
Perfluorotridecanoic acid (PFTrDA)	**0.26**		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
Perfluorobutanesulfonic acid (PFBS)	**0.18**	**J**	0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
Perfluoropentanesulfonic acid (PFPeS)	**1.5**		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
Perfluorohexanesulfonic acid (PFHxS)	**14**		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
Perfluoroheptanesulfonic acid (PFHpS)	**1.5**		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
Perfluorononanesulfonic acid (PFNS)	**0.41**		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
Perfluorodecanesulfonic acid (PFDS)	**0.30**		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
Perfluorooctanesulfonamide (PFOSA)	**3.4**		0.20	0.062	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1

Client Sample ID: CFH-004-N-S000-01242025
Date Collected: 01/24/25 13:00
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-26
Matrix: Solid
Percent Solids: 81.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	**0.21**	**J**	0.39	0.099	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**1.8**		0.99	0.25	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/24/25 07:04	02/25/25 06:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*43.1*		*8 - 130*	*02/24/25 07:04*	*02/25/25 06:18*	*1*
13C5 PFPeA	*36.4*		*35 - 130*	*02/24/25 07:04*	*02/25/25 06:18*	*1*
13C5 PFHxA	*42.8*		*40 - 130*	*02/24/25 07:04*	*02/25/25 06:18*	*1*
13C4 PFHpA	*38.5*	*5-	*40 - 130*	*02/24/25 07:04*	*02/25/25 06:18*	*1*
13C8 PFOA	*37.4*	*5-	*40 - 130*	*02/24/25 07:04*	*02/25/25 06:18*	*1*
13C9 PFNA	*38.2*	*5-	*40 - 130*	*02/24/25 07:04*	*02/25/25 06:18*	*1*
13C6 PFDA	*33.8*	*5-	*40 - 130*	*02/24/25 07:04*	*02/25/25 06:18*	*1*
13C7 PFUnA	*25.1*	*5-	*40 - 130*	*02/24/25 07:04*	*02/25/25 06:18*	*1*
13C2 PFDoA	*19.1*	*5-	*40 - 130*	*02/24/25 07:04*	*02/25/25 06:18*	*1*
13C2 PFTeDA	*18.3*	*5-	*20 - 130*	*02/24/25 07:04*	*02/25/25 06:18*	*1*
13C3 PFBS	*39.2*	*5-	*40 - 135*	*02/24/25 07:04*	*02/25/25 06:18*	*1*
13C3 PFHxS	*46.5*		*40 - 130*	*02/24/25 07:04*	*02/25/25 06:18*	*1*
13C8 PFOS	*37.8*	*5-	*40 - 130*	*02/24/25 07:04*	*02/25/25 06:18*	*1*
13C8 FOSA	*39.2*	*5-	*40 - 130*	*02/24/25 07:04*	*02/25/25 06:18*	*1*
d3-NMeFOSAA	*28.5*	*5-	*40 - 135*	*02/24/25 07:04*	*02/25/25 06:18*	*1*
d5-NEtFOSAA	*24.8*	*5-	*40 - 150*	*02/24/25 07:04*	*02/25/25 06:18*	*1*
13C3 HFPO-DA	*32.5*	*5-	*40 - 130*	*02/24/25 07:04*	*02/25/25 06:18*	*1*
d7-N-MeFOSE-M	*25.4*		*20 - 130*	*02/24/25 07:04*	*02/25/25 06:18*	*1*
d9-N-EtFOSE-M	*21.8*		*15 - 130*	*02/24/25 07:04*	*02/25/25 06:18*	*1*
d5-NEtPFOSA	*20.7*		*10 - 130*	*02/24/25 07:04*	*02/25/25 06:18*	*1*
d3-NMePFOSA	*21.7*		*10 - 130*	*02/24/25 07:04*	*02/25/25 06:18*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**390**		20	4.9	ug/Kg	☼	02/24/25 07:04	02/27/25 15:30	100

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*42.6*	*3	*40 - 130*	*02/24/25 07:04*	*02/27/25 15:30*	*100*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.099	ug/Kg	☼	02/24/25 07:04	02/28/25 14:39	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**8.9**		0.39	0.099	ug/Kg	☼	02/24/25 07:04	02/28/25 14:39	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**4.7**		0.39	0.099	ug/Kg	☼	02/24/25 07:04	02/28/25 14:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 4:2 FTS	*49.6*		*40 - 165*	*02/24/25 07:04*	*02/28/25 14:39*	*1*
13C2 6:2 FTS	*46.6*		*40 - 215*	*02/24/25 07:04*	*02/28/25 14:39*	*1*
13C2 8:2 FTS	*35.7*	*5-	*40 - 275*	*02/24/25 07:04*	*02/28/25 14:39*	*1*

Client Sample ID: CFH-004-N-S000-01242025

Lab Sample ID: 320-118635-26
Date Collected: 01/24/25 13:00
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 81.1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**19**		0.10	0.10	%			02/20/25 15:17	1

Client Sample ID: CFH-004-N-S006-01242025

Lab Sample ID: 320-118635-29
Date Collected: 01/24/25 13:15
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 91.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.37**	**J**	0.39	0.099	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
Perfluoropentanoic acid (PFPeA)	**0.94**		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
Perfluorohexanoic acid (PFHxA)	**1.4**		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
Perfluoroheptanoic acid (PFHpA)	**0.22**		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
Perfluorooctanoic acid (PFOA)	**1.2**		0.20	0.061	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
Perfluorononanoic acid (PFNA)	**1.1**		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
Perfluorodecanoic acid (PFDA)	**0.97**		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
Perfluoroundecanoic acid (PFUnA)	**0.40**		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
Perfluorotridecanoic acid (PFTrDA)	**0.076**	**J**	0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
Perfluorobutanesulfonic acid (PFBS)	**0.54**		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
Perfluoropentanesulfonic acid (PFPeS)	**0.87**		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
Perfluorohexanesulfonic acid (PFHxS)	**5.7**		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.53**		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
Perfluorononanesulfonic acid (PFNS)	**0.067**	**J**	0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
Perfluorodecanesulfonic acid (PFDS)	**0.057**	**J**	0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.099	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**12**		0.39	0.099	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**18**		0.39	0.099	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
Perfluorooctanesulfonamide (PFOSA)	**0.92**		0.20	0.062	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1

Client Sample ID: CFH-004-N-S006-01242025
Date Collected: 01/24/25 13:15
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-29
Matrix: Solid
Percent Solids: 91.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.099	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/24/25 07:04	02/26/25 01:01	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*61.9*		*8 - 130*	*02/24/25 07:04*	*02/26/25 01:01*	*1*
13C5 PFPeA	*50.8*		*35 - 130*	*02/24/25 07:04*	*02/26/25 01:01*	*1*
13C5 PFHxA	*60.1*		*40 - 130*	*02/24/25 07:04*	*02/26/25 01:01*	*1*
13C4 PFHpA	*58.6*		*40 - 130*	*02/24/25 07:04*	*02/26/25 01:01*	*1*
13C8 PFOA	*50.8*		*40 - 130*	*02/24/25 07:04*	*02/26/25 01:01*	*1*
13C9 PFNA	*48.1*		*40 - 130*	*02/24/25 07:04*	*02/26/25 01:01*	*1*
13C6 PFDA	*52.9*		*40 - 130*	*02/24/25 07:04*	*02/26/25 01:01*	*1*
13C7 PFUnA	*56.0*		*40 - 130*	*02/24/25 07:04*	*02/26/25 01:01*	*1*
13C2 PFDoA	*58.8*		*40 - 130*	*02/24/25 07:04*	*02/26/25 01:01*	*1*
13C2 PFTeDA	*61.5*		*20 - 130*	*02/24/25 07:04*	*02/26/25 01:01*	*1*
13C3 PFBS	*44.7*		*40 - 135*	*02/24/25 07:04*	*02/26/25 01:01*	*1*
13C3 PFHxS	*55.1*		*40 - 130*	*02/24/25 07:04*	*02/26/25 01:01*	*1*
13C8 PFOS	*56.0*		*40 - 130*	*02/24/25 07:04*	*02/26/25 01:01*	*1*
13C8 FOSA	*65.3*		*40 - 130*	*02/24/25 07:04*	*02/26/25 01:01*	*1*
d3-NMeFOSAA	*63.7*		*40 - 135*	*02/24/25 07:04*	*02/26/25 01:01*	*1*
d5-NEtFOSAA	*69.8*		*40 - 150*	*02/24/25 07:04*	*02/26/25 01:01*	*1*
13C2 4:2 FTS	*56.9*		*40 - 165*	*02/24/25 07:04*	*02/26/25 01:01*	*1*
13C2 6:2 FTS	*46.9*		*40 - 215*	*02/24/25 07:04*	*02/26/25 01:01*	*1*
13C2 8:2 FTS	*52.0*		*40 - 275*	*02/24/25 07:04*	*02/26/25 01:01*	*1*
13C3 HFPO-DA	*52.8*		*40 - 130*	*02/24/25 07:04*	*02/26/25 01:01*	*1*
d7-N-MeFOSE-M	*67.1*		*20 - 130*	*02/24/25 07:04*	*02/26/25 01:01*	*1*
d9-N-EtFOSE-M	*68.0*		*15 - 130*	*02/24/25 07:04*	*02/26/25 01:01*	*1*
d5-NEtPFOSA	*62.7*		*10 - 130*	*02/24/25 07:04*	*02/26/25 01:01*	*1*
d3-NMePFOSA	*64.1*		*10 - 130*	*02/24/25 07:04*	*02/26/25 01:01*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**120**		3.9	0.99	ug/Kg	☼	02/24/25 07:04	02/26/25 00:28	20

Client Sample ID: CFH-004-N-S006-01242025

Lab Sample ID: 320-118635-29
Date Collected: 01/24/25 13:15
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 91.8

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	51.3	*3	40 - 130	02/24/25 07:04	02/26/25 00:28	20

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	8.2		0.10	0.10	%			02/20/25 15:17	1

Client Sample ID: CFH-004-N-S015-01242025

Lab Sample ID: 320-118635-32
Date Collected: 01/24/25 13:25
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 85.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
Perfluoropentanoic acid (PFPeA)	0.056	J	0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
Perfluorohexanoic acid (PFHxA)	0.080	J	0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
Perfluorohexanesulfonic acid (PFHxS)	0.15	J	0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
Perfluorooctanesulfonic acid (PFOS)	1.4		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.73		0.40	0.10	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-2

Client Sample ID: CFH-004-N-S015-01242025
Date Collected: 01/24/25 13:25
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-32
Matrix: Solid
Percent Solids: 85.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/24/25 07:04	02/25/25 22:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*74.9*		*8 - 130*	*02/24/25 07:04*	*02/25/25 22:00*	*1*
13C5 PFPeA	*63.3*		*35 - 130*	*02/24/25 07:04*	*02/25/25 22:00*	*1*
13C5 PFHxA	*73.5*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:00*	*1*
13C4 PFHpA	*68.4*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:00*	*1*
13C8 PFOA	*66.1*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:00*	*1*
13C9 PFNA	*59.8*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:00*	*1*
13C6 PFDA	*60.7*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:00*	*1*
13C7 PFUnA	*61.3*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:00*	*1*
13C2 PFDoA	*63.6*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:00*	*1*
13C2 PFTeDA	*61.8*		*20 - 130*	*02/24/25 07:04*	*02/25/25 22:00*	*1*
13C3 PFBS	*57.9*		*40 - 135*	*02/24/25 07:04*	*02/25/25 22:00*	*1*
13C3 PFHxS	*68.9*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:00*	*1*
13C8 PFOS	*58.7*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:00*	*1*
13C8 FOSA	*51.6*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:00*	*1*
d3-NMeFOSAA	*54.5*		*40 - 135*	*02/24/25 07:04*	*02/25/25 22:00*	*1*
d5-NEtFOSAA	*55.7*		*40 - 150*	*02/24/25 07:04*	*02/25/25 22:00*	*1*
13C2 4:2 FTS	*54.3*		*40 - 165*	*02/24/25 07:04*	*02/25/25 22:00*	*1*
13C2 6:2 FTS	*60.4*		*40 - 215*	*02/24/25 07:04*	*02/25/25 22:00*	*1*
13C2 8:2 FTS	*52.2*		*40 - 275*	*02/24/25 07:04*	*02/25/25 22:00*	*1*
13C3 HFPO-DA	*61.1*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:00*	*1*
d7-N-MeFOSE-M	*52.3*		*20 - 130*	*02/24/25 07:04*	*02/25/25 22:00*	*1*
d9-N-EtFOSE-M	*50.3*		*15 - 130*	*02/24/25 07:04*	*02/25/25 22:00*	*1*
d5-NEtPFOSA	*41.0*		*10 - 130*	*02/24/25 07:04*	*02/25/25 22:00*	*1*
d3-NMePFOSA	*40.8*		*10 - 130*	*02/24/25 07:04*	*02/25/25 22:00*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**14**		0.10	0.10	%			02/20/25 15:17	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-2

Client Sample ID: CFH-003-N-S000-01242025
Date Collected: 01/24/25 14:15
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-33
Matrix: Solid
Percent Solids: 81.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.29**	**J**	0.40	0.10	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
Perfluoropentanoic acid (PFPeA)	**0.60**		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
Perfluorohexanoic acid (PFHxA)	**0.22**		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
Perfluoroheptanoic acid (PFHpA)	**0.32**		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
Perfluorooctanoic acid (PFOA)	**0.29**		0.20	0.063	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
Perfluorononanoic acid (PFNA)	**0.27**		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
Perfluorohexanesulfonic acid (PFHxS)	**0.94**		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.099**	**J**	0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
Perfluorooctanesulfonic acid (PFOS)	**2.8**		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.78**		0.40	0.10	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.064	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1

Client Sample ID: CFH-003-N-S000-01242025

Lab Sample ID: 320-118635-33
Date Collected: 01/24/25 14:15
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 81.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**0.92**	**J**	1.0	0.25	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/24/25 07:04	02/25/25 22:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*58.7*		*8 - 130*	*02/24/25 07:04*	*02/25/25 22:16*	*1*
13C5 PFPeA	*48.3*		*35 - 130*	*02/24/25 07:04*	*02/25/25 22:16*	*1*
13C5 PFHxA	*60.1*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:16*	*1*
13C4 PFHpA	*54.4*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:16*	*1*
13C8 PFOA	*50.5*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:16*	*1*
13C9 PFNA	*45.7*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:16*	*1*
13C6 PFDA	*45.2*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:16*	*1*
13C7 PFUnA	*39.6*	**5-*	*40 - 130*	*02/24/25 07:04*	*02/25/25 22:16*	*1*
13C2 PFDoA	*34.4*	**5-*	*40 - 130*	*02/24/25 07:04*	*02/25/25 22:16*	*1*
13C2 PFTeDA	*30.2*		*20 - 130*	*02/24/25 07:04*	*02/25/25 22:16*	*1*
13C3 PFBS	*45.0*		*40 - 135*	*02/24/25 07:04*	*02/25/25 22:16*	*1*
13C3 PFHxS	*60.0*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:16*	*1*
13C8 PFOS	*46.2*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:16*	*1*
13C8 FOSA	*34.7*	**5-*	*40 - 130*	*02/24/25 07:04*	*02/25/25 22:16*	*1*
d3-NMeFOSAA	*38.1*	**5-*	*40 - 135*	*02/24/25 07:04*	*02/25/25 22:16*	*1*
d5-NEtFOSAA	*36.0*	**5-*	*40 - 150*	*02/24/25 07:04*	*02/25/25 22:16*	*1*
13C2 4:2 FTS	*62.7*		*40 - 165*	*02/24/25 07:04*	*02/25/25 22:16*	*1*
13C2 6:2 FTS	*59.3*		*40 - 215*	*02/24/25 07:04*	*02/25/25 22:16*	*1*
13C2 8:2 FTS	*48.4*		*40 - 275*	*02/24/25 07:04*	*02/25/25 22:16*	*1*
13C3 HFPO-DA	*48.2*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:16*	*1*
d7-N-MeFOSE-M	*29.1*		*20 - 130*	*02/24/25 07:04*	*02/25/25 22:16*	*1*
d9-N-EtFOSE-M	*25.9*		*15 - 130*	*02/24/25 07:04*	*02/25/25 22:16*	*1*
d5-NEtPFOSA	*23.3*		*10 - 130*	*02/24/25 07:04*	*02/25/25 22:16*	*1*
d3-NMePFOSA	*23.9*		*10 - 130*	*02/24/25 07:04*	*02/25/25 22:16*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**18**		0.10	0.10	%			02/20/25 15:17	1

Client Sample ID: CFH-003-N-S006-01242025

Lab Sample ID: 320-118635-36
Date Collected: 01/24/25 14:30
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 91.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.099	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
Perfluoropentanoic acid (PFPeA)	**0.31**		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
Perfluorohexanoic acid (PFHxA)	**0.18**	**J**	0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-2

Client Sample ID: CFH-003-N-S006-01242025
Date Collected: 01/24/25 14:30
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-36
Matrix: Solid
Percent Solids: 91.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	**0.085**	**J**	0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
Perfluorohexanesulfonic acid (PFHxS)	**0.059**	**J**	0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
Perfluorooctanesulfonic acid (PFOS)	**0.13**	**J**	0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1

Client Sample ID: CFH-003-N-S006-01242025

Lab Sample ID: 320-118635-36
Date Collected: 01/24/25 14:30
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 91.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.099	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/24/25 07:04	02/25/25 22:33	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*78.2*		*8 - 130*	*02/24/25 07:04*	*02/25/25 22:33*	*1*
13C5 PFPeA	*63.9*		*35 - 130*	*02/24/25 07:04*	*02/25/25 22:33*	*1*
13C5 PFHxA	*81.2*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:33*	*1*
13C4 PFHpA	*67.0*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:33*	*1*
13C8 PFOA	*61.6*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:33*	*1*
13C9 PFNA	*57.7*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:33*	*1*
13C6 PFDA	*52.1*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:33*	*1*
13C7 PFUnA	*38.2*	*5-	*40 - 130*	*02/24/25 07:04*	*02/25/25 22:33*	*1*
13C2 PFDoA	*31.4*	*5-	*40 - 130*	*02/24/25 07:04*	*02/25/25 22:33*	*1*
13C2 PFTeDA	*34.6*		*20 - 130*	*02/24/25 07:04*	*02/25/25 22:33*	*1*
13C3 PFBS	*59.1*		*40 - 135*	*02/24/25 07:04*	*02/25/25 22:33*	*1*
13C3 PFHxS	*68.7*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:33*	*1*
13C8 PFOS	*53.7*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:33*	*1*
13C8 FOSA	*40.5*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:33*	*1*
d3-NMeFOSAA	*42.3*		*40 - 135*	*02/24/25 07:04*	*02/25/25 22:33*	*1*
d5-NEtFOSAA	*35.1*	*5-	*40 - 150*	*02/24/25 07:04*	*02/25/25 22:33*	*1*
13C2 4:2 FTS	*65.9*		*40 - 165*	*02/24/25 07:04*	*02/25/25 22:33*	*1*
13C2 6:2 FTS	*69.2*		*40 - 215*	*02/24/25 07:04*	*02/25/25 22:33*	*1*
13C2 8:2 FTS	*50.2*		*40 - 275*	*02/24/25 07:04*	*02/25/25 22:33*	*1*
13C3 HFPO-DA	*62.3*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:33*	*1*
d7-N-MeFOSE-M	*27.2*		*20 - 130*	*02/24/25 07:04*	*02/25/25 22:33*	*1*
d9-N-EtFOSE-M	*24.0*		*15 - 130*	*02/24/25 07:04*	*02/25/25 22:33*	*1*
d5-NEtPFOSA	*25.7*		*10 - 130*	*02/24/25 07:04*	*02/25/25 22:33*	*1*
d3-NMePFOSA	*26.4*		*10 - 130*	*02/24/25 07:04*	*02/25/25 22:33*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**9.0**		0.10	0.10	%			02/20/25 15:17	1

Client Sample ID: CFH-002-N-S000-01242025

Lab Sample ID: 320-118635-39
Date Collected: 01/24/25 15:00
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 79.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.21**	**J**	0.40	0.10	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
Perfluoropentanoic acid (PFPeA)	**0.49**		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
Perfluorohexanoic acid (PFHxA)	**0.41**		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
Perfluoroheptanoic acid (PFHpA)	**0.059**	**J**	0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
Perfluorononanoic acid (PFNA)	**0.43**		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
Perfluorodecanoic acid (PFDA)	**0.73**		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1

Client Sample ID: CFH-002-N-S000-01242025
Date Collected: 01/24/25 15:00
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-39
Matrix: Solid
Percent Solids: 79.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	**0.26**		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
Perfluorododecanoic acid (PFDoA)	**0.19**	**J**	0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
Perfluorotridecanoic acid (PFTrDA)	**0.064**	**J**	0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
Perfluorotetradecanoic acid (PFTeDA)	**0.074**	**J**	0.20	0.058	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
Perfluorohexanesulfonic acid (PFHxS)	**0.069**	**J**	0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.082**	**J**	0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
Perfluorooctanesulfonic acid (PFOS)	**18**		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**24**		0.40	0.10	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**1.0**		0.40	0.10	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
Perfluorooctanesulfonamide (PFOSA)	**0.14**	**J**	0.20	0.063	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1

Client Sample ID: CFH-002-N-S000-01242025

Lab Sample ID: 320-118635-39

Date Collected: 01/24/25 15:00
Date Received: 01/30/25 09:30

Matrix: Solid
Percent Solids: 79.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	**0.62**		0.40	0.10	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**7.6**		1.0	0.25	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/24/25 07:04	02/25/25 22:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*95.8*		*8 - 130*	*02/24/25 07:04*	*02/25/25 22:49*	*1*
13C5 PFPeA	*76.9*		*35 - 130*	*02/24/25 07:04*	*02/25/25 22:49*	*1*
13C5 PFHxA	*97.5*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:49*	*1*
13C4 PFHpA	*88.2*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:49*	*1*
13C8 PFOA	*85.6*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:49*	*1*
13C9 PFNA	*72.5*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:49*	*1*
13C6 PFDA	*57.2*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:49*	*1*
13C7 PFUnA	*47.5*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:49*	*1*
13C2 PFDoA	*35.0*	*5-	*40 - 130*	*02/24/25 07:04*	*02/25/25 22:49*	*1*
13C2 PFTeDA	*63.0*		*20 - 130*	*02/24/25 07:04*	*02/25/25 22:49*	*1*
13C3 PFBS	*80.8*		*40 - 135*	*02/24/25 07:04*	*02/25/25 22:49*	*1*
13C3 PFHxS	*93.2*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:49*	*1*
13C8 PFOS	*61.4*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:49*	*1*
13C8 FOSA	*49.1*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:49*	*1*
d3-NMeFOSAA	*50.9*		*40 - 135*	*02/24/25 07:04*	*02/25/25 22:49*	*1*
d5-NEtFOSAA	*50.0*		*40 - 150*	*02/24/25 07:04*	*02/25/25 22:49*	*1*
13C2 4:2 FTS	*113*		*40 - 165*	*02/24/25 07:04*	*02/25/25 22:49*	*1*
13C2 6:2 FTS	*90.1*		*40 - 215*	*02/24/25 07:04*	*02/25/25 22:49*	*1*
13C2 8:2 FTS	*71.5*		*40 - 275*	*02/24/25 07:04*	*02/25/25 22:49*	*1*
13C3 HFPO-DA	*83.8*		*40 - 130*	*02/24/25 07:04*	*02/25/25 22:49*	*1*
d7-N-MeFOSE-M	*30.5*		*20 - 130*	*02/24/25 07:04*	*02/25/25 22:49*	*1*
d9-N-EtFOSE-M	*27.6*		*15 - 130*	*02/24/25 07:04*	*02/25/25 22:49*	*1*
d5-NEtPFOSA	*32.0*		*10 - 130*	*02/24/25 07:04*	*02/25/25 22:49*	*1*
d3-NMePFOSA	*30.7*		*10 - 130*	*02/24/25 07:04*	*02/25/25 22:49*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**21**		0.10	0.10	%			02/20/25 15:17	1

Client Sample ID: CFH-001-N-S000-01242025

Lab Sample ID: 320-118635-46

Date Collected: 01/24/25 15:45
Date Received: 01/30/25 09:30

Matrix: Solid
Percent Solids: 84.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.38	0.095	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
Perfluoropentanoic acid (PFPeA)	**0.17**	**J**	0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
Perfluorohexanoic acid (PFHxA)	**0.080**	**J**	0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.059	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
Perfluorononanoic acid (PFNA)	**0.26**		0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
Perfluorodecanoic acid (PFDA)	**1.0**		0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1

Client Sample ID: CFH-001-N-S000-01242025
Date Collected: 01/24/25 15:45
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-46
Matrix: Solid
Percent Solids: 84.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	**0.18**	**J**	0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
Perfluorododecanoic acid (PFDoA)	**0.062**	**J**	0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.055	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
Perfluorohexanesulfonic acid (PFHxS)	**0.058**	**J**	0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
Perfluorooctanesulfonic acid (PFOS)	**10**		0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.38	0.095	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.45**		0.38	0.095	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**0.15**	**J**	0.38	0.095	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
Perfluorooctanesulfonamide (PFOSA)	**0.091**	**J**	0.19	0.060	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.95	0.24	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.95	0.24	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.059	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.071	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.047	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1

Client Sample ID: CFH-001-N-S000-01242025

Lab Sample ID: 320-118635-46

Date Collected: 01/24/25 15:45
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 84.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.38	0.095	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.95	0.24	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.95	0.24	ug/Kg	☼	02/24/25 07:04	02/25/25 23:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*86.8*		*8 - 130*	*02/24/25 07:04*	*02/25/25 23:39*	*1*
13C5 PFPeA	*77.3*		*35 - 130*	*02/24/25 07:04*	*02/25/25 23:39*	*1*
13C5 PFHxA	*90.8*		*40 - 130*	*02/24/25 07:04*	*02/25/25 23:39*	*1*
13C4 PFHpA	*78.8*		*40 - 130*	*02/24/25 07:04*	*02/25/25 23:39*	*1*
13C8 PFOA	*73.9*		*40 - 130*	*02/24/25 07:04*	*02/25/25 23:39*	*1*
13C9 PFNA	*76.6*		*40 - 130*	*02/24/25 07:04*	*02/25/25 23:39*	*1*
13C6 PFDA	*73.8*		*40 - 130*	*02/24/25 07:04*	*02/25/25 23:39*	*1*
13C7 PFUnA	*69.9*		*40 - 130*	*02/24/25 07:04*	*02/25/25 23:39*	*1*
13C2 PFDoA	*62.0*		*40 - 130*	*02/24/25 07:04*	*02/25/25 23:39*	*1*
13C2 PFTeDA	*55.5*		*20 - 130*	*02/24/25 07:04*	*02/25/25 23:39*	*1*
13C3 PFBS	*71.4*		*40 - 135*	*02/24/25 07:04*	*02/25/25 23:39*	*1*
13C3 PFHxS	*91.8*		*40 - 130*	*02/24/25 07:04*	*02/25/25 23:39*	*1*
13C8 PFOS	*74.8*		*40 - 130*	*02/24/25 07:04*	*02/25/25 23:39*	*1*
13C8 FOSA	*67.6*		*40 - 130*	*02/24/25 07:04*	*02/25/25 23:39*	*1*
d3-NMeFOSAA	*76.2*		*40 - 135*	*02/24/25 07:04*	*02/25/25 23:39*	*1*
d5-NEtFOSAA	*71.8*		*40 - 150*	*02/24/25 07:04*	*02/25/25 23:39*	*1*
13C2 4:2 FTS	*87.3*		*40 - 165*	*02/24/25 07:04*	*02/25/25 23:39*	*1*
13C2 6:2 FTS	*96.2*		*40 - 215*	*02/24/25 07:04*	*02/25/25 23:39*	*1*
13C2 8:2 FTS	*81.4*		*40 - 275*	*02/24/25 07:04*	*02/25/25 23:39*	*1*
13C3 HFPO-DA	*74.0*		*40 - 130*	*02/24/25 07:04*	*02/25/25 23:39*	*1*
d7-N-MeFOSE-M	*45.5*		*20 - 130*	*02/24/25 07:04*	*02/25/25 23:39*	*1*
d9-N-EtFOSE-M	*46.3*		*15 - 130*	*02/24/25 07:04*	*02/25/25 23:39*	*1*
d5-NEtPFOSA	*40.7*		*10 - 130*	*02/24/25 07:04*	*02/25/25 23:39*	*1*
d3-NMePFOSA	*48.1*		*10 - 130*	*02/24/25 07:04*	*02/25/25 23:39*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**16**		0.10	0.10	%			02/20/25 15:17	1

Client Sample ID: CFH-001-N-S006-01242025

Lab Sample ID: 320-118635-49

Date Collected: 01/24/25 16:00
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 89.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
Perfluoropentanoic acid (PFPeA)	**0.19**	**J**	0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
Perfluorohexanoic acid (PFHxA)	**0.14**	**J**	0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
Perfluoroheptanoic acid (PFHpA)	**0.14**	**J**	0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.063	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1

Client Sample ID: CFH-001-N-S006-01242025
Date Collected: 01/24/25 16:00
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-49
Matrix: Solid
Percent Solids: 89.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
Perfluorohexanesulfonic acid (PFHxS)	**0.20**		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
Perfluorooctanesulfonic acid (PFOS)	**0.058**	**J**	0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.064	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/24/25 07:04	02/25/25 23:55	1

Client Sample ID: CFH-001-N-S006-01242025

Date Collected: 01/24/25 16:00
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-49

Matrix: Solid
Percent Solids: 89.5

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	68.9		8 - 130	02/24/25 07:04	02/25/25 23:55	1
13C5 PFPeA	57.2		35 - 130	02/24/25 07:04	02/25/25 23:55	1
13C5 PFHxA	64.3		40 - 130	02/24/25 07:04	02/25/25 23:55	1
13C4 PFHpA	60.0		40 - 130	02/24/25 07:04	02/25/25 23:55	1
13C8 PFOA	56.2		40 - 130	02/24/25 07:04	02/25/25 23:55	1
13C9 PFNA	58.4		40 - 130	02/24/25 07:04	02/25/25 23:55	1
13C6 PFDA	58.2		40 - 130	02/24/25 07:04	02/25/25 23:55	1
13C7 PFUnA	60.4		40 - 130	02/24/25 07:04	02/25/25 23:55	1
13C2 PFDoA	66.1		40 - 130	02/24/25 07:04	02/25/25 23:55	1
13C2 PFTeDA	54.0		20 - 130	02/24/25 07:04	02/25/25 23:55	1
13C3 PFBS	51.0		40 - 135	02/24/25 07:04	02/25/25 23:55	1
13C3 PFHxS	63.7		40 - 130	02/24/25 07:04	02/25/25 23:55	1
13C8 PFOS	52.7		40 - 130	02/24/25 07:04	02/25/25 23:55	1
13C8 FOSA	54.5		40 - 130	02/24/25 07:04	02/25/25 23:55	1
d3-NMeFOSAA	60.4		40 - 135	02/24/25 07:04	02/25/25 23:55	1
d5-NEtFOSAA	63.9		40 - 150	02/24/25 07:04	02/25/25 23:55	1
13C2 4:2 FTS	58.7		40 - 165	02/24/25 07:04	02/25/25 23:55	1
13C2 6:2 FTS	55.0		40 - 215	02/24/25 07:04	02/25/25 23:55	1
13C2 8:2 FTS	52.7		40 - 275	02/24/25 07:04	02/25/25 23:55	1
13C3 HFPO-DA	55.3		40 - 130	02/24/25 07:04	02/25/25 23:55	1
d7-N-MeFOSE-M	55.7		20 - 130	02/24/25 07:04	02/25/25 23:55	1
d9-N-EtFOSE-M	53.9		15 - 130	02/24/25 07:04	02/25/25 23:55	1
d5-NEtPFOSA	50.8		10 - 130	02/24/25 07:04	02/25/25 23:55	1
d3-NMePFOSA	53.2		10 - 130	02/24/25 07:04	02/25/25 23:55	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	10		0.10	0.10	%			02/20/25 15:17	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118635-2
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (8-130)	PFPeA (35-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (40-130)
320-118635-1	FMB-003-N-S0005-01242025	89.4	86.6	81.9	89.0	86.6	92.8	87.1	83.7
320-118635-5	FMB-003-N-S006-01242025	86.1	80.7	83.6	83.2	85.2	85.4	83.9	86.6
320-118635-5 - RA	FMB-003-N-S006-01242025								
320-118635-8	FMB-003-N-S015-01242025	94.9	90.9	89.4	97.9	92.1	87.6	89.2	85.9
320-118635-8 - RA	FMB-003-N-S015-01242025								
320-118635-9	FMB-002-N-S0005-01242025	90.5	91.2	88.4	96.3	91.1	90.3	87.0	84.3
320-118635-12	FMB-002-N-S006-01242026	78.1	80.3	80.8	86.0	89.0	86.8	82.7	85.3
320-118635-15	CFH-007-N-S000-01242025	73.0	54.5	71.9	59.1	64.1	56.0	56.0	58.4
320-118635-19 - DL	CFH-006-N-S000-01242025								
320-118635-19	CFH-006-N-S000-01242025	59.0	45.8	58.9	55.0	55.6	47.5	47.2	42.0
320-118635-21 - DL	CFH-005-N-S000-01242025								
320-118635-21	CFH-005-N-S000-01242025	85.7	71.2	83.9	70.0	69.8	59.2	51.9	40.9
320-118635-26	CFH-004-N-S000-01242025	43.1	36.4	42.8	38.5 *5-	37.4 *5-	38.2 *5-	33.8 *5-	25.1 *5-
320-118635-26 - DL	CFH-004-N-S000-01242025								
320-118635-26 - RA	CFH-004-N-S000-01242025								
320-118635-29 - DL	CFH-004-N-S006-01242025								
320-118635-29	CFH-004-N-S006-01242025	61.9	50.8	60.1	58.6	50.8	48.1	52.9	56.0
320-118635-32	CFH-004-N-S015-01242025	74.9	63.3	73.5	68.4	66.1	59.8	60.7	61.3
320-118635-33	CFH-003-N-S000-01242025	58.7	48.3	60.1	54.4	50.5	45.7	45.2	39.6 *5-
320-118635-36	CFH-003-N-S006-01242025	78.2	63.9	81.2	67.0	61.6	57.7	52.1	38.2 *5-
320-118635-39	CFH-002-N-S000-01242025	95.8	76.9	97.5	88.2	85.6	72.5	57.2	47.5
320-118635-46	CFH-001-N-S000-01242025	86.8	77.3	90.8	78.8	73.9	76.6	73.8	69.9
320-118635-49	CFH-001-N-S006-01242025	68.9	57.2	64.3	60.0	56.2	58.4	58.2	60.4
LCS 320-835188/3-A	Lab Control Sample	111	98.0	109	98.5	83.5	85.1	82.9	77.1
LCS 320-836188/3-A	Lab Control Sample	91.8	85.9	93.1	91.5	84.2	84.5	84.2	83.6
LCSD 320-835188/4-A	Lab Control Sample Dup	105	92.8	105	95.1	84.9	84.1	72.2	68.9
LCSD 320-836188/4-A	Lab Control Sample Dup	93.7	85.8	93.1	92.2	87.4	86.1	79.0	70.2
LLCS 320-835188/2-A	Lab Control Sample	120	96.7	112	94.0	93.8	87.9	77.3	77.0
LLCS 320-836188/2-A	Lab Control Sample	90.5	84.3	87.5	91.1	82.3	86.3	79.4	77.6
MB 320-835188/1-A	Method Blank	115	89.3	117	104	86.3	90.5	89.7	80.2
MB 320-836188/1-A	Method Blank	94.3	84.8	77.1	87.3	88.5	83.3	83.6	77.0

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (40-130)	PFTDA (20-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-135)	d5NEFOS (40-150)
320-118635-1	FMB-003-N-S0005-01242025	83.5	72.9	69.3	74.6	80.1	76.9	101	102
320-118635-5	FMB-003-N-S006-01242025	88.6	86.1	65.0	75.3	80.0	70.5	93.6	97.8
320-118635-5 - RA	FMB-003-N-S006-01242025								
320-118635-8	FMB-003-N-S015-01242025	93.4	84.2	77.2	78.2	80.0	74.5	98.8	105
320-118635-8 - RA	FMB-003-N-S015-01242025								
320-118635-9	FMB-002-N-S0005-01242025	86.2	79.4	75.2	75.2	77.3	70.7	98.3	96.0
320-118635-12	FMB-002-N-S006-01242026	85.2	73.4	73.3	76.5	77.6	76.2	107	110
320-118635-15	CFH-007-N-S000-01242025	53.9	43.4	62.3	69.5	51.2	47.3	51.8	52.9
320-118635-19 - DL	CFH-006-N-S000-01242025					43.0 *3	35.0 *3 *5-		
320-118635-19	CFH-006-N-S000-01242025	40.2	34.0	50.5	60.7	52.5		50.7	50.0
320-118635-21 - DL	CFH-005-N-S000-01242025					71.5 *3			
320-118635-21	CFH-005-N-S000-01242025	31.6 *5-	49.5	70.8	84.0	73.8 *3	84.0 *3	90.1 *3	76.4 *3
320-118635-26	CFH-004-N-S000-01242025	19.1 *5-	18.3 *5-	39.2 *5-	46.5	37.8 *5-	39.2 *5-	28.5 *5-	24.8 *5-
320-118635-26 - DL	CFH-004-N-S000-01242025					42.6 *3			

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118635-2
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Solid
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (40-130)	PFTDA (20-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-135)	d5NEFOS (40-150)
320-118635-26 - RA	CFH-004-N-S000-01242025								
320-118635-29 - DL	CFH-004-N-S006-01242025					51.3 *3			
320-118635-29	CFH-004-N-S006-01242025	58.8	61.5	44.7	55.1	56.0	65.3	63.7	69.8
320-118635-32	CFH-004-N-S015-01242025	63.6	61.8	57.9	68.9	58.7	51.6	54.5	55.7
320-118635-33	CFH-003-N-S000-01242025	34.4 *5-	30.2	45.0	60.0	46.2	34.7 *5-	38.1 *5-	36.0 *5-
320-118635-36	CFH-003-N-S006-01242025	31.4 *5-	34.6	59.1	68.7	53.7	40.5	42.3	35.1 *5-
320-118635-39	CFH-002-N-S000-01242025	35.0 *5-	63.0	80.8	93.2	61.4	49.1	50.9	50.0
320-118635-46	CFH-001-N-S000-01242025	62.0	55.5	71.4	91.8	74.8	67.6	76.2	71.8
320-118635-49	CFH-001-N-S006-01242025	66.1	54.0	51.0	63.7	52.7	54.5	60.4	63.9
LCS 320-835188/3-A	Lab Control Sample	67.0	64.9	89.9	104	80.6	68.1	79.0	78.7
LCS 320-836188/3-A	Lab Control Sample	80.8	69.8	71.1	73.1	81.9	72.5	114	109
LCSD 320-835188/4-A	Lab Control Sample Dup	63.4	54.5	95.6	110	80.6	66.0	72.3	74.6
LCSD 320-836188/4-A	Lab Control Sample Dup	63.3	52.6	75.7	82.4	77.2	59.5	95.8	95.8
LLCS 320-835188/2-A	Lab Control Sample	78.4	69.7	98.7	109	78.5	68.3	72.1	74.2
LLCS 320-836188/2-A	Lab Control Sample	72.5	65.3	63.5	71.2	73.7	65.5	104	104
MB 320-835188/1-A	Method Blank	81.3	73.1	88.2	109	85.9	73.9	84.9	78.7
MB 320-836188/1-A	Method Blank	76.7	65.0	77.4	80.4	80.8	67.5	110	110

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118635-1	FMB-003-N-S0005-01242025	127	123	144	98.9	68.6	56.5	64.5	66.8
320-118635-5	FMB-003-N-S006-01242025	101			96.2	75.6	60.5	63.0	61.3
320-118635-5 - RA	FMB-003-N-S006-01242025		89.3	95.8					
320-118635-8	FMB-003-N-S015-01242025	126		152	99.9	79.5	64.9	55.5	57.3
320-118635-8 - RA	FMB-003-N-S015-01242025		110						
320-118635-9	FMB-002-N-S0005-01242025	128	131	144	104	67.0	53.4	52.1	51.9
320-118635-12	FMB-002-N-S006-01242026	120	130	138	91.1	76.7	60.5	68.7	67.4
320-118635-15	CFH-007-N-S000-01242025	67.6	62.7	66.9	56.2	36.5	31.5	22.7	25.5
320-118635-19 - DL	CFH-006-N-S000-01242025			45.0 *3					
320-118635-19	CFH-006-N-S000-01242025	55.1	52.9		48.5	42.3	41.5	31.1	33.8
320-118635-21 - DL	CFH-005-N-S000-01242025			60.1 *3					
320-118635-21	CFH-005-N-S000-01242025	94.5	85.5		70.3	68.4 *3	57.4 *3	57.7 *3	57.8 *3
320-118635-26	CFH-004-N-S000-01242025				32.5 *5-	25.4	21.8	20.7	21.7
320-118635-26 - DL	CFH-004-N-S000-01242025								
320-118635-26 - RA	CFH-004-N-S000-01242025	49.6	46.6	35.7 *5-					
320-118635-29 - DL	CFH-004-N-S006-01242025								
320-118635-29	CFH-004-N-S006-01242025	56.9	46.9	52.0	52.8	67.1	68.0	62.7	64.1
320-118635-32	CFH-004-N-S015-01242025	54.3	60.4	52.2	61.1	52.3	50.3	41.0	40.8
320-118635-33	CFH-003-N-S000-01242025	62.7	59.3	48.4	48.2	29.1	25.9	23.3	23.9
320-118635-36	CFH-003-N-S006-01242025	65.9	69.2	50.2	62.3	27.2	24.0	25.7	26.4
320-118635-39	CFH-002-N-S000-01242025	113	90.1	71.5	83.8	30.5	27.6	32.0	30.7
320-118635-46	CFH-001-N-S000-01242025	87.3	96.2	81.4	74.0	45.5	46.3	40.7	48.1
320-118635-49	CFH-001-N-S006-01242025	58.7	55.0	52.7	55.3	55.7	53.9	50.8	53.2
LCS 320-835188/3-A	Lab Control Sample	102	96.5	85.9	87.4	53.0	51.3	40.6	41.0
LCS 320-836188/3-A	Lab Control Sample	127	137	142	102	66.1	54.5	50.3	49.8
LCSD 320-835188/4-A	Lab Control Sample Dup	106	98.7	87.7	91.4	34.7	31.2	31.9	34.1
LCSD 320-836188/4-A	Lab Control Sample Dup	133	142	145	103	46.3	37.3	37.5	37.7
LLCS 320-835188/2-A	Lab Control Sample	116	102	98.3	93.4	68.1	63.6	43.4	40.0
LLCS 320-836188/2-A	Lab Control Sample	127	136	138	95.9	63.2	51.4	45.3	42.9
MB 320-835188/1-A	Method Blank	97.3	95.0	91.8	91.0	58.5	55.6	47.5	46.7

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118635-2
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Solid
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
MB 320-836188/1-A	Method Blank	140	143	147	101	56.7	46.5	40.7	39.6

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-835188/1-A
Matrix: Solid
Analysis Batch: 836082

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 835188

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-835188/1-A
Matrix: Solid
Analysis Batch: 836082

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 835188

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		02/24/25 07:04	02/25/25 20:37	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		02/24/25 07:04	02/25/25 20:37	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*115*		*8 - 130*	*02/24/25 07:04*	*02/25/25 20:37*	*1*
13C5 PFPeA	*89.3*		*35 - 130*	*02/24/25 07:04*	*02/25/25 20:37*	*1*
13C5 PFHxA	*117*		*40 - 130*	*02/24/25 07:04*	*02/25/25 20:37*	*1*
13C4 PFHpA	*104*		*40 - 130*	*02/24/25 07:04*	*02/25/25 20:37*	*1*
13C8 PFOA	*86.3*		*40 - 130*	*02/24/25 07:04*	*02/25/25 20:37*	*1*
13C9 PFNA	*90.5*		*40 - 130*	*02/24/25 07:04*	*02/25/25 20:37*	*1*
13C6 PFDA	*89.7*		*40 - 130*	*02/24/25 07:04*	*02/25/25 20:37*	*1*
13C7 PFUnA	*80.2*		*40 - 130*	*02/24/25 07:04*	*02/25/25 20:37*	*1*
13C2 PFDoA	*81.3*		*40 - 130*	*02/24/25 07:04*	*02/25/25 20:37*	*1*
13C2 PFTeDA	*73.1*		*20 - 130*	*02/24/25 07:04*	*02/25/25 20:37*	*1*
13C3 PFBS	*88.2*		*40 - 135*	*02/24/25 07:04*	*02/25/25 20:37*	*1*
13C3 PFHxS	*109*		*40 - 130*	*02/24/25 07:04*	*02/25/25 20:37*	*1*
13C8 PFOS	*85.9*		*40 - 130*	*02/24/25 07:04*	*02/25/25 20:37*	*1*
13C8 FOSA	*73.9*		*40 - 130*	*02/24/25 07:04*	*02/25/25 20:37*	*1*
d3-NMeFOSAA	*84.9*		*40 - 135*	*02/24/25 07:04*	*02/25/25 20:37*	*1*
d5-NEtFOSAA	*78.7*		*40 - 150*	*02/24/25 07:04*	*02/25/25 20:37*	*1*
13C2 4:2 FTS	*97.3*		*40 - 165*	*02/24/25 07:04*	*02/25/25 20:37*	*1*
13C2 6:2 FTS	*95.0*		*40 - 215*	*02/24/25 07:04*	*02/25/25 20:37*	*1*
13C2 8:2 FTS	*91.8*		*40 - 275*	*02/24/25 07:04*	*02/25/25 20:37*	*1*
13C3 HFPO-DA	*91.0*		*40 - 130*	*02/24/25 07:04*	*02/25/25 20:37*	*1*
d7-N-MeFOSE-M	*58.5*		*20 - 130*	*02/24/25 07:04*	*02/25/25 20:37*	*1*
d9-N-EtFOSE-M	*55.6*		*15 - 130*	*02/24/25 07:04*	*02/25/25 20:37*	*1*
d5-NEtPFOSA	*47.5*		*10 - 130*	*02/24/25 07:04*	*02/25/25 20:37*	*1*
d3-NMePFOSA	*46.7*		*10 - 130*	*02/24/25 07:04*	*02/25/25 20:37*	*1*

Lab Sample ID: LCS 320-835188/3-A
Matrix: Solid
Analysis Batch: 836082

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835188

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.40		ug/Kg		88	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.63		ug/Kg		105	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.35		ug/Kg		94	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.57		ug/Kg		103	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.50		ug/Kg		100	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.60		ug/Kg		104	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.59		ug/Kg		104	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-835188/3-A
Matrix: Solid
Analysis Batch: 836082

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835188

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.61		ug/Kg		104	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.51		ug/Kg		100	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.38		ug/Kg		95	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.66		ug/Kg		106	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.52		ug/Kg		114	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.12		ug/Kg		90	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.05		ug/Kg		90	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.60		ug/Kg		109	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.43		ug/Kg		105	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.27		ug/Kg		94	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.05		ug/Kg		85	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	1.73		ug/Kg		71	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.38		ug/Kg		93	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.69		ug/Kg		98	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	5.16		ug/Kg		108	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.63		ug/Kg		105	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.66		ug/Kg		106	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.58		ug/Kg		103	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.76		ug/Kg		110	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.51		ug/Kg		100	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.4		ug/Kg		99	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	11.9		ug/Kg		96	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	2.07		ug/Kg		110	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.49		ug/Kg		105	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.38		ug/Kg		95	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.25		ug/Kg		90	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.32		ug/Kg		93	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-835188/3-A
Matrix: Solid
Analysis Batch: 836082

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835188

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.27		ug/Kg		97	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.79		ug/Kg		76	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.95		ug/Kg		87	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.77		ug/Kg		95	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.9		ug/Kg		87	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	9.84		ug/Kg		79	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*111*		*8 - 130*
13C5 PFPeA	*98.0*		*35 - 130*
13C5 PFHxA	*109*		*40 - 130*
13C4 PFHpA	*98.5*		*40 - 130*
13C8 PFOA	*83.5*		*40 - 130*
13C9 PFNA	*85.1*		*40 - 130*
13C6 PFDA	*82.9*		*40 - 130*
13C7 PFUnA	*77.1*		*40 - 130*
13C2 PFDoA	*67.0*		*40 - 130*
13C2 PFTeDA	*64.9*		*20 - 130*
13C3 PFBS	*89.9*		*40 - 135*
13C3 PFHxS	*104*		*40 - 130*
13C8 PFOS	*80.6*		*40 - 130*
13C8 FOSA	*68.1*		*40 - 130*
d3-NMeFOSAA	*79.0*		*40 - 135*
d5-NEtFOSAA	*78.7*		*40 - 150*
13C2 4:2 FTS	*102*		*40 - 165*
13C2 6:2 FTS	*96.5*		*40 - 215*
13C2 8:2 FTS	*85.9*		*40 - 275*
13C3 HFPO-DA	*87.4*		*40 - 130*
d7-N-MeFOSE-M	*53.0*		*20 - 130*
d9-N-EtFOSE-M	*51.3*		*15 - 130*
d5-NEtPFOSA	*40.6*		*10 - 130*
d3-NMePFOSA	*41.0*		*10 - 130*

Lab Sample ID: LCSD 320-835188/4-A
Matrix: Solid
Analysis Batch: 836082

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 835188

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.90		ug/Kg		98	70 - 140	11	30
Perfluoropentanoic acid (PFPeA)			2.50	2.66		ug/Kg		107	60 - 150	1	30
Perfluorohexanoic acid (PFHxA)			2.50	2.37		ug/Kg		95	65 - 140	1	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.37		ug/Kg		95	65 - 145	8	30
Perfluorooctanoic acid (PFOA)			2.50	2.56		ug/Kg		102	70 - 150	2	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-835188/4-A
Matrix: Solid
Analysis Batch: 836082

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 835188

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.49		ug/Kg		100	70 - 155	4	30
Perfluorodecanoic acid (PFDA)	2.50	2.87		ug/Kg		115	70 - 155	10	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.76		ug/Kg		110	70 - 155	5	30
Perfluorododecanoic acid (PFDoA)	2.50	2.53		ug/Kg		101	70 - 150	1	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.11		ug/Kg		85	65 - 150	12	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.76		ug/Kg		111	65 - 150	4	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.37		ug/Kg		107	65 - 145	6	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.03		ug/Kg		87	55 - 160	4	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.99		ug/Kg		87	60 - 150	3	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.39		ug/Kg		100	65 - 155	9	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.28		ug/Kg		98	65 - 160	6	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.12		ug/Kg		88	55 - 140	7	30
Perfluorodecanesulfonic acid (PFDS)	2.41	1.95		ug/Kg		81	40 - 155	5	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	1.38		ug/Kg		57	25 - 160	23	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.62		ug/Kg		99	60 - 150	5	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.67		ug/Kg		98	55 - 200	0	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.70		ug/Kg		98	70 - 150	9	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.55		ug/Kg		102	70 - 140	3	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.66		ug/Kg		106	70 - 155	0	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.44		ug/Kg		98	70 - 140	6	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.77		ug/Kg		111	65 - 155	0	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.36		ug/Kg		94	65 - 165	6	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.9		ug/Kg		95	70 - 140	4	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.8		ug/Kg		102	70 - 135	7	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.84		ug/Kg		98	70 - 145	11	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.05		ug/Kg		87	70 - 160	20	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.38		ug/Kg		95	30 - 140	0	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.44		ug/Kg		98	60 - 150	8	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-835188/4-A
Matrix: Solid
Analysis Batch: 836082

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 835188

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	1.97		ug/Kg		79	60 - 155	16	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	1.97		ug/Kg		85	70 - 150	14	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.49		ug/Kg		63	45 - 160	18	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.86		ug/Kg		83	70 - 140	5	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.96		ug/Kg		99	45 - 130	4	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.7		ug/Kg		85	60 - 130	2	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	9.68		ug/Kg		77	60 - 150	2	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*105*		*8 - 130*
13C5 PFPeA	*92.8*		*35 - 130*
13C5 PFHxA	*105*		*40 - 130*
13C4 PFHpA	*95.1*		*40 - 130*
13C8 PFOA	*84.9*		*40 - 130*
13C9 PFNA	*84.1*		*40 - 130*
13C6 PFDA	*72.2*		*40 - 130*
13C7 PFUnA	*68.9*		*40 - 130*
13C2 PFDoA	*63.4*		*40 - 130*
13C2 PFTeDA	*54.5*		*20 - 130*
13C3 PFBS	*95.6*		*40 - 135*
13C3 PFHxS	*110*		*40 - 130*
13C8 PFOS	*80.6*		*40 - 130*
13C8 FOSA	*66.0*		*40 - 130*
d3-NMeFOSAA	*72.3*		*40 - 135*
d5-NEtFOSAA	*74.6*		*40 - 150*
13C2 4:2 FTS	*106*		*40 - 165*
13C2 6:2 FTS	*98.7*		*40 - 215*
13C2 8:2 FTS	*87.7*		*40 - 275*
13C3 HFPO-DA	*91.4*		*40 - 130*
d7-N-MeFOSE-M	*34.7*		*20 - 130*
d9-N-EtFOSE-M	*31.2*		*15 - 130*
d5-NEtPFOSA	*31.9*		*10 - 130*
d3-NMePFOSA	*34.1*		*10 - 130*

Lab Sample ID: LLCS 320-835188/2-A
Matrix: Solid
Analysis Batch: 836082

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835188

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.666		ug/Kg		83	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.448		ug/Kg		112	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.343		ug/Kg		86	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-835188/2-A
Matrix: Solid
Analysis Batch: 836082

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835188

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.410		ug/Kg		102	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.371		ug/Kg		93	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.389		ug/Kg		97	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.470		ug/Kg		117	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.394		ug/Kg		98	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.375		ug/Kg		94	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.365		ug/Kg		91	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.418		ug/Kg		104	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.363		ug/Kg		102	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.312		ug/Kg		83	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.316		ug/Kg		87	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.356		ug/Kg		93	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.342		ug/Kg		92	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.327		ug/Kg		85	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.281		ug/Kg		73	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.262		ug/Kg		67	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.742		ug/Kg		99	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.713		ug/Kg		94	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.682		ug/Kg		89	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.378		ug/Kg		94	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.423		ug/Kg		106	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.362		ug/Kg		90	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.427		ug/Kg		107	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.381		ug/Kg		95	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.73		ug/Kg		87	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	1.82		ug/Kg		91	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.292		ug/Kg		97	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.340		ug/Kg		90	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.379		ug/Kg		95	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-835188/2-A
Matrix: Solid
Analysis Batch: 836082

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 835188

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.390		ug/Kg		97	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.320		ug/Kg		80	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.295		ug/Kg		79	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.256		ug/Kg		68	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.293		ug/Kg		82	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.705		ug/Kg		88	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	1.60		ug/Kg		80	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	1.40		ug/Kg		70	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*120*		*8 - 130*
13C5 PFPeA	*96.7*		*35 - 130*
13C5 PFHxA	*112*		*40 - 130*
13C4 PFHpA	*94.0*		*40 - 130*
13C8 PFOA	*93.8*		*40 - 130*
13C9 PFNA	*87.9*		*40 - 130*
13C6 PFDA	*77.3*		*40 - 130*
13C7 PFUnA	*77.0*		*40 - 130*
13C2 PFDoA	*78.4*		*40 - 130*
13C2 PFTeDA	*69.7*		*20 - 130*
13C3 PFBS	*98.7*		*40 - 135*
13C3 PFHxS	*109*		*40 - 130*
13C8 PFOS	*78.5*		*40 - 130*
13C8 FOSA	*68.3*		*40 - 130*
d3-NMeFOSAA	*72.1*		*40 - 135*
d5-NEtFOSAA	*74.2*		*40 - 150*
13C2 4:2 FTS	*116*		*40 - 165*
13C2 6:2 FTS	*102*		*40 - 215*
13C2 8:2 FTS	*98.3*		*40 - 275*
13C3 HFPO-DA	*93.4*		*40 - 130*
d7-N-MeFOSE-M	*68.1*		*20 - 130*
d9-N-EtFOSE-M	*63.6*		*15 - 130*
d5-NEtPFOSA	*43.4*		*10 - 130*
d3-NMePFOSA	*40.0*		*10 - 130*

Lab Sample ID: MB 320-836188/1-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 836188

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		02/27/25 09:28	02/28/25 18:20	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-836188/1-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 836188

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-836188/1-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 836188

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		02/27/25 09:28	02/28/25 18:20	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*94.3*		*8 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C5 PFPeA	*84.8*		*35 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C5 PFHxA	*77.1*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C4 PFHpA	*87.3*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C8 PFOA	*88.5*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C9 PFNA	*83.3*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C6 PFDA	*83.6*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C7 PFUnA	*77.0*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C2 PFDoA	*76.7*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C2 PFTeDA	*65.0*		*20 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C3 PFBS	*77.4*		*40 - 135*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C3 PFHxS	*80.4*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C8 PFOS	*80.8*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C8 FOSA	*67.5*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
d3-NMeFOSAA	*110*		*40 - 135*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
d5-NEtFOSAA	*110*		*40 - 150*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C2 4:2 FTS	*140*		*40 - 165*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C2 6:2 FTS	*143*		*40 - 215*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C2 8:2 FTS	*147*		*40 - 275*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C3 HFPO-DA	*101*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
d7-N-MeFOSE-M	*56.7*		*20 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
d9-N-EtFOSE-M	*46.5*		*15 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
d5-NEtPFOSA	*40.7*		*10 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
d3-NMePFOSA	*39.6*		*10 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*

Lab Sample ID: LCS 320-836188/3-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836188

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	5.05		ug/Kg		101	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.63		ug/Kg		105	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.45		ug/Kg		98	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.57		ug/Kg		103	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.66		ug/Kg		107	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.65		ug/Kg		106	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	3.00		ug/Kg		120	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-836188/3-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836188

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.71		ug/Kg		108	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.51		ug/Kg		100	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.54		ug/Kg		102	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.84		ug/Kg		114	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.20		ug/Kg		99	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.40		ug/Kg		102	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.15		ug/Kg		94	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.35		ug/Kg		98	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.12		ug/Kg		91	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.48		ug/Kg		103	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	1.96		ug/Kg		81	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	1.88		ug/Kg		78	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.07		ug/Kg		87	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.31		ug/Kg		91	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	5.01		ug/Kg		104	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.70		ug/Kg		108	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	3.18		ug/Kg		127	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.77		ug/Kg		111	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.51		ug/Kg		100	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.43		ug/Kg		97	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.6		ug/Kg		93	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	13.3		ug/Kg		107	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.75		ug/Kg		93	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	1.89		ug/Kg		80	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.38		ug/Kg		95	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.94		ug/Kg		118	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.53		ug/Kg		101	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-836188/3-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836188

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.08		ug/Kg		89	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.74		ug/Kg		74	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.87		ug/Kg		84	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.96		ug/Kg		99	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.7		ug/Kg		86	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.6		ug/Kg		93	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*91.8*		*8 - 130*
13C5 PFPeA	*85.9*		*35 - 130*
13C5 PFHxA	*93.1*		*40 - 130*
13C4 PFHpA	*91.5*		*40 - 130*
13C8 PFOA	*84.2*		*40 - 130*
13C9 PFNA	*84.5*		*40 - 130*
13C6 PFDA	*84.2*		*40 - 130*
13C7 PFUnA	*83.6*		*40 - 130*
13C2 PFDoA	*80.8*		*40 - 130*
13C2 PFTeDA	*69.8*		*20 - 130*
13C3 PFBS	*71.1*		*40 - 135*
13C3 PFHxS	*73.1*		*40 - 130*
13C8 PFOS	*81.9*		*40 - 130*
13C8 FOSA	*72.5*		*40 - 130*
d3-NMeFOSAA	*114*		*40 - 135*
d5-NEtFOSAA	*109*		*40 - 150*
13C2 4:2 FTS	*127*		*40 - 165*
13C2 6:2 FTS	*137*		*40 - 215*
13C2 8:2 FTS	*142*		*40 - 275*
13C3 HFPO-DA	*102*		*40 - 130*
d7-N-MeFOSE-M	*66.1*		*20 - 130*
d9-N-EtFOSE-M	*54.5*		*15 - 130*
d5-NEtPFOSA	*50.3*		*10 - 130*
d3-NMePFOSA	*49.8*		*10 - 130*

Lab Sample ID: LCSD 320-836188/4-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 836188

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	5.15		ug/Kg		103	70 - 140	2	30
Perfluoropentanoic acid (PFPeA)			2.50	2.87		ug/Kg		115	60 - 150	9	30
Perfluorohexanoic acid (PFHxA)			2.50	2.49		ug/Kg		100	65 - 140	2	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.57		ug/Kg		103	65 - 145	0	30
Perfluorooctanoic acid (PFOA)			2.50	2.65		ug/Kg		106	70 - 150	0	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-836188/4-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 836188

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.71		ug/Kg		109	70 - 155	2	30
Perfluorodecanoic acid (PFDA)	2.50	3.18		ug/Kg		127	70 - 155	6	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.84		ug/Kg		113	70 - 155	5	30
Perfluorododecanoic acid (PFDoA)	2.50	2.72		ug/Kg		109	70 - 150	8	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.64		ug/Kg		105	65 - 150	4	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.95		ug/Kg		118	65 - 150	4	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.09		ug/Kg		94	65 - 145	5	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.38		ug/Kg		101	55 - 160	1	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.08		ug/Kg		91	60 - 150	3	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.76		ug/Kg		116	65 - 155	16	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.30		ug/Kg		99	65 - 160	8	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.45		ug/Kg		102	55 - 140	1	30
Perfluorodecanesulfonic acid (PFDS)	2.41	1.86		ug/Kg		77	40 - 155	5	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	1.63		ug/Kg		67	25 - 160	14	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.07		ug/Kg		87	60 - 150	0	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.88		ug/Kg		102	55 - 200	12	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.48		ug/Kg		93	70 - 150	11	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.91		ug/Kg		116	70 - 140	7	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	3.18		ug/Kg		127	70 - 155	0	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.83		ug/Kg		113	70 - 140	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.82		ug/Kg		113	65 - 155	11	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.44		ug/Kg		98	65 - 165	1	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.8		ug/Kg		95	70 - 140	2	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	14.6		ug/Kg		117	70 - 135	9	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.85		ug/Kg		98	70 - 145	6	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.03		ug/Kg		86	70 - 160	7	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.53		ug/Kg		101	30 - 140	6	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.85		ug/Kg		114	60 - 150	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-836188/4-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 836188

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.48		ug/Kg		99	60 - 155	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.14		ug/Kg		92	70 - 150	3	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.53		ug/Kg		65	45 - 160	13	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.01		ug/Kg		90	70 - 140	7	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.56		ug/Kg		111	45 - 130	11	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.4		ug/Kg		91	60 - 130	6	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	12.1		ug/Kg		97	60 - 150	4	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*93.7*		*8 - 130*
13C5 PFPeA	*85.8*		*35 - 130*
13C5 PFHxA	*93.1*		*40 - 130*
13C4 PFHpA	*92.2*		*40 - 130*
13C8 PFOA	*87.4*		*40 - 130*
13C9 PFNA	*86.1*		*40 - 130*
13C6 PFDA	*79.0*		*40 - 130*
13C7 PFUnA	*70.2*		*40 - 130*
13C2 PFDoA	*63.3*		*40 - 130*
13C2 PFTeDA	*52.6*		*20 - 130*
13C3 PFBS	*75.7*		*40 - 135*
13C3 PFHxS	*82.4*		*40 - 130*
13C8 PFOS	*77.2*		*40 - 130*
13C8 FOSA	*59.5*		*40 - 130*
d3-NMeFOSAA	*95.8*		*40 - 135*
d5-NEtFOSAA	*95.8*		*40 - 150*
13C2 4:2 FTS	*133*		*40 - 165*
13C2 6:2 FTS	*142*		*40 - 215*
13C2 8:2 FTS	*145*		*40 - 275*
13C3 HFPO-DA	*103*		*40 - 130*
d7-N-MeFOSE-M	*46.3*		*20 - 130*
d9-N-EtFOSE-M	*37.3*		*15 - 130*
d5-NEtPFOSA	*37.5*		*10 - 130*
d3-NMePFOSA	*37.7*		*10 - 130*

Lab Sample ID: LLCS 320-836188/2-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836188

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.816		ug/Kg		102	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.447		ug/Kg		112	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.446		ug/Kg		111	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-836188/2-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836188

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.426		ug/Kg		107	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.470		ug/Kg		118	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.427		ug/Kg		107	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.536		ug/Kg		134	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.450		ug/Kg		113	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.438		ug/Kg		109	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.458		ug/Kg		114	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.484		ug/Kg		121	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.477		ug/Kg		134	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.392		ug/Kg		104	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.392		ug/Kg		108	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.432		ug/Kg		113	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.415		ug/Kg		112	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.442		ug/Kg		115	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.329		ug/Kg		85	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.357		ug/Kg		92	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.701		ug/Kg		93	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.799		ug/Kg		105	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.727		ug/Kg		95	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.451		ug/Kg		113	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.536		ug/Kg		134	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.453		ug/Kg		113	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.442		ug/Kg		110	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.414		ug/Kg		104	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.91		ug/Kg		95	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.33		ug/Kg		117	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.293		ug/Kg		98	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.327		ug/Kg		86	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.407		ug/Kg		102	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-836188/2-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836188

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.400	0.449		ug/Kg		112	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.400	0.440		ug/Kg		110	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	0.374	0.354		ug/Kg		95	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	0.378	0.301		ug/Kg		80	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.357	0.307		ug/Kg		86	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.800	0.727		ug/Kg		91	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	2.00	1.79		ug/Kg		90	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	2.00	2.08		ug/Kg		104	60 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*90.5*		*8 - 130*
13C5 PFPeA	*84.3*		*35 - 130*
13C5 PFHxA	*87.5*		*40 - 130*
13C4 PFHpA	*91.1*		*40 - 130*
13C8 PFOA	*82.3*		*40 - 130*
13C9 PFNA	*86.3*		*40 - 130*
13C6 PFDA	*79.4*		*40 - 130*
13C7 PFUnA	*77.6*		*40 - 130*
13C2 PFDoA	*72.5*		*40 - 130*
13C2 PFTeDA	*65.3*		*20 - 130*
13C3 PFBS	*63.5*		*40 - 135*
13C3 PFHxS	*71.2*		*40 - 130*
13C8 PFOS	*73.7*		*40 - 130*
13C8 FOSA	*65.5*		*40 - 130*
d3-NMeFOSAA	*104*		*40 - 135*
d5-NEtFOSAA	*104*		*40 - 150*
13C2 4:2 FTS	*127*		*40 - 165*
13C2 6:2 FTS	*136*		*40 - 215*
13C2 8:2 FTS	*138*		*40 - 275*
13C3 HFPO-DA	*95.9*		*40 - 130*
d7-N-MeFOSE-M	*63.2*		*20 - 130*
d9-N-EtFOSE-M	*51.4*		*15 - 130*
d5-NEtPFOSA	*45.3*		*10 - 130*
d3-NMePFOSA	*42.9*		*10 - 130*

Client: GSI Environmental Inc
Job ID: 320-118635-2
Project/Site: Spokane International Airport

Method: 1633 - Percent Moisture

Lab Sample ID: 320-118635-12 DU
Client Sample ID: FMB-002-N-S006-01242026
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 834909

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	12			12		%				5	20

LCMS

Prep Batch: 835188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-15	CFH-007-N-S000-01242025	Total/NA	Solid	1633 Shake	
320-118635-19	CFH-006-N-S000-01242025	Total/NA	Solid	1633 Shake	
320-118635-19 - DL	CFH-006-N-S000-01242025	Total/NA	Solid	1633 Shake	
320-118635-21 - DL	CFH-005-N-S000-01242025	Total/NA	Solid	1633 Shake	
320-118635-21	CFH-005-N-S000-01242025	Total/NA	Solid	1633 Shake	
320-118635-26 - DL	CFH-004-N-S000-01242025	Total/NA	Solid	1633 Shake	
320-118635-26 - RA	CFH-004-N-S000-01242025	Total/NA	Solid	1633 Shake	
320-118635-26	CFH-004-N-S000-01242025	Total/NA	Solid	1633 Shake	
320-118635-29 - DL	CFH-004-N-S006-01242025	Total/NA	Solid	1633 Shake	
320-118635-29	CFH-004-N-S006-01242025	Total/NA	Solid	1633 Shake	
320-118635-32	CFH-004-N-S015-01242025	Total/NA	Solid	1633 Shake	
320-118635-33	CFH-003-N-S000-01242025	Total/NA	Solid	1633 Shake	
320-118635-36	CFH-003-N-S006-01242025	Total/NA	Solid	1633 Shake	
320-118635-39	CFH-002-N-S000-01242025	Total/NA	Solid	1633 Shake	
320-118635-46	CFH-001-N-S000-01242025	Total/NA	Solid	1633 Shake	
320-118635-49	CFH-001-N-S006-01242025	Total/NA	Solid	1633 Shake	
MB 320-835188/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-835188/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-835188/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-835188/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 835396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-26	CFH-004-N-S000-01242025	Total/NA	Solid	1633	835188

Analysis Batch: 836082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-15	CFH-007-N-S000-01242025	Total/NA	Solid	1633	835188
320-118635-19 - DL	CFH-006-N-S000-01242025	Total/NA	Solid	1633	835188
320-118635-19	CFH-006-N-S000-01242025	Total/NA	Solid	1633	835188
320-118635-29 - DL	CFH-004-N-S006-01242025	Total/NA	Solid	1633	835188
320-118635-29	CFH-004-N-S006-01242025	Total/NA	Solid	1633	835188
320-118635-32	CFH-004-N-S015-01242025	Total/NA	Solid	1633	835188
320-118635-33	CFH-003-N-S000-01242025	Total/NA	Solid	1633	835188
320-118635-36	CFH-003-N-S006-01242025	Total/NA	Solid	1633	835188
320-118635-39	CFH-002-N-S000-01242025	Total/NA	Solid	1633	835188
320-118635-46	CFH-001-N-S000-01242025	Total/NA	Solid	1633	835188
320-118635-49	CFH-001-N-S006-01242025	Total/NA	Solid	1633	835188
MB 320-835188/1-A	Method Blank	Total/NA	Solid	1633	835188
LCS 320-835188/3-A	Lab Control Sample	Total/NA	Solid	1633	835188
LCSD 320-835188/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	835188
LLCS 320-835188/2-A	Lab Control Sample	Total/NA	Solid	1633	835188

Analysis Batch: 836143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-21 - DL	CFH-005-N-S000-01242025	Total/NA	Solid	1633	835188
320-118635-26 - DL	CFH-004-N-S000-01242025	Total/NA	Solid	1633	835188

Prep Batch: 836188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-1	FMB-003-N-S0005-01242025	Total/NA	Solid	1633 Shake	

LCMS (Continued)

Prep Batch: 836188 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-5	FMB-003-N-S006-01242025	Total/NA	Solid	1633 Shake	
320-118635-5 - RA	FMB-003-N-S006-01242025	Total/NA	Solid	1633 Shake	
320-118635-8	FMB-003-N-S015-01242025	Total/NA	Solid	1633 Shake	
320-118635-8 - RA	FMB-003-N-S015-01242025	Total/NA	Solid	1633 Shake	
320-118635-9	FMB-002-N-S0005-01242025	Total/NA	Solid	1633 Shake	
320-118635-12	FMB-002-N-S006-01242026	Total/NA	Solid	1633 Shake	
MB 320-836188/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-836188/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-836188/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-836188/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 836607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-21	CFH-005-N-S000-01242025	Total/NA	Solid	1633	835188
320-118635-26 - RA	CFH-004-N-S000-01242025	Total/NA	Solid	1633	835188

Analysis Batch: 836644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-1	FMB-003-N-S0005-01242025	Total/NA	Solid	1633	836188
320-118635-5	FMB-003-N-S006-01242025	Total/NA	Solid	1633	836188
320-118635-8	FMB-003-N-S015-01242025	Total/NA	Solid	1633	836188
320-118635-9	FMB-002-N-S0005-01242025	Total/NA	Solid	1633	836188
320-118635-12	FMB-002-N-S006-01242026	Total/NA	Solid	1633	836188
MB 320-836188/1-A	Method Blank	Total/NA	Solid	1633	836188
LCS 320-836188/3-A	Lab Control Sample	Total/NA	Solid	1633	836188
LCSD 320-836188/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	836188
LLCS 320-836188/2-A	Lab Control Sample	Total/NA	Solid	1633	836188

Analysis Batch: 837090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-5 - RA	FMB-003-N-S006-01242025	Total/NA	Solid	1633	836188
320-118635-8 - RA	FMB-003-N-S015-01242025	Total/NA	Solid	1633	836188

General Chemistry

Analysis Batch: 834698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-15	CFH-007-N-S000-01242025	Total/NA	Solid	1633	
320-118635-19	CFH-006-N-S000-01242025	Total/NA	Solid	1633	
320-118635-21	CFH-005-N-S000-01242025	Total/NA	Solid	1633	
320-118635-26	CFH-004-N-S000-01242025	Total/NA	Solid	1633	
320-118635-29	CFH-004-N-S006-01242025	Total/NA	Solid	1633	
320-118635-32	CFH-004-N-S015-01242025	Total/NA	Solid	1633	
320-118635-33	CFH-003-N-S000-01242025	Total/NA	Solid	1633	
320-118635-36	CFH-003-N-S006-01242025	Total/NA	Solid	1633	
320-118635-39	CFH-002-N-S000-01242025	Total/NA	Solid	1633	
320-118635-46	CFH-001-N-S000-01242025	Total/NA	Solid	1633	
320-118635-49	CFH-001-N-S006-01242025	Total/NA	Solid	1633	

Client: GSI Environmental Inc
Job ID: 320-118635-2
Project/Site: Spokane International Airport

General Chemistry

Analysis Batch: 834909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-1	FMB-003-N-S0005-01242025	Total/NA	Solid	1633	
320-118635-5	FMB-003-N-S006-01242025	Total/NA	Solid	1633	
320-118635-8	FMB-003-N-S015-01242025	Total/NA	Solid	1633	
320-118635-9	FMB-002-N-S0005-01242025	Total/NA	Solid	1633	
320-118635-12	FMB-002-N-S006-01242026	Total/NA	Solid	1633	
320-118635-12 DU	FMB-002-N-S006-01242026	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118635-2
Project/Site: Spokane International Airport

Client Sample ID: FMB-003-N-S0005-01242025
Lab Sample ID: 320-118635-1
Date Collected: 01/24/25 08:00
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834909	02/21/25 13:36	JCB	EET SAC

Client Sample ID: FMB-003-N-S0005-01242025
Lab Sample ID: 320-118635-1
Date Collected: 01/24/25 08:00
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 88.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.32 g	5.0 mL	836188	02/27/25 09:28	KTH	EET SAC
Total/NA	Analysis	1633		1			836644	02/28/25 21:53	K1S	EET SAC

Client Sample ID: FMB-003-N-S006-01242025
Lab Sample ID: 320-118635-5
Date Collected: 01/24/25 08:15
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834909	02/21/25 13:36	JCB	EET SAC

Client Sample ID: FMB-003-N-S006-01242025
Lab Sample ID: 320-118635-5
Date Collected: 01/24/25 08:15
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 70.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.87 g	5.0 mL	836188	02/27/25 09:28	KTH	EET SAC
Total/NA	Analysis	1633		1			836644	02/28/25 22:10	K1S	EET SAC
Total/NA	Prep	1633 Shake	RA		2.87 g	5.0 mL	836188	02/27/25 09:28	KTH	EET SAC
Total/NA	Analysis	1633	RA	1			837090	03/03/25 22:37	RS1	EET SAC

Client Sample ID: FMB-003-N-S015-01242025
Lab Sample ID: 320-118635-8
Date Collected: 01/24/25 08:25
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834909	02/21/25 13:36	JCB	EET SAC

Client Sample ID: FMB-003-N-S015-01242025
Lab Sample ID: 320-118635-8
Date Collected: 01/24/25 08:25
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 89.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.23 g	5.0 mL	836188	02/27/25 09:28	KTH	EET SAC
Total/NA	Analysis	1633		1			836644	02/28/25 22:26	K1S	EET SAC
Total/NA	Prep	1633 Shake	RA		2.23 g	5.0 mL	836188	02/27/25 09:28	KTH	EET SAC
Total/NA	Analysis	1633	RA	1			837090	03/03/25 22:53	RS1	EET SAC

Client Sample ID: FMB-002-N-S0005-01242025
Lab Sample ID: 320-118635-9
Date Collected: 01/24/25 09:00
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834909	02/21/25 13:36	JCB	EET SAC

Client Sample ID: FMB-002-N-S0005-01242025
Lab Sample ID: 320-118635-9
Date Collected: 01/24/25 09:00
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 78.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.63 g	5.0 mL	836188	02/27/25 09:28	KTH	EET SAC
Total/NA	Analysis	1633		1			836644	02/28/25 22:43	K1S	EET SAC

Client Sample ID: FMB-002-N-S006-01242026
Lab Sample ID: 320-118635-12
Date Collected: 01/24/25 09:15
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834909	02/21/25 13:36	JCB	EET SAC

Client Sample ID: FMB-002-N-S006-01242026
Lab Sample ID: 320-118635-12
Date Collected: 01/24/25 09:15
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 88.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.30 g	5.0 mL	836188	02/27/25 09:28	KTH	EET SAC
Total/NA	Analysis	1633		1			836644	02/28/25 22:59	K1S	EET SAC

Client Sample ID: CFH-007-N-S000-01242025
Lab Sample ID: 320-118635-15
Date Collected: 01/24/25 11:00
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834698	02/20/25 15:17	CFR	EET SAC

Client Sample ID: CFH-007-N-S000-01242025
Lab Sample ID: 320-118635-15
Date Collected: 01/24/25 11:00
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 87.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.39 g	5.0 mL	835188	02/24/25 07:04	JS	EET SAC
Total/NA	Analysis	1633		1			836082	02/25/25 21:43	C1P	EET SAC

Client Sample ID: CFH-006-N-S000-01242025
Lab Sample ID: 320-118635-19
Date Collected: 01/24/25 11:45
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834698	02/20/25 15:17	CFR	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-2

Client Sample ID: CFH-006-N-S000-01242025

Lab Sample ID: 320-118635-19
Date Collected: 01/24/25 11:45
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 93.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	DL		2.10 g	5.0 mL	835188	02/24/25 07:04	JS	EET SAC
Total/NA	Analysis	1633	DL	20			836082	02/26/25 00:11	C1P	EET SAC
Total/NA	Prep	1633 Shake			2.10 g	5.0 mL	835188	02/24/25 07:04	JS	EET SAC
Total/NA	Analysis	1633		1			836082	02/26/25 00:44	C1P	EET SAC

Client Sample ID: CFH-005-N-S000-01242025

Lab Sample ID: 320-118635-21
Date Collected: 01/24/25 12:00
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834698	02/20/25 15:17	CFR	EET SAC

Client Sample ID: CFH-005-N-S000-01242025

Lab Sample ID: 320-118635-21
Date Collected: 01/24/25 12:00
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 78.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	DL		2.50 g	5.0 mL	835188	02/24/25 07:04	JS	EET SAC
Total/NA	Analysis	1633	DL	100			836143	02/27/25 15:13	RS1	EET SAC
Total/NA	Prep	1633 Shake			2.50 g	5.0 mL	835188	02/24/25 07:04	JS	EET SAC
Total/NA	Analysis	1633		1			836607	02/28/25 14:23	K1S	EET SAC

Client Sample ID: CFH-004-N-S000-01242025

Lab Sample ID: 320-118635-26
Date Collected: 01/24/25 13:00
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834698	02/20/25 15:17	CFR	EET SAC

Client Sample ID: CFH-004-N-S000-01242025

Lab Sample ID: 320-118635-26
Date Collected: 01/24/25 13:00
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 81.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	DL		2.50 g	5.0 mL	835188	02/24/25 07:04	JS	EET SAC
Total/NA	Analysis	1633	DL	100			836143	02/27/25 15:30	RS1	EET SAC
Total/NA	Prep	1633 Shake	RA		2.50 g	5.0 mL	835188	02/24/25 07:04	JS	EET SAC
Total/NA	Analysis	1633	RA	1			836607	02/28/25 14:39	K1S	EET SAC
Total/NA	Prep	1633 Shake			2.50 g	5.0 mL	835188	02/24/25 07:04	JS	EET SAC
Total/NA	Analysis	1633		1			835396	02/25/25 06:18	S1M	EET SAC

Client Sample ID: CFH-004-N-S006-01242025
Lab Sample ID: 320-118635-29
Date Collected: 01/24/25 13:15
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834698	02/20/25 15:17	CFR	EET SAC

Client Sample ID: CFH-004-N-S006-01242025
Lab Sample ID: 320-118635-29
Date Collected: 01/24/25 13:15
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 91.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	DL		2.21 g	5.0 mL	835188	02/24/25 07:04	JS	EET SAC
Total/NA	Analysis	1633	DL	20			836082	02/26/25 00:28	C1P	EET SAC
Total/NA	Prep	1633 Shake			2.21 g	5.0 mL	835188	02/24/25 07:04	JS	EET SAC
Total/NA	Analysis	1633		1			836082	02/26/25 01:01	C1P	EET SAC

Client Sample ID: CFH-004-N-S015-01242025
Lab Sample ID: 320-118635-32
Date Collected: 01/24/25 13:25
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834698	02/20/25 15:17	CFR	EET SAC

Client Sample ID: CFH-004-N-S015-01242025
Lab Sample ID: 320-118635-32
Date Collected: 01/24/25 13:25
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 85.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.33 g	5.0 mL	835188	02/24/25 07:04	JS	EET SAC
Total/NA	Analysis	1633		1			836082	02/25/25 22:00	C1P	EET SAC

Client Sample ID: CFH-003-N-S000-01242025
Lab Sample ID: 320-118635-33
Date Collected: 01/24/25 14:15
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834698	02/20/25 15:17	CFR	EET SAC

Client Sample ID: CFH-003-N-S000-01242025
Lab Sample ID: 320-118635-33
Date Collected: 01/24/25 14:15
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 81.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.42 g	5.0 mL	835188	02/24/25 07:04	JS	EET SAC
Total/NA	Analysis	1633		1			836082	02/25/25 22:16	C1P	EET SAC

Client Sample ID: CFH-003-N-S006-01242025
Lab Sample ID: 320-118635-36
Date Collected: 01/24/25 14:30
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834698	02/20/25 15:17	CFR	EET SAC

Client Sample ID: CFH-003-N-S006-01242025
Lab Sample ID: 320-118635-36
Date Collected: 01/24/25 14:30
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 91.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.21 g	5.0 mL	835188	02/24/25 07:04	JS	EET SAC
Total/NA	Analysis	1633		1			836082	02/25/25 22:33	C1P	EET SAC

Client Sample ID: CFH-002-N-S000-01242025
Lab Sample ID: 320-118635-39
Date Collected: 01/24/25 15:00
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834698	02/20/25 15:17	CFR	EET SAC

Client Sample ID: CFH-002-N-S000-01242025
Lab Sample ID: 320-118635-39
Date Collected: 01/24/25 15:00
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 79.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.53 g	5.0 mL	835188	02/24/25 07:04	JS	EET SAC
Total/NA	Analysis	1633		1			836082	02/25/25 22:49	C1P	EET SAC

Client Sample ID: CFH-001-N-S000-01242025
Lab Sample ID: 320-118635-46
Date Collected: 01/24/25 15:45
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834698	02/20/25 15:17	CFR	EET SAC

Client Sample ID: CFH-001-N-S000-01242025
Lab Sample ID: 320-118635-46
Date Collected: 01/24/25 15:45
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 84.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.51 g	5.0 mL	835188	02/24/25 07:04	JS	EET SAC
Total/NA	Analysis	1633		1			836082	02/25/25 23:39	C1P	EET SAC

Client Sample ID: CFH-001-N-S006-01242025
Lab Sample ID: 320-118635-49
Date Collected: 01/24/25 16:00
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834698	02/20/25 15:17	CFR	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118635-2
Project/Site: Spokane International Airport

Client Sample ID: CFH-001-N-S006-01242025
Lab Sample ID: 320-118635-49
Date Collected: 01/24/25 16:00
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 89.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.21 g	5.0 mL	835188	02/24/25 07:04	JS	EET SAC
Total/NA	Analysis	1633		1			836082	02/25/25 23:55	C1P	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118635-2
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-2

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Job ID: 320-118635-2
Project/Site: Spokane International Airport

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118635-1	FMB-003-N-S0005-01242025	Solid	01/24/25 08:00	01/30/25 09:30
320-118635-5	FMB-003-N-S006-01242025	Solid	01/24/25 08:15	01/30/25 09:30
320-118635-8	FMB-003-N-S015-01242025	Solid	01/24/25 08:25	01/30/25 09:30
320-118635-9	FMB-002-N-S0005-01242025	Solid	01/24/25 09:00	01/30/25 09:30
320-118635-12	FMB-002-N-S006-01242026	Solid	01/24/25 09:15	01/30/25 09:30
320-118635-15	CFH-007-N-S000-01242025	Solid	01/24/25 11:00	01/30/25 09:30
320-118635-19	CFH-006-N-S000-01242025	Solid	01/24/25 11:45	01/30/25 09:30
320-118635-21	CFH-005-N-S000-01242025	Solid	01/24/25 12:00	01/30/25 09:30
320-118635-26	CFH-004-N-S000-01242025	Solid	01/24/25 13:00	01/30/25 09:30
320-118635-29	CFH-004-N-S006-01242025	Solid	01/24/25 13:15	01/30/25 09:30
320-118635-32	CFH-004-N-S015-01242025	Solid	01/24/25 13:25	01/30/25 09:30
320-118635-33	CFH-003-N-S000-01242025	Solid	01/24/25 14:15	01/30/25 09:30
320-118635-36	CFH-003-N-S006-01242025	Solid	01/24/25 14:30	01/30/25 09:30
320-118635-39	CFH-002-N-S000-01242025	Solid	01/24/25 15:00	01/30/25 09:30
320-118635-46	CFH-001-N-S000-01242025	Solid	01/24/25 15:45	01/30/25 09:30
320-118635-49	CFH-001-N-S006-01242025	Solid	01/24/25 16:00	01/30/25 09:30

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE	1/27/25		
TURNAROUND TIME	Standard		
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633										HOLD	Number of Containers
FMB-003-N-S0005-01242025	1/24/2025	0800	Soil											X	1
FMB-003-N-S001-01242025	1/24/2025	0805	Soil	X											1
FMB-003-FD-S001-01242025	1/24/2025	0835	Soil	X											1
FMB-003-N-S003-01242025	1/24/2025	0810	Soil	X											1
FMB-003-N-S006-01242025	1/24/2025	0815	Soil											X	1
FMB-003-N-S010-01242025	1/24/2025	0820	Soil	X											1
FMB-003-FD-S010-01242025	1/24/2025	0850	Soil	X											1
FMB-003-N-S015-01242025	1/24/2025	0825	Soil											X	1
FMB-002-N-S0005-01242025	1/24/2025	0900	Soil											X	1
FMB-002-N-S001-01242025	1/24/2025	0905	Soil	X											1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118635 Chain of Custody

Obs Temp: 6.4°C Corr Temp: 6.8°C 10x8 IRocks

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo da Silva	Print Luke Peden
Firm Haley Aldrich	Firm H&A
Date 01/24/2025 Time 1800	Date 1/24/25 1800
Relinquished by	**Received by**
Sign	Sign
Print Luke Peden	Print Jenny Pierce
Firm H&A	Firm CHASpike
Date 1/27/25 Time 15:70	Date 1/27/25 1535
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print B. Morrison
Firm EELSPO	Firm EELSpo
Date 1/28/25 Time 1440	Date 01/31/25 0930

LIQUID	SOLID
VOA Vial	VOA Vial
Amber Glass	Amber Glass
Plastic Bottle	Clear Glass
Preservative	Preservative
Volume	Volume

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are requ

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory

November 2024

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-001
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 11922 E 1st Ave, Spokane Valley, WA 99206
CONTACT Randee Arrington

DELIVERY DATE 1/27/25
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633											HOLD	Number of Containers
FMB-002-N-S003-01242025	1/24/2025	0910	Soil	X												1
FMB-002-N-S006-01242026	1/24/2025	0915	Soil												X	1
FMB-002-N-S010-01242027	1/24/2025	0920	Soil												X	1
FMB-002-N-S013-01242028	1/24/2025	0925	Soil												X	1
CFH-007-N-S000-01242025	1/24/2025	1100	Soil												X	1
CFH-007-N-S001-01242025	1/24/2025	1105	Soil	X												1
CFH-007-FD-S001-01242025	1/24/2025	1135	Soil	X												1
CFH-007-N-S003-01242025	1/24/2025	1110	Soil	X												1
CFH-006-N-S000-01242025	1/24/2025	1145	Soil												X	1
CFH-006-N-S001-01242025	1/24/2025	1150	Soil	X												1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo da Silva	Print Luke Peden
Firm Haley Aldrich	Firm H&A
Date 01/24/2025 Time 1800	Date 1/28/25 1800
Relinquished by	**Received by**
Sign	Sign
Print Luke Peden	Print Jimmy Pulido
Firm H&A	Firm ETA spiked
Date 1/27/25 Time 15:20	Date 1/27/25 1535
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print D. Morrison
Firm EET SPO	Firm EET Spk
Date 1/28/25 Time 1440	Date 1/30/25 0930

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

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_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are requ

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-001
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 11922 E 1st Ave, Spokane Valley, WA 99206
CONTACT Randee Arrington

DELIVERY DATE 1/27/25
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633										HOLD	Number of Containers
CFH-005-N-S000-01242025	1/24/2025	1200	Soil											X	1
CFH-005-N-S001-01242025	1/24/2025	1205	Soil	X											1
CFH-005-N-S003-01242025	1/24/2025	1210	Soil	X											1
CFH-005-FD-S003-01242025	1/24/2025	1240	Soil	X											1
CFH-005-N-S006-01242025	1/24/2025	1215	Soil											X	1
CFH-004-N-S000-01242025	1/24/2025	1300	Soil											X	1
CFH-004-N-S001-01242025	1/24/2025	1305	Soil	X											1
CFH-004-N-S003-01242025	1/24/2025	1310	Soil	X											1
CFH-004-N-S006-01242025	1/24/2025	1315	Soil											X	1
CFH-004-N-S010-01242025	1/24/2025	1320	Soil	X											1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by
Sign
Print Zack Castillo da Silva
Firm Haley Aldrich
Date 01/24/2025 Time 1400

Received by
Sign
Print Luke Peba
Firm HSA
Date 1/24/25 1800

Relinquished by
Sign
Print Luke Peba
Firm HSA
Date 1/27/25 Time 15:19

Received by
Sign
Print Joey Pavlic
Firm Eta Spike
Date 1/27/25 1321

Relinquished by
Sign
Print Mackey Morris
Firm EES&PD
Date 1/28/25 Time 1440

Received by
Sign
Print D. Morrison
Firm FEESae
Date 01/30/25 0920

LIQUID
VOA Vial
Amber Glass
Plastic Bottle
Preservative
Volume

SOLID
VOA Vial
Amber Glass
Clear Glass
Preservative
Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

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_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are requ

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE	1/27/25		
TURNAROUND TIME	Standard		
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633										HOLD	Number of Containers	Comments (special instructions, precautions, additional method numbers, etc.)
CFH-004-FD-S010-01242025	1/24/2025	1350	Soil	X											1	– PFAS Analysis to be conducted by Eurofins Sacramento
CFH-004-N-S015-01242025	1/24/2025	1325	Soil											X	1	Laboratory to use applicable DEP CAM methods, unless otherwise directed.
CFH-003-N-S000-01242025	1/24/2025	1415	Soil											X	1	– TOC: Total Organic Carbon
CFH-003-N-S001-01242025	1/24/2025	1420	Soil	X											1	
CFH-003-N-S003-01242025	1/24/2025	1425	Soil	X											1	
CFH-003-N-S006-01242025	1/24/2025	1430	Soil											X	1	
CFH-003-N-S009-01242025	1/24/2025	1435	Soil	X											1	
CFH-003-FD-S009-01242025	1/24/2025	1505	Soil	X											1	
CFH-002-N-S000-01242025	1/24/2025	1500	Soil											X	1	
CFH-002-N-S001-01242025	1/24/2025	1505	Soil	X											1	

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo da Silva	Print Luke Peka
Firm Haley Aldrich	Firm H&A
Date 01/24/2025 Time 1800	Date 1/24/25 1800
Relinquished by	**Received by**
Sign	Sign
Print Luke Peka	Print Joey Parker
Firm H&A	Firm CTEC Spokane
Date 1/27/25 Time 15:70	Date 1/27/25 1535
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print
Firm ELTSPO	Firm
Date 1/28/25 Time 1440	Date 01/30/25 0930

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

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_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are requ

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory **CANARY** - Project Manager **PINK** - Haley & Aldrich Laboratory

November 2024

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-001
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 11922 E 1st Ave, Spokane Valley, WA 99206
CONTACT Randee Arrington

DELIVERY DATE 1/27/25
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633											HOLD	Number of Containers
CFH-002-FD-S001-01242025	1/24/2025	1535	Soil	X												1
CFH-002-N-S003-01242025	1/24/2025	1510	Soil	X												1
CFH-002-N-S006-01242025	1/24/2025	1515	Soil												X	1
CFH-002-N-S010-01242025	1/24/2025	1520	Soil												X	1
CFH-002-N-S012-01242025	1/24/2025	1525	Soil												X	1
CFH-001-N-S000-01242025	1/24/2025	1545	Soil												X	1
CFH-001-N-S001-01242025	1/24/2025	1550	Soil	X												1
CFH-001-N-S003-01242025	1/24/2025	1555	Soil	X												1
CFH-001-N-S006-01242025	1/24/2025	1600	Soil												X	1
CFH-001-N-S010-01242025	1/24/2025	1605	Soil												X	1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo da Silva	Print Luke Peda
Firm Haley Aldrich	Firm H&A
Date 01/24/2025 Time 1800	Date 1/[illegible] 1800
Relinquished by	**Received by**
Sign	Sign
Print Luke Peda	Print [illegible]
Firm H&A	Firm [illegible]
Date 1/27/25 Time 15:20	Date 1/27/25 1535
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print D. Mora
Firm E/ET SPO	Firm ET SAC
Date 1/28/25 Time 1410	Date 01/31/25 0930

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.
_____
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are requ

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK Haley & Aldrich Laboratory

November 2024

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
		DELIVERY DATE	1/27/25
		TURNAROUND TIME	Standard
		PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	HOLD	Number of Containers
CFH-001-N-S013-01242025	1/24/2025	1610	Soil		X	1
CFH-006-N-S003-01242025	1/24/2025	1155	Soil	X	I2P	1

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo da Silva	Print Luke Peden
Firm Haley Aldrich	Firm H&A
Date 01/24/2025 Time 1800	Date 1/27/25 1800
Relinquished by	**Received by**
Sign	Sign
Print Luke Peden	Print Chris Spitzer
Firm H&A	Firm Jones-Parker
Date 1/27/25 Time 15:70	Date 1/27/25 1535
Relinquished by	**Received by**
Sign	Sign
Print Macky Moms	Print D. Monument
Firm EST SPO	Firm EUROFINS
Date 1/28/25 Time 1440	Date 01/31/25 0920

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

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_____

If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are requ

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118635

Tracking # 4242 5693 0828

Job: _____ _____

SO (PO) / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID: L06 Corr Factor (+/-) NA °C

Ice _____ Wet _____ Gel _____ Other _____

Cooler Custody Seal: 2691599

Cooler ID: 1 of 2

Temp Observed 1.3 °C Corrected 1.3 °C

From Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: DM Date: 01/30/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: DM Date 01/30/25

Notes: _____

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials DM Date 01/30/25

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Tracking # 4242 5993 0839

Job: 320-118635

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID LOV Corr Factor (+/-) NA °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal 26091594

Cooler ID 2 of 2

Temp Observed 1.7 °C Corrected 1.7 °C

From Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials DM Date: 01/30/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials DM Date 01/30/25

Notes: #14 : FMB-002-N-S013-012420250
#13, #12
#38: No "-FD-"
CFH-003-N-S009-012420250
Sample #28 not received.

Trizma Lot #(s) _____

Ammonium
Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials DM Date 01/30/25

SIGNATURE
DATE 1/28/25
Custody S

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2691599

EUROFINS ENVIRONMENTAL SPOKANE
11922 E 1ST AVE
SPOKANE VALLEY, WA 99206
UNITED STATES US

CAD: 0941709/CAFE3855
BILL RECIPIENT

Par # 159490-441 Exp 05 Jan 25
5R8C3/FC17/FF2B

TO SHIPPING/RECEIVING
EUROFINS ENVIRONMENT TESTING N CAL
880 RIVERSIDE PARKWAY

WEST SACRAMENTO CA 95605
(916) 373-5600 REF:
INV:
PO: DEPT:

FedEx Express

J24382407040 1 ua

1 of 2
TRK# 0201 4242 5693 0828
MASTER
XS BLUA

WED - 29 JAN 10:30A
PRIORITY OVERNIGHT

95605
CA-US SMF

eal

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2691599

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

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JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118635-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Job Notes

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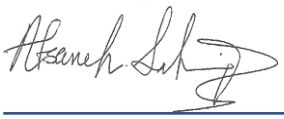

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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Qualifiers

LCMS

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
*3	ISTD response or retention time outside acceptable limits.
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-118635-1

Receipt
The samples were received on 1/30/2025 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.3º C and 1.7º C.

Receipt Exceptions

The container label for the following samples did not match the information listed on the Chain-of-Custody (COC): FMB-002-N-S006-01242026 (320-118635-12), FMB-002-N-S010-01242027 (320-118635-13) and FMB-002-N-S013-01242028 (320-118635-14).

Sample #12 container label lists the following ID: FMB-002-N-S006-10242025
Sample #13 container label lists the following ID: FMB-002-N-S010-10242025
Sample #14 container label lists the following ID: FMB-002-N-S013-01252025

The samples were logged in and labeled according to the COC.

The following sample was listed on the Chain of Custody (COC); however, no sample was received: CFH-005-N-S006-01242025 (320-118635-25).

LCMS
Method 1633: The continuing calibration verification (CCV) associated with batch 320-831528 recovered above the upper control limit for Perfluorobutanesulfonic acid (PFBS). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: CFH-004-FD-S010-01242025 (320-118635-31), CFH-003-N-S001-01242025 (320-118635-34), CFH-003-N-S003-01242025 (320-118635-35) and (CCV 320-831528/1).

Method 1633: The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: CFH-004-N-S001-01242025 (320-118635-27). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the samples.

Method 1633: Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: CFH-006-N-S001-01242025 (320-118635-20) abd CFH-006-N-S003-01242025 (320-118635-52). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 1633: Results for samples FMB-002-N-S003-01242025 (320-118635-11), CFH-006-N-S001-01242025 (320-118635-20) , CFH-005-N-S001-01242025 (320-118635-22) , CFH-004-N-S001-01242025 (320-118635-27) , CFH-004-N-S003-01242025 (320-118635-28, CFH-002-N-S003-01242025 (320-118635-42) and CFH-006-N-S003-01242025 (320-118635-52) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

Method 1633: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-831269 and analytical batch 320-831892 recovered outside control limits for the following analytes: Nonafluoro-3,6-dioxaheptanoic acid (NFDHA).

Method 1633: The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. The associated samples have been flagged: FMB-003-N-S001-01242025 (320-118635-2) , FMB-003-FD-S001-01242025 (320-118635-3) and CFH-005-FD-S003-01242025 (320-118635-24).

Method 1633: Internal standard (ISTD) response for the following sample was outside control limits: CFH-006-N-S003-01242025 (320-118635-52). The sample was re-analyzed at a dilution with improved ISTD recovery. Suppression of the ISTD is suspected due to high concentrations of native analytes and the best set of data have been reported.

Method 1633: The continuing calibration verification (CCV) associated with batch 320-832076 recovered above the upper control limit for the following isotope dilution analyte (IDA): d3-NMeFOSAA. The associated target analyte, N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA), is within control limits The method blank (MB) and samples associated with this CCV were non-detect for the affected analyte and the low level laboratory control sample, laboratory control sample, and laboratory control sample duplicate (LLCS/LCS/LCSD) were within control limits; therefore, the data have been reported. The associated samples are impacted: FMB-003-N-S001-01242025 (320-118635-2), FMB-003-FD-S001-01242025 (320-118635-3), CFH-006-N-S003-01242025 (320-118635-52), (CCV 320-832076/13), (LCS 320-831483/3-A), (LCSD

320-831483/4-A), (LLCS 320-831483/2-A) and (MB 320-831483/1-A).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: FMB-003-N-S001-01242025 — Lab Sample ID: 320-118635-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.19		0.19	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.086	J I	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.25		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.092	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.66		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.096	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.31		0.19	0.056	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.057	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.74		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.42		0.39	0.097	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.14	J	0.39	0.097	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FMB-003-FD-S001-01242025 — Lab Sample ID: 320-118635-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.38		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.087	J I	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.38		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.11	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.54		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.074	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.19	J	0.20	0.058	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.11	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FMB-003-N-S003-01242025 — Lab Sample ID: 320-118635-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorononanoic acid (PFNA)	0.091	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	2.9		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.40		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.12	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.058	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.15	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.0		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.054	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.055	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.74		0.41	0.10	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.6		0.41	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.31		0.21	0.065	ug/Kg	1	☼	1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	1.1		1.0	0.26	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA) - RA	0.098	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA) - RA	0.29		0.21	0.064	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FMB-003-N-S010-01242025 — Lab Sample ID: 320-118635-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.14	J	0.42	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.073	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.096	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Client Sample ID: FMB-003-N-S010-01242025 (Continued) — Lab Sample ID: 320-118635-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.46		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.7		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	6.3		0.42	0.10	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.27	J	0.42	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA) - RA	0.17	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA) - RA	0.22		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA) - RA	0.29		0.21	0.065	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FMB-003-FD-S010-01242025 — Lab Sample ID: 320-118635-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.16	J	0.39	0.099	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.10	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.61		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.3		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.4		0.39	0.099	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.15	J	0.39	0.099	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA) - RA	0.21		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA) - RA	0.29		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA) - RA	0.32		0.20	0.061	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FMB-002-N-S001-01242025 — Lab Sample ID: 320-118635-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.057	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.10	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.39		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.26		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.95		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.13	J	0.19	0.056	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.062	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.58		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.14	J	0.39	0.097	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA) - RA	0.065	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA) - RA	0.36		0.19	0.060	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FMB-002-N-S003-01242025 — Lab Sample ID: 320-118635-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.13	J	0.41	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.20	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.90		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.1		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.79		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	6.2		0.41	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	32		2.1	0.52	ug/Kg	10	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FMB-002-N-S003-01242025 (Continued) — Lab Sample ID: 320-118635-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA) - RA	0.064	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA) - RA	2.0		0.21	0.064	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-007-N-S001-01242025 — Lab Sample ID: 320-118635-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.12	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.083	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.082	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.2		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA) - RA	0.061	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA) - RA	0.12	J	0.20	0.062	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-007-FD-S001-01242025 — Lab Sample ID: 320-118635-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.12	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.063	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.067	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.051	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.2		0.20	0.050	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-007-N-S003-01242025 — Lab Sample ID: 320-118635-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.13	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.093	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.21		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA) - RA	0.061	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA) - RA	0.065	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA) - RA	0.12	J	0.20	0.062	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-006-N-S001-01242025 — Lab Sample ID: 320-118635-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.24	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.67		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	2.8		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.86		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.50		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.56		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.20		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	5.6		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	42		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	6.1		0.20	0.063	ug/Kg	1	☼	1633	Total/NA
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.064	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.11	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	320		4.0	1.0	ug/Kg	20	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CFH-006-N-S001-01242025 (Continued) — Lab Sample ID: 320-118635-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA) - RA	0.070	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA) - RA	0.59		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA) - RA	0.29		0.20	0.062	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-005-N-S001-01242025 — Lab Sample ID: 320-118635-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.52		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.066	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	5.0		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.81		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.44		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.082	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.14	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.12	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.3		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	1.7		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.092	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	12		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	20		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.84		0.20	0.063	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.84		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	4.0		1.0	0.25	ug/Kg	1	☼	1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	0.75	J	1.0	0.25	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	540		10	2.5	ug/Kg	50	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA) - RA	0.60		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA) - RA	0.42		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA) - RA	2.2		0.20	0.062	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-005-N-S003-01242025 — Lab Sample ID: 320-118635-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.20	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.18	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.22		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	8.3		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.52		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.2		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	36		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.15	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.22	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CFH-005-N-S003-01242025 (Continued) — Lab Sample ID: 320-118635-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
3-Perfluoropentylpropanoic acid (5:3 FTCA)	1.1		1.0	0.25	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA) - RA	0.14	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA) - RA	0.31		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA) - RA	2.8		0.20	0.062	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-005-FD-S003-01242025 — Lab Sample ID: 320-118635-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.15	J	0.41	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.092	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.070	J I	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.092	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	5.5		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.96		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.5		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	27		0.41	0.10	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.14	J	0.41	0.10	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.28	J	0.41	0.10	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	1.2		1.0	0.26	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA) - RA	0.10	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA) - RA	0.19	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA) - RA	2.2		0.20	0.063	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-004-N-S001-01242025 — Lab Sample ID: 320-118635-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.94		0.40	0.099	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.95		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	5.4		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	2.0		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	2.6		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.40		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.70		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.11	J	0.20	0.057	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.97		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	1.7		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.36		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.51		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	26		0.40	0.099	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	6.7		0.40	0.099	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	2.3		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropropylpropanoic acid (3:3 FTCA)	1.0		0.40	0.099	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CFH-004-N-S001-01242025 (Continued) — Lab Sample ID: 320-118635-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
3-Perfluoropentylpropanoic acid (5:3 FTCA)	7.6		0.99	0.25	ug/Kg	1	☼	1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	0.99		0.99	0.25	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	40		4.0	0.99	ug/Kg	20	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	310		4.0	0.99	ug/Kg	20	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA) - RA	1.6		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA) - RA	1.5		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA) - RA	4.1		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS) - RA	0.12	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-004-N-S003-01242025 — Lab Sample ID: 320-118635-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.77		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.1		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.96		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	1.3		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	2.4		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.12	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.39		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	2.6		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.77		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.36		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.26		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	39		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	21		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	4.7		0.20	0.064	ug/Kg	1	☼	1633	Total/NA
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.083	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.15	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.22	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	1.6		1.0	0.25	ug/Kg	1	☼	1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	1.5		1.0	0.25	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	33		2.0	0.51	ug/Kg	10	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	110		2.0	0.51	ug/Kg	10	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA) - RA	2.3		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA) - RA	5.4		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA) - RA	4.6		0.20	0.063	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS) - RA	1.3		0.20	0.051	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: CFH-004-N-S010-01242025 — Lab Sample ID: 320-118635-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	21		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA) - RA	0.11	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA) - RA	0.20		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA) - RA	0.21		0.20	0.063	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA) - RA	0.30		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS) - RA	0.079	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS) - RA	0.19	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - RA	2.1		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS) - RA	0.16	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA	3.9		0.41	0.10	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA	0.28	J	0.41	0.10	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-004-FD-S010-01242025 — Lab Sample ID: 320-118635-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.13	J	0.37	0.093	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.18	J	0.19	0.046	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.30		0.19	0.046	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.060	J	0.19	0.046	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.26		0.19	0.058	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.27		0.19	0.046	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.14	J B	0.19	0.046	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.24		0.19	0.046	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.5		0.19	0.046	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.14	J	0.19	0.046	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	20		0.19	0.046	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.2		0.37	0.093	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.29	J	0.37	0.093	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-003-N-S001-01242025 — Lab Sample ID: 320-118635-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.31	J	0.41	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.80		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	1.2		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.90		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.097	J B	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.16	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.21		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.26		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.13	J	0.41	0.10	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: CFH-003-N-S003-01242025 — Lab Sample ID: 320-118635-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.61		0.38	0.096	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	1.2		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	1.0		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.6		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.17	J	0.19	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.074	J B	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.12	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.1		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.065	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.16	J	0.38	0.096	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	0.49	J	0.96	0.24	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-003-N-S009-01242025 — Lab Sample ID: 320-118635-37

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.12	J	0.42	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.17	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.10	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-003-FD-S009-01242025 — Lab Sample ID: 320-118635-38

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.13	J	0.36	0.089	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.23		0.18	0.045	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.16	J	0.18	0.045	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.046	J B	0.18	0.045	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-002-N-S001-01242025 — Lab Sample ID: 320-118635-40

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.35	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.45		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.35		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.070	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.12	J	0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.062	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.11	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.28		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	14		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.89		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	6.1		1.0	0.25	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-002-FD-S001-01242025 — Lab Sample ID: 320-118635-41

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.28	J	0.42	0.11	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.43		0.21	0.053	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.27		0.21	0.053	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Client Sample ID: CFH-002-FD-S001-01242025 (Continued) — Lab Sample ID: 320-118635-41

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.059	J	0.21	0.053	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.11	J	0.21	0.065	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.099	J	0.21	0.053	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.057	J B	0.21	0.053	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.098	J	0.21	0.053	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.38		0.21	0.053	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	11		0.42	0.11	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropropylpropanoic acid (3:3 FTCA)	1.0		0.42	0.11	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	7.1		1.1	0.26	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-002-N-S003-01242025 — Lab Sample ID: 320-118635-42

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.092	J	0.36	0.090	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.081	J	0.18	0.045	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.047	J B	0.18	0.045	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	0.56	J	0.90	0.22	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - DL	33		3.6	0.90	ug/Kg	10	☼	1633	Total/NA

Client Sample ID: CFH-001-N-S001-01242025 — Lab Sample ID: 320-118635-47

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.25	J	0.38	0.095	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.58		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.17	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.10	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.088	J	0.19	0.059	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.37		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.062	J B	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.096	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.058	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.4		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.65		0.38	0.095	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.12	J	0.38	0.095	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	2.2		0.95	0.24	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-001-N-S003-01242025 — Lab Sample ID: 320-118635-48

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.27	J	0.41	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.50		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.25		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.24		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.16	J	0.20	0.063	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.17	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.24		0.20	0.051	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CFH-001-N-S003-01242025 (Continued) — Lab Sample ID: 320-118635-48

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanesulfonic acid (PFHpS)	0.089	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.34		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.67		0.41	0.10	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.12	J	0.41	0.10	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	1.3		1.0	0.25	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: CFH-006-N-S003-01242025 — Lab Sample ID: 320-118635-52

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.47		0.40	0.099	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.14	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.60		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.45		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.50		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	1.2		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.37		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.46		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	20		0.40	0.099	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.96		0.20	0.063	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	610		20	5.0	ug/Kg	100	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - DL	56		40	9.9	ug/Kg	100	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: FMB-003-N-S001-01242025
Date Collected: 01/24/25 08:05
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-2
Matrix: Solid
Percent Solids: 76.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.097	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
Perfluorooctanoic acid (PFOA)	**0.19**		0.19	0.060	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
Perfluorononanoic acid (PFNA)	**0.086**	**J I**	0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
Perfluorodecanoic acid (PFDA)	**0.25**		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
Perfluoroundecanoic acid (PFUnA)	**0.092**	**J**	0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
Perfluorododecanoic acid (PFDoA)	**0.66**		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
Perfluorotridecanoic acid (PFTrDA)	**0.096**	**J**	0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
Perfluorotetradecanoic acid (PFTeDA)	**0.31**		0.19	0.056	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
Perfluorohexanesulfonic acid (PFHxS)	**0.057**	**J**	0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
Perfluorooctanesulfonic acid (PFOS)	**0.74**		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.42**		0.39	0.097	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**0.14**	**J**	0.39	0.097	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1

Client Sample ID: FMB-003-N-S001-01242025

Lab Sample ID: 320-118635-2

Date Collected: 01/24/25 08:05
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 76.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.073	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	02/05/25 11:42	02/07/25 20:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*95.4*		*8 - 130*	*02/05/25 11:42*	*02/07/25 20:22*	*1*
13C5 PFPeA	*89.1*		*35 - 130*	*02/05/25 11:42*	*02/07/25 20:22*	*1*
13C5 PFHxA	*83.0*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:22*	*1*
13C4 PFHpA	*94.3*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:22*	*1*
13C8 PFOA	*83.7*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:22*	*1*
13C9 PFNA	*75.9*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:22*	*1*
13C6 PFDA	*67.6*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:22*	*1*
13C7 PFUnA	*53.8*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:22*	*1*
13C2 PFDoA	*48.8*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:22*	*1*
13C2 PFTeDA	*63.2*		*20 - 130*	*02/05/25 11:42*	*02/07/25 20:22*	*1*
13C3 PFBS	*79.5*		*40 - 135*	*02/05/25 11:42*	*02/07/25 20:22*	*1*
13C3 PFHxS	*80.3*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:22*	*1*
13C8 PFOS	*74.2*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:22*	*1*
13C8 FOSA	*53.1*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:22*	*1*
d3-NMeFOSAA	*69.6*		*40 - 135*	*02/05/25 11:42*	*02/07/25 20:22*	*1*
d5-NEtFOSAA	*68.7*		*40 - 150*	*02/05/25 11:42*	*02/07/25 20:22*	*1*
13C2 4:2 FTS	*68.1*		*40 - 165*	*02/05/25 11:42*	*02/07/25 20:22*	*1*
13C2 6:2 FTS	*80.4*		*40 - 215*	*02/05/25 11:42*	*02/07/25 20:22*	*1*
13C2 8:2 FTS	*68.3*		*40 - 275*	*02/05/25 11:42*	*02/07/25 20:22*	*1*
13C3 HFPO-DA	*84.7*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:22*	*1*
d7-N-MeFOSE-M	*55.8*		*20 - 130*	*02/05/25 11:42*	*02/07/25 20:22*	*1*
d9-N-EtFOSE-M	*55.9*		*15 - 130*	*02/05/25 11:42*	*02/07/25 20:22*	*1*
d5-NEtPFOSA	*61.7*		*10 - 130*	*02/05/25 11:42*	*02/07/25 20:22*	*1*
d3-NMePFOSA	*58.1*		*10 - 130*	*02/05/25 11:42*	*02/07/25 20:22*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**24**		0.10	0.10	%			02/03/25 11:57	1

Client Sample ID: FMB-003-FD-S001-01242025

Lab Sample ID: 320-118635-3

Date Collected: 01/24/25 08:35
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 89.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: FMB-003-FD-S001-01242025
Date Collected: 01/24/25 08:35
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-3
Matrix: Solid
Percent Solids: 89.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
Perfluorooctanoic acid (PFOA)	**0.38**		0.20	0.062	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
Perfluorononanoic acid (PFNA)	**0.087**	**J I**	0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
Perfluorodecanoic acid (PFDA)	**0.38**		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
Perfluoroundecanoic acid (PFUnA)	**0.11**	**J**	0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
Perfluorododecanoic acid (PFDoA)	**0.54**		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
Perfluorotridecanoic acid (PFTrDA)	**0.074**	**J**	0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
Perfluorotetradecanoic acid (PFTeDA)	**0.19**	**J**	0.20	0.058	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
Perfluorooctanesulfonic acid (PFOS)	**0.11**	**J**	0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1

Client Sample ID: FMB-003-FD-S001-01242025

Lab Sample ID: 320-118635-3
Date Collected: 01/24/25 08:35
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 89.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/05/25 11:42	02/07/25 20:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*90.5*		*8 - 130*	*02/05/25 11:42*	*02/07/25 20:39*	*1*
13C5 PFPeA	*73.8*		*35 - 130*	*02/05/25 11:42*	*02/07/25 20:39*	*1*
13C5 PFHxA	*87.2*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:39*	*1*
13C4 PFHpA	*85.2*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:39*	*1*
13C8 PFOA	*79.2*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:39*	*1*
13C9 PFNA	*80.8*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:39*	*1*
13C6 PFDA	*64.8*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:39*	*1*
13C7 PFUnA	*54.3*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:39*	*1*
13C2 PFDoA	*42.8*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:39*	*1*
13C2 PFTeDA	*26.0*		*20 - 130*	*02/05/25 11:42*	*02/07/25 20:39*	*1*
13C3 PFBS	*81.1*		*40 - 135*	*02/05/25 11:42*	*02/07/25 20:39*	*1*
13C3 PFHxS	*83.7*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:39*	*1*
13C8 PFOS	*80.6*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:39*	*1*
13C8 FOSA	*58.0*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:39*	*1*
d3-NMeFOSAA	*61.1*		*40 - 135*	*02/05/25 11:42*	*02/07/25 20:39*	*1*
d5-NEtFOSAA	*55.5*		*40 - 150*	*02/05/25 11:42*	*02/07/25 20:39*	*1*
13C2 4:2 FTS	*72.0*		*40 - 165*	*02/05/25 11:42*	*02/07/25 20:39*	*1*
13C2 6:2 FTS	*81.6*		*40 - 215*	*02/05/25 11:42*	*02/07/25 20:39*	*1*
13C2 8:2 FTS	*65.1*		*40 - 275*	*02/05/25 11:42*	*02/07/25 20:39*	*1*
13C3 HFPO-DA	*79.7*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:39*	*1*
d7-N-MeFOSE-M	*62.6*		*20 - 130*	*02/05/25 11:42*	*02/07/25 20:39*	*1*
d9-N-EtFOSE-M	*64.4*		*15 - 130*	*02/05/25 11:42*	*02/07/25 20:39*	*1*
d5-NEtPFOSA	*47.4*		*10 - 130*	*02/05/25 11:42*	*02/07/25 20:39*	*1*
d3-NMePFOSA	*57.1*		*10 - 130*	*02/05/25 11:42*	*02/07/25 20:39*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**11**		0.10	0.10	%			02/03/25 11:57	1

Client Sample ID: FMB-003-N-S003-01242025

Lab Sample ID: 320-118635-4
Date Collected: 01/24/25 08:10
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 85.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
Perfluorononanoic acid (PFNA)	**0.091**	**J**	0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: FMB-003-N-S003-01242025
Date Collected: 01/24/25 08:10
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-4
Matrix: Solid
Percent Solids: 85.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanoic acid (PFDA)	**2.9**		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
Perfluoroundecanoic acid (PFUnA)	**0.40**		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
Perfluorododecanoic acid (PFDoA)	**0.12**	**J**	0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
Perfluorotridecanoic acid (PFTrDA)	**0.058**	**J**	0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.21	0.060	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
Perfluorohexanesulfonic acid (PFHxS)	**0.15**	**J**	0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
Perfluorooctanesulfonic acid (PFOS)	**4.0**		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
Perfluorononanesulfonic acid (PFNS)	**0.054**	**J**	0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
Perfluorodecanesulfonic acid (PFDS)	**0.055**	**J**	0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.74**		0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**1.6**		0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
Perfluorooctanesulfonamide (PFOSA)	**0.31**		0.21	0.065	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.26	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.26	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.21	0.064	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.21	0.078	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1

Client Sample ID: FMB-003-N-S003-01242025
Date Collected: 01/24/25 08:10
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-4
Matrix: Solid
Percent Solids: 85.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	**1.1**		1.0	0.26	ug/Kg	☼	02/04/25 13:09	02/06/25 01:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*58.4*		*8 - 130*	*02/04/25 13:09*	*02/06/25 01:41*	*1*
13C5 PFPeA	*70.7*		*35 - 130*	*02/04/25 13:09*	*02/06/25 01:41*	*1*
13C5 PFHxA	*90.7*		*40 - 130*	*02/04/25 13:09*	*02/06/25 01:41*	*1*
13C4 PFHpA	*95.5*		*40 - 130*	*02/04/25 13:09*	*02/06/25 01:41*	*1*
13C9 PFNA	*92.2*		*40 - 130*	*02/04/25 13:09*	*02/06/25 01:41*	*1*
13C6 PFDA	*84.7*		*40 - 130*	*02/04/25 13:09*	*02/06/25 01:41*	*1*
13C7 PFUnA	*76.9*		*40 - 130*	*02/04/25 13:09*	*02/06/25 01:41*	*1*
13C2 PFDoA	*74.6*		*40 - 130*	*02/04/25 13:09*	*02/06/25 01:41*	*1*
13C2 PFTeDA	*68.7*		*20 - 130*	*02/04/25 13:09*	*02/06/25 01:41*	*1*
13C3 PFHxS	*76.7*		*40 - 130*	*02/04/25 13:09*	*02/06/25 01:41*	*1*
13C8 PFOS	*89.3*		*40 - 130*	*02/04/25 13:09*	*02/06/25 01:41*	*1*
13C8 FOSA	*80.7*		*40 - 130*	*02/04/25 13:09*	*02/06/25 01:41*	*1*
d3-NMeFOSAA	*85.7*		*40 - 135*	*02/04/25 13:09*	*02/06/25 01:41*	*1*
d5-NEtFOSAA	*84.0*		*40 - 150*	*02/04/25 13:09*	*02/06/25 01:41*	*1*
13C2 4:2 FTS	*88.7*		*40 - 165*	*02/04/25 13:09*	*02/06/25 01:41*	*1*
13C2 6:2 FTS	*98.1*		*40 - 215*	*02/04/25 13:09*	*02/06/25 01:41*	*1*
13C2 8:2 FTS	*89.2*		*40 - 275*	*02/04/25 13:09*	*02/06/25 01:41*	*1*
13C3 HFPO-DA	*90.3*		*40 - 130*	*02/04/25 13:09*	*02/06/25 01:41*	*1*
d7-N-MeFOSE-M	*60.0*		*20 - 130*	*02/04/25 13:09*	*02/06/25 01:41*	*1*
d9-N-EtFOSE-M	*61.0*		*15 - 130*	*02/04/25 13:09*	*02/06/25 01:41*	*1*
d5-NEtPFOSA	*77.7*		*10 - 130*	*02/04/25 13:09*	*02/06/25 01:41*	*1*
d3-NMePFOSA	*85.3*		*10 - 130*	*02/04/25 13:09*	*02/06/25 01:41*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 13:14	1
Perfluorohexanoic acid (PFHxA)	**0.098**	**J**	0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 13:14	1
Perfluorooctanoic acid (PFOA)	**0.29**		0.21	0.064	ug/Kg	☼	02/04/25 13:09	02/06/25 13:14	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 13:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*62.6*		*35 - 130*	*02/04/25 13:09*	*02/06/25 13:14*	*1*
13C5 PFHxA	*81.3*		*40 - 130*	*02/04/25 13:09*	*02/06/25 13:14*	*1*
13C8 PFOA	*84.4*		*40 - 130*	*02/04/25 13:09*	*02/06/25 13:14*	*1*
13C3 PFBS	*64.1*		*40 - 135*	*02/04/25 13:09*	*02/06/25 13:14*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**14**		0.10	0.10	%			02/03/25 11:57	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: FMB-003-N-S010-01242025
Date Collected: 01/24/25 08:20
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-6
Matrix: Solid
Percent Solids: 88.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.14**	**J**	0.42	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
Perfluoroheptanoic acid (PFHpA)	**0.073**	**J**	0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
Perfluorodecanoic acid (PFDA)	**0.096**	**J**	0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.21	0.060	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
Perfluorohexanesulfonic acid (PFHxS)	**0.46**		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
Perfluorooctanesulfonic acid (PFOS)	**2.7**		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.42	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**6.3**		0.42	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**0.27**	**J**	0.42	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.21	0.066	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.26	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.26	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.21	0.065	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.21	0.078	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1

Client Sample ID: FMB-003-N-S010-01242025
Date Collected: 01/24/25 08:20
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-6
Matrix: Solid
Percent Solids: 88.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.42	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	02/04/25 13:09	02/06/25 01:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*89.2*		*8 - 130*	*02/04/25 13:09*	*02/06/25 01:58*	*1*
13C5 PFPeA	*79.0*		*35 - 130*	*02/04/25 13:09*	*02/06/25 01:58*	*1*
13C5 PFHxA	*85.4*		*40 - 130*	*02/04/25 13:09*	*02/06/25 01:58*	*1*
13C4 PFHpA	*81.1*		*40 - 130*	*02/04/25 13:09*	*02/06/25 01:58*	*1*
13C9 PFNA	*81.1*		*40 - 130*	*02/04/25 13:09*	*02/06/25 01:58*	*1*
13C6 PFDA	*80.1*		*40 - 130*	*02/04/25 13:09*	*02/06/25 01:58*	*1*
13C7 PFUnA	*81.5*		*40 - 130*	*02/04/25 13:09*	*02/06/25 01:58*	*1*
13C2 PFDoA	*80.6*		*40 - 130*	*02/04/25 13:09*	*02/06/25 01:58*	*1*
13C2 PFTeDA	*79.8*		*20 - 130*	*02/04/25 13:09*	*02/06/25 01:58*	*1*
13C3 PFHxS	*67.4*		*40 - 130*	*02/04/25 13:09*	*02/06/25 01:58*	*1*
13C8 PFOS	*81.0*		*40 - 130*	*02/04/25 13:09*	*02/06/25 01:58*	*1*
13C8 FOSA	*71.0*		*40 - 130*	*02/04/25 13:09*	*02/06/25 01:58*	*1*
d3-NMeFOSAA	*75.3*		*40 - 135*	*02/04/25 13:09*	*02/06/25 01:58*	*1*
d5-NEtFOSAA	*77.8*		*40 - 150*	*02/04/25 13:09*	*02/06/25 01:58*	*1*
13C2 4:2 FTS	*83.5*		*40 - 165*	*02/04/25 13:09*	*02/06/25 01:58*	*1*
13C2 6:2 FTS	*82.0*		*40 - 215*	*02/04/25 13:09*	*02/06/25 01:58*	*1*
13C2 8:2 FTS	*68.0*		*40 - 275*	*02/04/25 13:09*	*02/06/25 01:58*	*1*
13C3 HFPO-DA	*87.0*		*40 - 130*	*02/04/25 13:09*	*02/06/25 01:58*	*1*
d7-N-MeFOSE-M	*63.7*		*20 - 130*	*02/04/25 13:09*	*02/06/25 01:58*	*1*
d9-N-EtFOSE-M	*68.4*		*15 - 130*	*02/04/25 13:09*	*02/06/25 01:58*	*1*
d5-NEtPFOSA	*44.3*		*10 - 130*	*02/04/25 13:09*	*02/06/25 01:58*	*1*
d3-NMePFOSA	*47.5*		*10 - 130*	*02/04/25 13:09*	*02/06/25 01:58*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	**0.17**	**J**	0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 13:31	1
Perfluorohexanoic acid (PFHxA)	**0.22**		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 13:31	1
Perfluorooctanoic acid (PFOA)	**0.29**		0.21	0.065	ug/Kg	☼	02/04/25 13:09	02/06/25 13:31	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 13:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*93.9*		*35 - 130*	*02/04/25 13:09*	*02/06/25 13:31*	*1*
13C5 PFHxA	*81.3*		*40 - 130*	*02/04/25 13:09*	*02/06/25 13:31*	*1*
13C8 PFOA	*84.0*		*40 - 130*	*02/04/25 13:09*	*02/06/25 13:31*	*1*
13C3 PFBS	*82.7*		*40 - 135*	*02/04/25 13:09*	*02/06/25 13:31*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**11**		0.10	0.10	%			02/03/25 11:57	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: FMB-003-FD-S010-01242025
Date Collected: 01/24/25 08:50
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-7
Matrix: Solid
Percent Solids: 87.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.16**	**J**	0.39	0.099	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
Perfluoroheptanoic acid (PFHpA)	**0.10**	**J**	0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
Perfluorohexanesulfonic acid (PFHxS)	**0.61**		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
Perfluorooctanesulfonic acid (PFOS)	**2.3**		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.099	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**7.4**		0.39	0.099	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**0.15**	**J**	0.39	0.099	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1

Client Sample ID: FMB-003-FD-S010-01242025
Date Collected: 01/24/25 08:50
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-7
Matrix: Solid
Percent Solids: 87.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.099	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 02:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*94.7*		*8 - 130*	*02/04/25 13:09*	*02/06/25 02:14*	*1*
13C5 PFPeA	*87.1*		*35 - 130*	*02/04/25 13:09*	*02/06/25 02:14*	*1*
13C5 PFHxA	*95.0*		*40 - 130*	*02/04/25 13:09*	*02/06/25 02:14*	*1*
13C4 PFHpA	*90.8*		*40 - 130*	*02/04/25 13:09*	*02/06/25 02:14*	*1*
13C9 PFNA	*86.0*		*40 - 130*	*02/04/25 13:09*	*02/06/25 02:14*	*1*
13C6 PFDA	*80.0*		*40 - 130*	*02/04/25 13:09*	*02/06/25 02:14*	*1*
13C7 PFUnA	*78.8*		*40 - 130*	*02/04/25 13:09*	*02/06/25 02:14*	*1*
13C2 PFDoA	*80.2*		*40 - 130*	*02/04/25 13:09*	*02/06/25 02:14*	*1*
13C2 PFTeDA	*82.9*		*20 - 130*	*02/04/25 13:09*	*02/06/25 02:14*	*1*
13C3 PFHxS	*74.2*		*40 - 130*	*02/04/25 13:09*	*02/06/25 02:14*	*1*
13C8 PFOS	*84.7*		*40 - 130*	*02/04/25 13:09*	*02/06/25 02:14*	*1*
13C8 FOSA	*68.8*		*40 - 130*	*02/04/25 13:09*	*02/06/25 02:14*	*1*
d3-NMeFOSAA	*74.2*		*40 - 135*	*02/04/25 13:09*	*02/06/25 02:14*	*1*
d5-NEtFOSAA	*76.1*		*40 - 150*	*02/04/25 13:09*	*02/06/25 02:14*	*1*
13C2 4:2 FTS	*82.8*		*40 - 165*	*02/04/25 13:09*	*02/06/25 02:14*	*1*
13C2 6:2 FTS	*83.2*		*40 - 215*	*02/04/25 13:09*	*02/06/25 02:14*	*1*
13C2 8:2 FTS	*74.0*		*40 - 275*	*02/04/25 13:09*	*02/06/25 02:14*	*1*
13C3 HFPO-DA	*94.9*		*40 - 130*	*02/04/25 13:09*	*02/06/25 02:14*	*1*
d7-N-MeFOSE-M	*72.2*		*20 - 130*	*02/04/25 13:09*	*02/06/25 02:14*	*1*
d9-N-EtFOSE-M	*72.0*		*15 - 130*	*02/04/25 13:09*	*02/06/25 02:14*	*1*
d5-NEtPFOSA	*44.6*		*10 - 130*	*02/04/25 13:09*	*02/06/25 02:14*	*1*
d3-NMePFOSA	*43.6*		*10 - 130*	*02/04/25 13:09*	*02/06/25 02:14*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	**0.21**		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 13:47	1
Perfluorohexanoic acid (PFHxA)	**0.29**		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 13:47	1
Perfluorooctanoic acid (PFOA)	**0.32**		0.20	0.061	ug/Kg	☼	02/04/25 13:09	02/06/25 13:47	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 13:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*84.2*		*35 - 130*	*02/04/25 13:09*	*02/06/25 13:47*	*1*
13C5 PFHxA	*86.2*		*40 - 130*	*02/04/25 13:09*	*02/06/25 13:47*	*1*
13C8 PFOA	*78.0*		*40 - 130*	*02/04/25 13:09*	*02/06/25 13:47*	*1*
13C3 PFBS	*83.8*		*40 - 135*	*02/04/25 13:09*	*02/06/25 13:47*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**12**		0.10	0.10	%			02/03/25 11:57	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: FMB-002-N-S001-01242025
Date Collected: 01/24/25 09:05
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-10
Matrix: Solid
Percent Solids: 87.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.097	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
Perfluoroheptanoic acid (PFHpA)	**0.057**	**J**	0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
Perfluorononanoic acid (PFNA)	**0.10**	**J**	0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
Perfluorodecanoic acid (PFDA)	**0.39**		0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
Perfluoroundecanoic acid (PFUnA)	**0.26**		0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
Perfluorododecanoic acid (PFDoA)	**0.95**		0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
Perfluorotetradecanoic acid (PFTeDA)	**0.13**	**J**	0.19	0.056	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
Perfluorohexanesulfonic acid (PFHxS)	**0.062**	**J**	0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
Perfluorooctanesulfonic acid (PFOS)	**0.58**		0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**0.14**	**J**	0.39	0.097	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1

Client Sample ID: FMB-002-N-S001-01242025
Date Collected: 01/24/25 09:05
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-10
Matrix: Solid
Percent Solids: 87.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.073	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	02/04/25 13:09	02/06/25 02:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99.3*		*8 - 130*	*02/04/25 13:09*	*02/06/25 02:31*	*1*
13C5 PFPeA	*89.3*		*35 - 130*	*02/04/25 13:09*	*02/06/25 02:31*	*1*
13C5 PFHxA	*96.9*		*40 - 130*	*02/04/25 13:09*	*02/06/25 02:31*	*1*
13C4 PFHpA	*90.4*		*40 - 130*	*02/04/25 13:09*	*02/06/25 02:31*	*1*
13C9 PFNA	*86.7*		*40 - 130*	*02/04/25 13:09*	*02/06/25 02:31*	*1*
13C6 PFDA	*82.9*		*40 - 130*	*02/04/25 13:09*	*02/06/25 02:31*	*1*
13C7 PFUnA	*77.1*		*40 - 130*	*02/04/25 13:09*	*02/06/25 02:31*	*1*
13C2 PFDoA	*76.1*		*40 - 130*	*02/04/25 13:09*	*02/06/25 02:31*	*1*
13C2 PFTeDA	*74.2*		*20 - 130*	*02/04/25 13:09*	*02/06/25 02:31*	*1*
13C3 PFHxS	*77.1*		*40 - 130*	*02/04/25 13:09*	*02/06/25 02:31*	*1*
13C8 PFOS	*87.3*		*40 - 130*	*02/04/25 13:09*	*02/06/25 02:31*	*1*
13C8 FOSA	*73.3*		*40 - 130*	*02/04/25 13:09*	*02/06/25 02:31*	*1*
d3-NMeFOSAA	*79.1*		*40 - 135*	*02/04/25 13:09*	*02/06/25 02:31*	*1*
d5-NEtFOSAA	*77.9*		*40 - 150*	*02/04/25 13:09*	*02/06/25 02:31*	*1*
13C2 4:2 FTS	*98.4*		*40 - 165*	*02/04/25 13:09*	*02/06/25 02:31*	*1*
13C2 6:2 FTS	*90.4*		*40 - 215*	*02/04/25 13:09*	*02/06/25 02:31*	*1*
13C2 8:2 FTS	*74.9*		*40 - 275*	*02/04/25 13:09*	*02/06/25 02:31*	*1*
13C3 HFPO-DA	*92.0*		*40 - 130*	*02/04/25 13:09*	*02/06/25 02:31*	*1*
d7-N-MeFOSE-M	*52.6*		*20 - 130*	*02/04/25 13:09*	*02/06/25 02:31*	*1*
d9-N-EtFOSE-M	*56.3*		*15 - 130*	*02/04/25 13:09*	*02/06/25 02:31*	*1*
d5-NEtPFOSA	*50.6*		*10 - 130*	*02/04/25 13:09*	*02/06/25 02:31*	*1*
d3-NMePFOSA	*53.8*		*10 - 130*	*02/04/25 13:09*	*02/06/25 02:31*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 14:04	1
Perfluorohexanoic acid (PFHxA)	**0.065**	**J**	0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 14:04	1
Perfluorooctanoic acid (PFOA)	**0.36**		0.19	0.060	ug/Kg	☼	02/04/25 13:09	02/06/25 14:04	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 14:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*87.7*		*35 - 130*	*02/04/25 13:09*	*02/06/25 14:04*	*1*
13C5 PFHxA	*88.5*		*40 - 130*	*02/04/25 13:09*	*02/06/25 14:04*	*1*
13C8 PFOA	*84.8*		*40 - 130*	*02/04/25 13:09*	*02/06/25 14:04*	*1*
13C3 PFBS	*87.3*		*40 - 135*	*02/04/25 13:09*	*02/06/25 14:04*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**12**		0.10	0.10	%			02/03/25 11:57	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: FMB-002-N-S003-01242025
Date Collected: 01/24/25 09:10
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-11
Matrix: Solid
Percent Solids: 85.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.13**	**J**	0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
Perfluoroheptanoic acid (PFHpA)	**0.20**	**J**	0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
Perfluorononanoic acid (PFNA)	**0.90**		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.21	0.060	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
Perfluorohexanesulfonic acid (PFHxS)	**3.1**		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.79**		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**6.2**		0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.21	0.065	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.26	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.26	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.21	0.064	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.21	0.077	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1

Client Sample ID: FMB-002-N-S003-01242025
Date Collected: 01/24/25 09:10
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-11
Matrix: Solid
Percent Solids: 85.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	02/04/25 13:09	02/06/25 03:20	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*95.9*		*8 - 130*	*02/04/25 13:09*	*02/06/25 03:20*	*1*
13C5 PFPeA	*85.7*		*35 - 130*	*02/04/25 13:09*	*02/06/25 03:20*	*1*
13C5 PFHxA	*96.3*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:20*	*1*
13C4 PFHpA	*87.5*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:20*	*1*
13C9 PFNA	*77.5*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:20*	*1*
13C6 PFDA	*62.6*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:20*	*1*
13C7 PFUnA	*48.9*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:20*	*1*
13C2 PFDoA	*44.9*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:20*	*1*
13C2 PFTeDA	*50.3*		*20 - 130*	*02/04/25 13:09*	*02/06/25 03:20*	*1*
13C3 PFHxS	*77.1*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:20*	*1*
13C8 PFOS	*71.2*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:20*	*1*
13C8 FOSA	*58.4*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:20*	*1*
d3-NMeFOSAA	*55.7*		*40 - 135*	*02/04/25 13:09*	*02/06/25 03:20*	*1*
d5-NEtFOSAA	*49.7*		*40 - 150*	*02/04/25 13:09*	*02/06/25 03:20*	*1*
13C2 4:2 FTS	*88.1*		*40 - 165*	*02/04/25 13:09*	*02/06/25 03:20*	*1*
13C2 6:2 FTS	*80.7*		*40 - 215*	*02/04/25 13:09*	*02/06/25 03:20*	*1*
13C2 8:2 FTS	*50.7*		*40 - 275*	*02/04/25 13:09*	*02/06/25 03:20*	*1*
13C3 HFPO-DA	*98.7*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:20*	*1*
d7-N-MeFOSE-M	*46.9*		*20 - 130*	*02/04/25 13:09*	*02/06/25 03:20*	*1*
d9-N-EtFOSE-M	*49.9*		*15 - 130*	*02/04/25 13:09*	*02/06/25 03:20*	*1*
d5-NEtPFOSA	*41.9*		*10 - 130*	*02/04/25 13:09*	*02/06/25 03:20*	*1*
d3-NMePFOSA	*45.2*		*10 - 130*	*02/04/25 13:09*	*02/06/25 03:20*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**32**		2.1	0.52	ug/Kg	☼	02/04/25 13:09	02/08/25 00:36	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*67.9*	**3*	*40 - 130*	*02/04/25 13:09*	*02/08/25 00:36*	*10*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 14:20	1
Perfluorohexanoic acid (PFHxA)	**0.064**	**J**	0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 14:20	1
Perfluorooctanoic acid (PFOA)	**2.0**		0.21	0.064	ug/Kg	☼	02/04/25 13:09	02/06/25 14:20	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/06/25 14:20	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*89.3*		*35 - 130*	*02/04/25 13:09*	*02/06/25 14:20*	*1*
13C5 PFHxA	*83.0*		*40 - 130*	*02/04/25 13:09*	*02/06/25 14:20*	*1*
13C8 PFOA	*83.0*		*40 - 130*	*02/04/25 13:09*	*02/06/25 14:20*	*1*
13C3 PFBS	*89.0*		*40 - 135*	*02/04/25 13:09*	*02/06/25 14:20*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**14**		0.10	0.10	%			02/03/25 11:57	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: CFH-007-N-S001-01242025
Date Collected: 01/24/25 11:05
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-16
Matrix: Solid
Percent Solids: 81.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.12**	**J**	0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
Perfluorononanoic acid (PFNA)	**0.083**	**J**	0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
Perfluorohexanesulfonic acid (PFHxS)	**0.082**	**J**	0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
Perfluorooctanesulfonic acid (PFOS)	**1.2**		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1

Client Sample ID: CFH-007-N-S001-01242025
Date Collected: 01/24/25 11:05
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-16
Matrix: Solid
Percent Solids: 81.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 03:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*97.8*		*8 - 130*	*02/04/25 13:09*	*02/06/25 03:36*	*1*
13C5 PFPeA	*85.8*		*35 - 130*	*02/04/25 13:09*	*02/06/25 03:36*	*1*
13C5 PFHxA	*96.2*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:36*	*1*
13C4 PFHpA	*89.1*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:36*	*1*
13C9 PFNA	*84.9*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:36*	*1*
13C6 PFDA	*70.5*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:36*	*1*
13C7 PFUnA	*51.7*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:36*	*1*
13C2 PFDoA	*40.6*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:36*	*1*
13C2 PFTeDA	*34.5*		*20 - 130*	*02/04/25 13:09*	*02/06/25 03:36*	*1*
13C3 PFHxS	*74.7*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:36*	*1*
13C8 PFOS	*80.9*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:36*	*1*
13C8 FOSA	*55.5*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:36*	*1*
d3-NMeFOSAA	*61.1*		*40 - 135*	*02/04/25 13:09*	*02/06/25 03:36*	*1*
d5-NEtFOSAA	*54.3*		*40 - 150*	*02/04/25 13:09*	*02/06/25 03:36*	*1*
13C2 4:2 FTS	*89.9*		*40 - 165*	*02/04/25 13:09*	*02/06/25 03:36*	*1*
13C2 6:2 FTS	*88.0*		*40 - 215*	*02/04/25 13:09*	*02/06/25 03:36*	*1*
13C2 8:2 FTS	*61.1*		*40 - 275*	*02/04/25 13:09*	*02/06/25 03:36*	*1*
13C3 HFPO-DA	*96.1*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:36*	*1*
d7-N-MeFOSE-M	*36.1*		*20 - 130*	*02/04/25 13:09*	*02/06/25 03:36*	*1*
d9-N-EtFOSE-M	*35.3*		*15 - 130*	*02/04/25 13:09*	*02/06/25 03:36*	*1*
d5-NEtPFOSA	*33.1*		*10 - 130*	*02/04/25 13:09*	*02/06/25 03:36*	*1*
d3-NMePFOSA	*39.2*		*10 - 130*	*02/04/25 13:09*	*02/06/25 03:36*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 14:36	1
Perfluorohexanoic acid (PFHxA)	**0.061**	**J**	0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 14:36	1
Perfluorooctanoic acid (PFOA)	**0.12**	**J**	0.20	0.062	ug/Kg	☼	02/04/25 13:09	02/06/25 14:36	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 14:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*93.2*		*35 - 130*	*02/04/25 13:09*	*02/06/25 14:36*	*1*
13C5 PFHxA	*86.4*		*40 - 130*	*02/04/25 13:09*	*02/06/25 14:36*	*1*
13C8 PFOA	*83.8*		*40 - 130*	*02/04/25 13:09*	*02/06/25 14:36*	*1*
13C3 PFBS	*85.4*		*40 - 135*	*02/04/25 13:09*	*02/06/25 14:36*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**19**		0.10	0.10	%			02/03/25 11:57	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: CFH-007-FD-S001-01242025
Date Collected: 01/24/25 11:35
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-17
Matrix: Solid
Percent Solids: 87.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.12**	**J**	0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
Perfluorononanoic acid (PFNA)	**0.063**	**J**	0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
Perfluorodecanoic acid (PFDA)	**0.067**	**J**	0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
Perfluorohexanesulfonic acid (PFHxS)	**0.051**	**J**	0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
Perfluorooctanesulfonic acid (PFOS)	**2.2**		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1

Client Sample ID: CFH-007-FD-S001-01242025
Date Collected: 01/24/25 11:35
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-17
Matrix: Solid
Percent Solids: 87.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 03:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*97.2*		*8 - 130*	*02/04/25 13:09*	*02/06/25 03:53*	*1*
13C5 PFPeA	*86.8*		*35 - 130*	*02/04/25 13:09*	*02/06/25 03:53*	*1*
13C5 PFHxA	*93.7*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:53*	*1*
13C4 PFHpA	*86.7*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:53*	*1*
13C9 PFNA	*87.0*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:53*	*1*
13C6 PFDA	*72.7*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:53*	*1*
13C7 PFUnA	*58.2*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:53*	*1*
13C2 PFDoA	*50.2*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:53*	*1*
13C2 PFTeDA	*43.9*		*20 - 130*	*02/04/25 13:09*	*02/06/25 03:53*	*1*
13C3 PFHxS	*75.1*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:53*	*1*
13C8 PFOS	*77.2*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:53*	*1*
13C8 FOSA	*56.2*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:53*	*1*
d3-NMeFOSAA	*61.8*		*40 - 135*	*02/04/25 13:09*	*02/06/25 03:53*	*1*
d5-NEtFOSAA	*54.2*		*40 - 150*	*02/04/25 13:09*	*02/06/25 03:53*	*1*
13C2 4:2 FTS	*93.4*		*40 - 165*	*02/04/25 13:09*	*02/06/25 03:53*	*1*
13C2 6:2 FTS	*82.4*		*40 - 215*	*02/04/25 13:09*	*02/06/25 03:53*	*1*
13C2 8:2 FTS	*61.2*		*40 - 275*	*02/04/25 13:09*	*02/06/25 03:53*	*1*
13C3 HFPO-DA	*92.9*		*40 - 130*	*02/04/25 13:09*	*02/06/25 03:53*	*1*
d7-N-MeFOSE-M	*39.7*		*20 - 130*	*02/04/25 13:09*	*02/06/25 03:53*	*1*
d9-N-EtFOSE-M	*40.3*		*15 - 130*	*02/04/25 13:09*	*02/06/25 03:53*	*1*
d5-NEtPFOSA	*38.3*		*10 - 130*	*02/04/25 13:09*	*02/06/25 03:53*	*1*
d3-NMePFOSA	*45.3*		*10 - 130*	*02/04/25 13:09*	*02/06/25 03:53*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 15:26	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 15:26	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	02/04/25 13:09	02/06/25 15:26	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 15:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*96.6*		*35 - 130*	*02/04/25 13:09*	*02/06/25 15:26*	*1*
13C5 PFHxA	*90.1*		*40 - 130*	*02/04/25 13:09*	*02/06/25 15:26*	*1*
13C8 PFOA	*90.4*		*40 - 130*	*02/04/25 13:09*	*02/06/25 15:26*	*1*
13C3 PFBS	*77.1*		*40 - 135*	*02/04/25 13:09*	*02/06/25 15:26*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**13**		0.10	0.10	%			02/03/25 11:57	1

Client Sample ID: CFH-007-N-S003-01242025
Date Collected: 01/24/25 11:10
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-18
Matrix: Solid
Percent Solids: 87.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.13**	**J**	0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
Perfluorohexanesulfonic acid (PFHxS)	**0.093**	**J**	0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
Perfluorooctanesulfonic acid (PFOS)	**0.21**		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1

Client Sample ID: CFH-007-N-S003-01242025
Date Collected: 01/24/25 11:10
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-18
Matrix: Solid
Percent Solids: 87.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 04:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*100*		*8 - 130*	*02/04/25 13:09*	*02/06/25 04:09*	*1*
13C5 PFPeA	*87.6*		*35 - 130*	*02/04/25 13:09*	*02/06/25 04:09*	*1*
13C5 PFHxA	*93.1*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:09*	*1*
13C4 PFHpA	*88.8*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:09*	*1*
13C9 PFNA	*83.1*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:09*	*1*
13C6 PFDA	*75.0*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:09*	*1*
13C7 PFUnA	*57.4*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:09*	*1*
13C2 PFDoA	*47.2*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:09*	*1*
13C2 PFTeDA	*33.7*		*20 - 130*	*02/04/25 13:09*	*02/06/25 04:09*	*1*
13C3 PFHxS	*75.3*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:09*	*1*
13C8 PFOS	*78.9*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:09*	*1*
13C8 FOSA	*61.2*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:09*	*1*
d3-NMeFOSAA	*64.7*		*40 - 135*	*02/04/25 13:09*	*02/06/25 04:09*	*1*
d5-NEtFOSAA	*58.6*		*40 - 150*	*02/04/25 13:09*	*02/06/25 04:09*	*1*
13C2 4:2 FTS	*101*		*40 - 165*	*02/04/25 13:09*	*02/06/25 04:09*	*1*
13C2 6:2 FTS	*83.9*		*40 - 215*	*02/04/25 13:09*	*02/06/25 04:09*	*1*
13C2 8:2 FTS	*63.4*		*40 - 275*	*02/04/25 13:09*	*02/06/25 04:09*	*1*
13C3 HFPO-DA	*99.4*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:09*	*1*
d7-N-MeFOSE-M	*43.0*		*20 - 130*	*02/04/25 13:09*	*02/06/25 04:09*	*1*
d9-N-EtFOSE-M	*42.6*		*15 - 130*	*02/04/25 13:09*	*02/06/25 04:09*	*1*
d5-NEtPFOSA	*36.7*		*10 - 130*	*02/04/25 13:09*	*02/06/25 04:09*	*1*
d3-NMePFOSA	*47.3*		*10 - 130*	*02/04/25 13:09*	*02/06/25 04:09*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	**0.061**	**J**	0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 15:42	1
Perfluorohexanoic acid (PFHxA)	**0.065**	**J**	0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 15:42	1
Perfluorooctanoic acid (PFOA)	**0.12**	**J**	0.20	0.062	ug/Kg	☼	02/04/25 13:09	02/06/25 15:42	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 15:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*82.7*		*35 - 130*	*02/04/25 13:09*	*02/06/25 15:42*	*1*
13C5 PFHxA	*82.7*		*40 - 130*	*02/04/25 13:09*	*02/06/25 15:42*	*1*
13C8 PFOA	*81.4*		*40 - 130*	*02/04/25 13:09*	*02/06/25 15:42*	*1*
13C3 PFBS	*83.7*		*40 - 135*	*02/04/25 13:09*	*02/06/25 15:42*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**13**		0.10	0.10	%			02/03/25 11:57	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: CFH-006-N-S001-01242025
Date Collected: 01/24/25 11:50
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-20
Matrix: Solid
Percent Solids: 92.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.24**	**J**	0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
Perfluorononanoic acid (PFNA)	**0.67**		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
Perfluorodecanoic acid (PFDA)	**2.8**		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
Perfluoroundecanoic acid (PFUnA)	**0.86**		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
Perfluorohexanesulfonic acid (PFHxS)	**0.50**		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.56**		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
Perfluorononanesulfonic acid (PFNS)	**0.20**		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**5.6**		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**42**		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
Perfluorooctanesulfonamide (PFOSA)	**6.1**		0.20	0.063	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	**0.064**	**J**	0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	**0.11**	**J**	0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1

Client Sample ID: CFH-006-N-S001-01242025
Date Collected: 01/24/25 11:50
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-20
Matrix: Solid
Percent Solids: 92.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 04:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*98.3*		*8 - 130*	*02/04/25 13:09*	*02/06/25 04:26*	*1*
13C5 PFPeA	*89.9*		*35 - 130*	*02/04/25 13:09*	*02/06/25 04:26*	*1*
13C5 PFHxA	*102*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:26*	*1*
13C4 PFHpA	*95.3*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:26*	*1*
13C9 PFNA	*87.3*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:26*	*1*
13C6 PFDA	*81.3*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:26*	*1*
13C7 PFUnA	*78.2*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:26*	*1*
13C2 PFDoA	*80.7*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:26*	*1*
13C2 PFTeDA	*77.5*		*20 - 130*	*02/04/25 13:09*	*02/06/25 04:26*	*1*
13C3 PFHxS	*76.5*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:26*	*1*
13C8 PFOS	*93.0*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:26*	*1*
13C8 FOSA	*136*	**5+*	*40 - 130*	*02/04/25 13:09*	*02/06/25 04:26*	*1*
d3-NMeFOSAA	*147*	**5+*	*40 - 135*	*02/04/25 13:09*	*02/06/25 04:26*	*1*
d5-NEtFOSAA	*141*		*40 - 150*	*02/04/25 13:09*	*02/06/25 04:26*	*1*
13C2 4:2 FTS	*92.8*		*40 - 165*	*02/04/25 13:09*	*02/06/25 04:26*	*1*
13C2 6:2 FTS	*91.4*		*40 - 215*	*02/04/25 13:09*	*02/06/25 04:26*	*1*
13C2 8:2 FTS	*74.4*		*40 - 275*	*02/04/25 13:09*	*02/06/25 04:26*	*1*
13C3 HFPO-DA	*99.7*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:26*	*1*
d7-N-MeFOSE-M	*130*		*20 - 130*	*02/04/25 13:09*	*02/06/25 04:26*	*1*
d9-N-EtFOSE-M	*140*	**5+*	*15 - 130*	*02/04/25 13:09*	*02/06/25 04:26*	*1*
d5-NEtPFOSA	*98.4*		*10 - 130*	*02/04/25 13:09*	*02/06/25 04:26*	*1*
d3-NMePFOSA	*107*		*10 - 130*	*02/04/25 13:09*	*02/06/25 04:26*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**320**		4.0	1.0	ug/Kg	☼	02/04/25 13:09	02/08/25 00:52	20

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99.8*	**3*	*8 - 130*	*02/04/25 13:09*	*02/08/25 00:52*	*20*
13C5 PFPeA	*84.4*	**3*	*35 - 130*	*02/04/25 13:09*	*02/08/25 00:52*	*20*
13C5 PFHxA	*89.9*	**3*	*40 - 130*	*02/04/25 13:09*	*02/08/25 00:52*	*20*
13C4 PFHpA	*87.2*	**3*	*40 - 130*	*02/04/25 13:09*	*02/08/25 00:52*	*20*
13C8 PFOA	*81.2*	**3*	*40 - 130*	*02/04/25 13:09*	*02/08/25 00:52*	*20*
13C9 PFNA	*83.8*	**3*	*40 - 130*	*02/04/25 13:09*	*02/08/25 00:52*	*20*
13C6 PFDA	*77.8*	**3*	*40 - 130*	*02/04/25 13:09*	*02/08/25 00:52*	*20*
13C7 PFUnA	*77.3*	**3*	*40 - 130*	*02/04/25 13:09*	*02/08/25 00:52*	*20*
13C2 PFDoA	*81.7*	**3*	*40 - 130*	*02/04/25 13:09*	*02/08/25 00:52*	*20*
13C2 PFTeDA	*74.3*	**3*	*20 - 130*	*02/04/25 13:09*	*02/08/25 00:52*	*20*
13C3 PFBS	*86.6*	**3*	*40 - 135*	*02/04/25 13:09*	*02/08/25 00:52*	*20*
13C3 PFHxS	*78.2*	**3*	*40 - 130*	*02/04/25 13:09*	*02/08/25 00:52*	*20*
13C8 PFOS	*86.5*	**3*	*40 - 130*	*02/04/25 13:09*	*02/08/25 00:52*	*20*

Client Sample ID: CFH-006-N-S001-01242025

Lab Sample ID: 320-118635-20
Date Collected: 01/24/25 11:50
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 92.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	84.4	*3	40 - 130	02/04/25 13:09	02/08/25 00:52	20
d3-NMeFOSAA	89.5	*3	40 - 135	02/04/25 13:09	02/08/25 00:52	20
d5-NEtFOSAA	90.4	*3	40 - 150	02/04/25 13:09	02/08/25 00:52	20
13C2 4:2 FTS	88.8	*3	40 - 165	02/04/25 13:09	02/08/25 00:52	20
13C2 6:2 FTS	86.3	*3	40 - 215	02/04/25 13:09	02/08/25 00:52	20
13C2 8:2 FTS	82.2	*3	40 - 275	02/04/25 13:09	02/08/25 00:52	20
13C3 HFPO-DA	77.3	*3	40 - 130	02/04/25 13:09	02/08/25 00:52	20
d7-N-MeFOSE-M	73.2	*3	20 - 130	02/04/25 13:09	02/08/25 00:52	20
d9-N-EtFOSE-M	73.3	*3	15 - 130	02/04/25 13:09	02/08/25 00:52	20
d5-NEtPFOSA	61.5	*3	10 - 130	02/04/25 13:09	02/08/25 00:52	20
d3-NMePFOSA	63.5	*3	10 - 130	02/04/25 13:09	02/08/25 00:52	20

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	**0.070**	**J**	0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 15:59	1
Perfluorohexanoic acid (PFHxA)	**0.59**		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 15:59	1
Perfluorooctanoic acid (PFOA)	**0.29**		0.20	0.062	ug/Kg	☼	02/04/25 13:09	02/06/25 15:59	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 15:59	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	89.4		35 - 130	02/04/25 13:09	02/06/25 15:59	1
13C5 PFHxA	90.4		40 - 130	02/04/25 13:09	02/06/25 15:59	1
13C8 PFOA	83.9		40 - 130	02/04/25 13:09	02/06/25 15:59	1
13C3 PFBS	85.7		40 - 135	02/04/25 13:09	02/06/25 15:59	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**7.6**		0.10	0.10	%			02/03/25 11:57	1

Client Sample ID: CFH-005-N-S001-01242025

Lab Sample ID: 320-118635-22
Date Collected: 01/24/25 12:05
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 79.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.52**		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
Perfluoroheptanoic acid (PFHpA)	**0.066**	**J**	0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
Perfluorononanoic acid (PFNA)	**5.0**		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
Perfluorodecanoic acid (PFDA)	**0.81**		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
Perfluoroundecanoic acid (PFUnA)	**0.44**		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
Perfluorododecanoic acid (PFDoA)	**0.082**	**J**	0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
Perfluorotridecanoic acid (PFTrDA)	**0.14**	**J**	0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
Perfluoropentanesulfonic acid (PFPeS)	**0.12**	**J**	0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
Perfluorohexanesulfonic acid (PFHxS)	**2.3**		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
Perfluoroheptanesulfonic acid (PFHpS)	**1.7**		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: CFH-005-N-S001-01242025
Date Collected: 01/24/25 12:05
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-22
Matrix: Solid
Percent Solids: 79.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanesulfonic acid (PFDS)	**0.092**	**J**	0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**12**		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**20**		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
Perfluorooctanesulfonamide (PFOSA)	**0.84**		0.20	0.063	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	**0.84**		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**4.0**		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	**0.75**	**J**	1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 04:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*97.1*		*8 - 130*	*02/04/25 13:09*	*02/06/25 04:42*	*1*
13C5 PFPeA	*86.5*		*35 - 130*	*02/04/25 13:09*	*02/06/25 04:42*	*1*
13C5 PFHxA	*94.3*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:42*	*1*
13C4 PFHpA	*89.1*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:42*	*1*
13C9 PFNA	*83.9*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:42*	*1*
13C6 PFDA	*66.4*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:42*	*1*
13C7 PFUnA	*49.6*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:42*	*1*
13C2 PFDoA	*44.1*		*40 - 130*	*02/04/25 13:09*	*02/06/25 04:42*	*1*

Client Sample ID: CFH-005-N-S001-01242025

Lab Sample ID: 320-118635-22
Date Collected: 01/24/25 12:05
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 79.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFTeDA	48.9		20 - 130	02/04/25 13:09	02/06/25 04:42	1
13C3 PFHxS	76.1		40 - 130	02/04/25 13:09	02/06/25 04:42	1
13C8 PFOS	77.8		40 - 130	02/04/25 13:09	02/06/25 04:42	1
13C8 FOSA	96.2		40 - 130	02/04/25 13:09	02/06/25 04:42	1
d3-NMeFOSAA	91.9		40 - 135	02/04/25 13:09	02/06/25 04:42	1
d5-NEtFOSAA	83.6		40 - 150	02/04/25 13:09	02/06/25 04:42	1
13C2 4:2 FTS	86.7		40 - 165	02/04/25 13:09	02/06/25 04:42	1
13C2 6:2 FTS	80.1		40 - 215	02/04/25 13:09	02/06/25 04:42	1
13C2 8:2 FTS	57.1		40 - 275	02/04/25 13:09	02/06/25 04:42	1
13C3 HFPO-DA	96.8		40 - 130	02/04/25 13:09	02/06/25 04:42	1
d7-N-MeFOSE-M	86.5		20 - 130	02/04/25 13:09	02/06/25 04:42	1
d9-N-EtFOSE-M	87.6		15 - 130	02/04/25 13:09	02/06/25 04:42	1
d5-NEtPFOSA	66.1		10 - 130	02/04/25 13:09	02/06/25 04:42	1
d3-NMePFOSA	72.4		10 - 130	02/04/25 13:09	02/06/25 04:42	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	540		10	2.5	ug/Kg	☼	02/04/25 13:09	02/06/25 17:37	50

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	76.9	*3	40 - 130	02/04/25 13:09	02/06/25 17:37	50

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	0.60		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 19:49	1
Perfluorohexanoic acid (PFHxA)	0.42		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 19:49	1
Perfluorooctanoic acid (PFOA)	2.2		0.20	0.062	ug/Kg	☼	02/04/25 13:09	02/06/25 19:49	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 19:49	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	92.5		35 - 130	02/04/25 13:09	02/06/25 19:49	1
13C5 PFHxA	85.6		40 - 130	02/04/25 13:09	02/06/25 19:49	1
13C8 PFOA	82.3		40 - 130	02/04/25 13:09	02/06/25 19:49	1
13C3 PFBS	84.5		40 - 135	02/04/25 13:09	02/06/25 19:49	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	21		0.10	0.10	%			02/03/25 11:57	1

Client Sample ID: CFH-005-N-S003-01242025

Lab Sample ID: 320-118635-23
Date Collected: 01/24/25 12:10
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 95.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.20	J	0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
Perfluoroheptanoic acid (PFHpA)	0.18	J	0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1

Client Sample ID: CFH-005-N-S003-01242025
Date Collected: 01/24/25 12:10
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-23
Matrix: Solid
Percent Solids: 95.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
Perfluoropentanesulfonic acid (PFPeS)	**0.22**		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
Perfluorohexanesulfonic acid (PFHxS)	**8.3**		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.52**		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
Perfluorooctanesulfonic acid (PFOS)	**2.2**		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**36**		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**0.15**	**J**	0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	**0.22**	**J**	0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**1.1**		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 04:59	1

Client Sample ID: CFH-005-N-S003-01242025

Lab Sample ID: 320-118635-23

Date Collected: 01/24/25 12:10
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 95.3

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	96.3		8 - 130	02/04/25 13:09	02/06/25 04:59	1
13C5 PFPeA	90.9		35 - 130	02/04/25 13:09	02/06/25 04:59	1
13C5 PFHxA	94.3		40 - 130	02/04/25 13:09	02/06/25 04:59	1
13C4 PFHpA	88.2		40 - 130	02/04/25 13:09	02/06/25 04:59	1
13C9 PFNA	88.4		40 - 130	02/04/25 13:09	02/06/25 04:59	1
13C6 PFDA	80.4		40 - 130	02/04/25 13:09	02/06/25 04:59	1
13C7 PFUnA	81.7		40 - 130	02/04/25 13:09	02/06/25 04:59	1
13C2 PFDoA	79.0		40 - 130	02/04/25 13:09	02/06/25 04:59	1
13C2 PFTeDA	74.3		20 - 130	02/04/25 13:09	02/06/25 04:59	1
13C3 PFHxS	79.6		40 - 130	02/04/25 13:09	02/06/25 04:59	1
13C8 PFOS	89.5		40 - 130	02/04/25 13:09	02/06/25 04:59	1
13C8 FOSA	74.7		40 - 130	02/04/25 13:09	02/06/25 04:59	1
d3-NMeFOSAA	84.1		40 - 135	02/04/25 13:09	02/06/25 04:59	1
d5-NEtFOSAA	84.7		40 - 150	02/04/25 13:09	02/06/25 04:59	1
13C2 4:2 FTS	90.2		40 - 165	02/04/25 13:09	02/06/25 04:59	1
13C2 6:2 FTS	82.1		40 - 215	02/04/25 13:09	02/06/25 04:59	1
13C2 8:2 FTS	68.2		40 - 275	02/04/25 13:09	02/06/25 04:59	1
13C3 HFPO-DA	97.7		40 - 130	02/04/25 13:09	02/06/25 04:59	1
d7-N-MeFOSE-M	73.2		20 - 130	02/04/25 13:09	02/06/25 04:59	1
d9-N-EtFOSE-M	75.3		15 - 130	02/04/25 13:09	02/06/25 04:59	1
d5-NEtPFOSA	48.3		10 - 130	02/04/25 13:09	02/06/25 04:59	1
d3-NMePFOSA	52.0		10 - 130	02/04/25 13:09	02/06/25 04:59	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	**0.14**	**J**	0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 16:15	1
Perfluorohexanoic acid (PFHxA)	**0.31**		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 16:15	1
Perfluorooctanoic acid (PFOA)	**2.8**		0.20	0.062	ug/Kg	☼	02/04/25 13:09	02/06/25 16:15	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/06/25 16:15	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	96.3		35 - 130	02/04/25 13:09	02/06/25 16:15	1
13C5 PFHxA	87.7		40 - 130	02/04/25 13:09	02/06/25 16:15	1
13C8 PFOA	84.9		40 - 130	02/04/25 13:09	02/06/25 16:15	1
13C3 PFBS	86.5		40 - 135	02/04/25 13:09	02/06/25 16:15	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**4.7**		0.10	0.10	%			02/03/25 11:57	1

Client Sample ID: CFH-005-FD-S003-01242025

Lab Sample ID: 320-118635-24

Date Collected: 01/24/25 12:40
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 90.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.15**	**J**	0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
Perfluoroheptanoic acid (PFHpA)	**0.092**	**J**	0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
Perfluorononanoic acid (PFNA)	**0.070**	**J I**	0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1

Client Sample ID: CFH-005-FD-S003-01242025
Date Collected: 01/24/25 12:40
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-24
Matrix: Solid
Percent Solids: 90.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
Perfluoropentanesulfonic acid (PFPeS)	**0.092**	**J**	0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
Perfluorohexanesulfonic acid (PFHxS)	**5.5**		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.96**		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
Perfluorooctanesulfonic acid (PFOS)	**1.5**		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**27**		0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**0.14**	**J**	0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.064	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.26	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.26	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.077	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	**0.28**	**J**	0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**1.2**		1.0	0.26	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	02/04/25 13:09	02/06/25 05:15	1

Client Sample ID: CFH-005-FD-S003-01242025

Lab Sample ID: 320-118635-24

Date Collected: 01/24/25 12:40
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 90.6

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*102*		*8 - 130*	*02/04/25 13:09*	*02/06/25 05:15*	*1*
13C5 PFPeA	*93.5*		*35 - 130*	*02/04/25 13:09*	*02/06/25 05:15*	*1*
13C5 PFHxA	*102*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:15*	*1*
13C4 PFHpA	*93.1*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:15*	*1*
13C9 PFNA	*87.0*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:15*	*1*
13C6 PFDA	*84.3*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:15*	*1*
13C7 PFUnA	*74.8*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:15*	*1*
13C2 PFDoA	*64.1*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:15*	*1*
13C2 PFTeDA	*59.6*		*20 - 130*	*02/04/25 13:09*	*02/06/25 05:15*	*1*
13C3 PFHxS	*80.5*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:15*	*1*
13C8 PFOS	*87.0*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:15*	*1*
13C8 FOSA	*67.3*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:15*	*1*
d3-NMeFOSAA	*79.5*		*40 - 135*	*02/04/25 13:09*	*02/06/25 05:15*	*1*
d5-NEtFOSAA	*73.0*		*40 - 150*	*02/04/25 13:09*	*02/06/25 05:15*	*1*
13C2 4:2 FTS	*94.3*		*40 - 165*	*02/04/25 13:09*	*02/06/25 05:15*	*1*
13C2 6:2 FTS	*82.8*		*40 - 215*	*02/04/25 13:09*	*02/06/25 05:15*	*1*
13C2 8:2 FTS	*67.2*		*40 - 275*	*02/04/25 13:09*	*02/06/25 05:15*	*1*
13C3 HFPO-DA	*96.3*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:15*	*1*
d7-N-MeFOSE-M	*56.3*		*20 - 130*	*02/04/25 13:09*	*02/06/25 05:15*	*1*
d9-N-EtFOSE-M	*58.7*		*15 - 130*	*02/04/25 13:09*	*02/06/25 05:15*	*1*
d5-NEtPFOSA	*52.2*		*10 - 130*	*02/04/25 13:09*	*02/06/25 05:15*	*1*
d3-NMePFOSA	*55.3*		*10 - 130*	*02/04/25 13:09*	*02/06/25 05:15*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	**0.10**	**J**	0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:31	1
Perfluorohexanoic acid (PFHxA)	**0.19**	**J**	0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:31	1
Perfluorooctanoic acid (PFOA)	**2.2**		0.20	0.063	ug/Kg	☼	02/04/25 13:09	02/06/25 16:31	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*98.0*		*35 - 130*	*02/04/25 13:09*	*02/06/25 16:31*	*1*
13C5 PFHxA	*88.1*		*40 - 130*	*02/04/25 13:09*	*02/06/25 16:31*	*1*
13C8 PFOA	*79.2*		*40 - 130*	*02/04/25 13:09*	*02/06/25 16:31*	*1*
13C3 PFBS	*101*		*40 - 135*	*02/04/25 13:09*	*02/06/25 16:31*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**9.4**		0.10	0.10	%			02/03/25 11:57	1

Client Sample ID: CFH-004-N-S001-01242025

Lab Sample ID: 320-118635-27

Date Collected: 01/24/25 13:05
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 72.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.94**		0.40	0.099	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
Perfluoroheptanoic acid (PFHpA)	**0.95**		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
Perfluorononanoic acid (PFNA)	**5.4**		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
Perfluorodecanoic acid (PFDA)	**2.0**		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
Perfluoroundecanoic acid (PFUnA)	**2.6**		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1

Client Sample ID: CFH-004-N-S001-01242025
Date Collected: 01/24/25 13:05
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-27
Matrix: Solid
Percent Solids: 72.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	**0.40**		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
Perfluorotridecanoic acid (PFTrDA)	**0.70**		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
Perfluorotetradecanoic acid (PFTeDA)	**0.11**	**J**	0.20	0.057	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
Perfluoropentanesulfonic acid (PFPeS)	**0.97**		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
Perfluoroheptanesulfonic acid (PFHpS)	**1.7**		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
Perfluorononanesulfonic acid (PFNS)	**0.36**		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
Perfluorodecanesulfonic acid (PFDS)	**0.51**		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**26**		0.40	0.099	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**6.7**		0.40	0.099	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
Perfluorooctanesulfonamide (PFOSA)	**2.3**		0.20	0.062	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	**1.0**		0.40	0.099	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**7.6**		0.99	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1

Client Sample ID: CFH-004-N-S001-01242025

Date Collected: 01/24/25 13:05
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-27

Matrix: Solid
Percent Solids: 72.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	0.99		0.99	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 05:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*96.3*		*8 - 130*	*02/04/25 13:09*	*02/06/25 05:31*	*1*
13C5 PFPeA	*88.8*		*35 - 130*	*02/04/25 13:09*	*02/06/25 05:31*	*1*
13C5 PFHxA	*95.2*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:31*	*1*
13C4 PFHpA	*93.0*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:31*	*1*
13C9 PFNA	*78.5*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:31*	*1*
13C6 PFDA	*63.6*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:31*	*1*
13C7 PFUnA	*48.4*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:31*	*1*
13C2 PFDoA	*39.8*	*5-	*40 - 130*	*02/04/25 13:09*	*02/06/25 05:31*	*1*
13C2 PFTeDA	*50.7*		*20 - 130*	*02/04/25 13:09*	*02/06/25 05:31*	*1*
13C3 PFHxS	*76.6*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:31*	*1*
13C8 PFOS	*75.5*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:31*	*1*
13C8 FOSA	*79.0*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:31*	*1*
d3-NMeFOSAA	*78.8*		*40 - 135*	*02/04/25 13:09*	*02/06/25 05:31*	*1*
d5-NEtFOSAA	*68.9*		*40 - 150*	*02/04/25 13:09*	*02/06/25 05:31*	*1*
13C2 4:2 FTS	*115*		*40 - 165*	*02/04/25 13:09*	*02/06/25 05:31*	*1*
13C2 6:2 FTS	*91.0*		*40 - 215*	*02/04/25 13:09*	*02/06/25 05:31*	*1*
13C2 8:2 FTS	*65.3*		*40 - 275*	*02/04/25 13:09*	*02/06/25 05:31*	*1*
13C3 HFPO-DA	*97.1*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:31*	*1*
d7-N-MeFOSE-M	*67.7*		*20 - 130*	*02/04/25 13:09*	*02/06/25 05:31*	*1*
d9-N-EtFOSE-M	*74.7*		*15 - 130*	*02/04/25 13:09*	*02/06/25 05:31*	*1*
d5-NEtPFOSA	*71.4*		*10 - 130*	*02/04/25 13:09*	*02/06/25 05:31*	*1*
d3-NMePFOSA	*70.9*		*10 - 130*	*02/04/25 13:09*	*02/06/25 05:31*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	40		4.0	0.99	ug/Kg	☼	02/04/25 13:09	02/08/25 01:08	20
Perfluorooctanesulfonic acid (PFOS)	310		4.0	0.99	ug/Kg	☼	02/04/25 13:09	02/08/25 01:08	20

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFHxS	*74.8*	*3	*40 - 130*	*02/04/25 13:09*	*02/08/25 01:08*	*20*
13C8 PFOS	*68.7*	*3	*40 - 130*	*02/04/25 13:09*	*02/08/25 01:08*	*20*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	1.6		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 20:05	1
Perfluorohexanoic acid (PFHxA)	1.5		0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 20:05	1
Perfluorooctanoic acid (PFOA)	4.1		0.20	0.061	ug/Kg	☼	02/04/25 13:09	02/06/25 20:05	1
Perfluorobutanesulfonic acid (PFBS)	0.12	J	0.20	0.049	ug/Kg	☼	02/04/25 13:09	02/06/25 20:05	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*83.6*		*35 - 130*	*02/04/25 13:09*	*02/06/25 20:05*	*1*
13C5 PFHxA	*90.9*		*40 - 130*	*02/04/25 13:09*	*02/06/25 20:05*	*1*
13C8 PFOA	*82.7*		*40 - 130*	*02/04/25 13:09*	*02/06/25 20:05*	*1*
13C3 PFBS	*95.2*		*40 - 135*	*02/04/25 13:09*	*02/06/25 20:05*	*1*

Client Sample ID: CFH-004-N-S001-01242025

Lab Sample ID: 320-118635-27
Date Collected: 01/24/25 13:05
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 72.2

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	28		0.10	0.10	%			02/03/25 11:57	1

Client Sample ID: CFH-004-N-S003-01242025

Lab Sample ID: 320-118635-28
Date Collected: 01/24/25 13:10
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 88.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.77		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
Perfluoroheptanoic acid (PFHpA)	1.1		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
Perfluorononanoic acid (PFNA)	0.96		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
Perfluorodecanoic acid (PFDA)	1.3		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
Perfluoroundecanoic acid (PFUnA)	2.4		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
Perfluorododecanoic acid (PFDoA)	0.12	J	0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
Perfluorotridecanoic acid (PFTrDA)	0.39		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
Perfluoropentanesulfonic acid (PFPeS)	2.6		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
Perfluoroheptanesulfonic acid (PFHpS)	0.77		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
Perfluorononanesulfonic acid (PFNS)	0.36		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
Perfluorodecanesulfonic acid (PFDS)	0.26		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	39		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	21		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
Perfluorooctanesulfonamide (PFOSA)	4.7		0.20	0.064	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.083	J	0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.15	J	0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1

Client Sample ID: CFH-004-N-S003-01242025
Date Collected: 01/24/25 13:10
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-28
Matrix: Solid
Percent Solids: 88.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	**0.22**	**J**	0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**1.6**		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	**1.5**		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 05:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*96.7*		*8 - 130*	*02/04/25 13:09*	*02/06/25 05:48*	*1*
13C5 PFPeA	*97.6*		*35 - 130*	*02/04/25 13:09*	*02/06/25 05:48*	*1*
13C5 PFHxA	*101*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:48*	*1*
13C4 PFHpA	*101*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:48*	*1*
13C9 PFNA	*83.8*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:48*	*1*
13C6 PFDA	*70.8*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:48*	*1*
13C7 PFUnA	*64.7*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:48*	*1*
13C2 PFDoA	*59.4*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:48*	*1*
13C2 PFTeDA	*58.7*		*20 - 130*	*02/04/25 13:09*	*02/06/25 05:48*	*1*
13C3 PFHxS	*79.1*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:48*	*1*
13C8 PFOS	*79.5*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:48*	*1*
13C8 FOSA	*81.8*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:48*	*1*
d3-NMeFOSAA	*82.2*		*40 - 135*	*02/04/25 13:09*	*02/06/25 05:48*	*1*
d5-NEtFOSAA	*78.4*		*40 - 150*	*02/04/25 13:09*	*02/06/25 05:48*	*1*
13C2 4:2 FTS	*88.5*		*40 - 165*	*02/04/25 13:09*	*02/06/25 05:48*	*1*
13C2 6:2 FTS	*84.0*		*40 - 215*	*02/04/25 13:09*	*02/06/25 05:48*	*1*
13C2 8:2 FTS	*68.4*		*40 - 275*	*02/04/25 13:09*	*02/06/25 05:48*	*1*
13C3 HFPO-DA	*103*		*40 - 130*	*02/04/25 13:09*	*02/06/25 05:48*	*1*
d7-N-MeFOSE-M	*74.2*		*20 - 130*	*02/04/25 13:09*	*02/06/25 05:48*	*1*
d9-N-EtFOSE-M	*73.0*		*15 - 130*	*02/04/25 13:09*	*02/06/25 05:48*	*1*
d5-NEtPFOSA	*63.3*		*10 - 130*	*02/04/25 13:09*	*02/06/25 05:48*	*1*
d3-NMePFOSA	*69.9*		*10 - 130*	*02/04/25 13:09*	*02/06/25 05:48*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**33**		2.0	0.51	ug/Kg	☼	02/04/25 13:09	02/06/25 18:43	10
Perfluorooctanesulfonic acid (PFOS)	**110**		2.0	0.51	ug/Kg	☼	02/04/25 13:09	02/06/25 18:43	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFHxS	*75.8*	**3*	*40 - 130*	*02/04/25 13:09*	*02/06/25 18:43*	*10*
13C8 PFOS	*74.7*	**3*	*40 - 130*	*02/04/25 13:09*	*02/06/25 18:43*	*10*

Client Sample ID: CFH-004-N-S003-01242025
Lab Sample ID: 320-118635-28
Date Collected: 01/24/25 13:10
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 88.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	**2.3**		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 20:21	1
Perfluorohexanoic acid (PFHxA)	**5.4**		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 20:21	1
Perfluorooctanoic acid (PFOA)	**4.6**		0.20	0.063	ug/Kg	☼	02/04/25 13:09	02/06/25 20:21	1
Perfluorobutanesulfonic acid (PFBS)	**1.3**		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 20:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*87.7*		*35 - 130*	*02/04/25 13:09*	*02/06/25 20:21*	*1*
13C5 PFHxA	*85.6*		*40 - 130*	*02/04/25 13:09*	*02/06/25 20:21*	*1*
13C8 PFOA	*84.2*		*40 - 130*	*02/04/25 13:09*	*02/06/25 20:21*	*1*
13C3 PFBS	*86.2*		*40 - 135*	*02/04/25 13:09*	*02/06/25 20:21*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**12**		0.10	0.10	%			02/03/25 11:57	1

Client Sample ID: CFH-004-N-S010-01242025
Lab Sample ID: 320-118635-30
Date Collected: 01/24/25 13:20
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 90.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**21**		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 08:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*88.2*		*40 - 130*	*02/04/25 13:09*	*02/06/25 08:16*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
Perfluoropentanoic acid (PFPeA)	**0.11**	**J**	0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
Perfluorohexanoic acid (PFHxA)	**0.20**		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
Perfluorooctanoic acid (PFOA)	**0.21**		0.20	0.063	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
Perfluorononanoic acid (PFNA)	**0.30**		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
Perfluorobutanesulfonic acid (PFBS)	**0.079**	**J**	0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
Perfluoropentanesulfonic acid (PFPeS)	**0.19**	**J**	0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
Perfluorohexanesulfonic acid (PFHxS)	**2.1**		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.16**	**J**	0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1

Client Sample ID: CFH-004-N-S010-01242025
Date Collected: 01/24/25 13:20
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-30
Matrix: Solid
Percent Solids: 90.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**3.9**		0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**0.28**	**J**	0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.064	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/06/25 16:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99.4*		*8 - 130*	*02/04/25 13:09*	*02/06/25 16:48*	*1*
13C5 PFPeA	*92.5*		*35 - 130*	*02/04/25 13:09*	*02/06/25 16:48*	*1*
13C5 PFHxA	*94.5*		*40 - 130*	*02/04/25 13:09*	*02/06/25 16:48*	*1*
13C4 PFHpA	*92.6*		*40 - 130*	*02/04/25 13:09*	*02/06/25 16:48*	*1*
13C8 PFOA	*88.6*		*40 - 130*	*02/04/25 13:09*	*02/06/25 16:48*	*1*
13C9 PFNA	*76.7*		*40 - 130*	*02/04/25 13:09*	*02/06/25 16:48*	*1*
13C6 PFDA	*80.2*		*40 - 130*	*02/04/25 13:09*	*02/06/25 16:48*	*1*
13C7 PFUnA	*74.0*		*40 - 130*	*02/04/25 13:09*	*02/06/25 16:48*	*1*
13C2 PFDoA	*80.3*		*40 - 130*	*02/04/25 13:09*	*02/06/25 16:48*	*1*
13C2 PFTeDA	*74.1*		*20 - 130*	*02/04/25 13:09*	*02/06/25 16:48*	*1*
13C3 PFBS	*82.2*		*40 - 135*	*02/04/25 13:09*	*02/06/25 16:48*	*1*
13C3 PFHxS	*77.7*		*40 - 130*	*02/04/25 13:09*	*02/06/25 16:48*	*1*

Client Sample ID: CFH-004-N-S010-01242025

Lab Sample ID: 320-118635-30

Date Collected: 01/24/25 13:20
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 90.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	87.4		40 - 130	02/04/25 13:09	02/06/25 16:48	1
13C8 FOSA	99.7		40 - 130	02/04/25 13:09	02/06/25 16:48	1
d3-NMeFOSAA	97.3		40 - 135	02/04/25 13:09	02/06/25 16:48	1
d5-NEtFOSAA	108		40 - 150	02/04/25 13:09	02/06/25 16:48	1
13C2 4:2 FTS	86.5		40 - 165	02/04/25 13:09	02/06/25 16:48	1
13C2 6:2 FTS	94.3		40 - 215	02/04/25 13:09	02/06/25 16:48	1
13C2 8:2 FTS	83.9		40 - 275	02/04/25 13:09	02/06/25 16:48	1
13C3 HFPO-DA	95.7		40 - 130	02/04/25 13:09	02/06/25 16:48	1
d7-N-MeFOSE-M	93.3		20 - 130	02/04/25 13:09	02/06/25 16:48	1
d9-N-EtFOSE-M	90.1		15 - 130	02/04/25 13:09	02/06/25 16:48	1
d5-NEtPFOSA	73.6		10 - 130	02/04/25 13:09	02/06/25 16:48	1
d3-NMePFOSA	74.3		10 - 130	02/04/25 13:09	02/06/25 16:48	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**9.1**		0.10	0.10	%			02/03/25 11:57	1

Client Sample ID: CFH-004-FD-S010-01242025

Lab Sample ID: 320-118635-31

Date Collected: 01/24/25 13:50
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 92.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.13**	**J**	0.37	0.093	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
Perfluoropentanoic acid (PFPeA)	**0.18**	**J**	0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
Perfluorohexanoic acid (PFHxA)	**0.30**		0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
Perfluoroheptanoic acid (PFHpA)	**0.060**	**J**	0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
Perfluorooctanoic acid (PFOA)	**0.26**		0.19	0.058	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
Perfluorononanoic acid (PFNA)	**0.27**		0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.054	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
Perfluorobutanesulfonic acid (PFBS)	**0.14**	**J B**	0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
Perfluoropentanesulfonic acid (PFPeS)	**0.24**		0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
Perfluorohexanesulfonic acid (PFHxS)	**2.5**		0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.14**	**J**	0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
Perfluorooctanesulfonic acid (PFOS)	**20**		0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.37	0.093	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**4.2**		0.37	0.093	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1

Client Sample ID: CFH-004-FD-S010-01242025
Date Collected: 01/24/25 13:50
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-31
Matrix: Solid
Percent Solids: 92.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**0.29**	**J**	0.37	0.093	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.059	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.93	0.23	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.93	0.23	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.19	0.058	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.070	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.046	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.37	0.093	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.93	0.23	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.93	0.23	ug/Kg	☼	02/04/25 13:09	02/07/25 03:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*98.5*		*8 - 130*	*02/04/25 13:09*	*02/07/25 03:29*	*1*
13C5 PFPeA	*90.7*		*35 - 130*	*02/04/25 13:09*	*02/07/25 03:29*	*1*
13C5 PFHxA	*95.3*		*40 - 130*	*02/04/25 13:09*	*02/07/25 03:29*	*1*
13C4 PFHpA	*92.5*		*40 - 130*	*02/04/25 13:09*	*02/07/25 03:29*	*1*
13C8 PFOA	*85.2*		*40 - 130*	*02/04/25 13:09*	*02/07/25 03:29*	*1*
13C9 PFNA	*78.8*		*40 - 130*	*02/04/25 13:09*	*02/07/25 03:29*	*1*
13C6 PFDA	*76.3*		*40 - 130*	*02/04/25 13:09*	*02/07/25 03:29*	*1*
13C7 PFUnA	*75.6*		*40 - 130*	*02/04/25 13:09*	*02/07/25 03:29*	*1*
13C2 PFDoA	*75.7*		*40 - 130*	*02/04/25 13:09*	*02/07/25 03:29*	*1*
13C2 PFTeDA	*74.8*		*20 - 130*	*02/04/25 13:09*	*02/07/25 03:29*	*1*
13C3 PFBS	*79.4*		*40 - 135*	*02/04/25 13:09*	*02/07/25 03:29*	*1*
13C3 PFHxS	*78.1*		*40 - 130*	*02/04/25 13:09*	*02/07/25 03:29*	*1*
13C8 PFOS	*91.6*		*40 - 130*	*02/04/25 13:09*	*02/07/25 03:29*	*1*
13C8 FOSA	*91.2*		*40 - 130*	*02/04/25 13:09*	*02/07/25 03:29*	*1*
d3-NMeFOSAA	*101*		*40 - 135*	*02/04/25 13:09*	*02/07/25 03:29*	*1*
d5-NEtFOSAA	*103*		*40 - 150*	*02/04/25 13:09*	*02/07/25 03:29*	*1*

Client Sample ID: CFH-004-FD-S010-01242025

Lab Sample ID: 320-118635-31
Date Collected: 01/24/25 13:50
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 92.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 4:2 FTS	83.6		40 - 165	02/04/25 13:09	02/07/25 03:29	1
13C2 6:2 FTS	87.7		40 - 215	02/04/25 13:09	02/07/25 03:29	1
13C2 8:2 FTS	74.3		40 - 275	02/04/25 13:09	02/07/25 03:29	1
13C3 HFPO-DA	86.1		40 - 130	02/04/25 13:09	02/07/25 03:29	1
d7-N-MeFOSE-M	83.1		20 - 130	02/04/25 13:09	02/07/25 03:29	1
d9-N-EtFOSE-M	82.7		15 - 130	02/04/25 13:09	02/07/25 03:29	1
d5-NEtPFOSA	61.7		10 - 130	02/04/25 13:09	02/07/25 03:29	1
d3-NMePFOSA	66.5		10 - 130	02/04/25 13:09	02/07/25 03:29	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	8.0		0.10	0.10	%			02/03/25 11:57	1

Client Sample ID: CFH-003-N-S001-01242025

Lab Sample ID: 320-118635-34
Date Collected: 01/24/25 14:20
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 87.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.31	J	0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
Perfluoropentanoic acid (PFPeA)	0.80		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
Perfluorohexanoic acid (PFHxA)	1.2		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
Perfluoroheptanoic acid (PFHpA)	0.90		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.064	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.21	0.060	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
Perfluorobutanesulfonic acid (PFBS)	0.097	J B	0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
Perfluoropentanesulfonic acid (PFPeS)	0.16	J	0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
Perfluorohexanesulfonic acid (PFHxS)	0.21		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
Perfluorooctanesulfonic acid (PFOS)	0.26		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.13	J	0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.21	0.065	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: CFH-003-N-S001-01242025
Date Collected: 01/24/25 14:20
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-34
Matrix: Solid
Percent Solids: 87.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.26	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.26	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.21	0.064	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.21	0.077	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	02/04/25 13:09	02/07/25 03:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*95.6*		*8 - 130*	*02/04/25 13:09*	*02/07/25 03:45*	*1*
13C5 PFPeA	*87.7*		*35 - 130*	*02/04/25 13:09*	*02/07/25 03:45*	*1*
13C5 PFHxA	*84.8*		*40 - 130*	*02/04/25 13:09*	*02/07/25 03:45*	*1*
13C4 PFHpA	*92.4*		*40 - 130*	*02/04/25 13:09*	*02/07/25 03:45*	*1*
13C8 PFOA	*80.5*		*40 - 130*	*02/04/25 13:09*	*02/07/25 03:45*	*1*
13C9 PFNA	*81.2*		*40 - 130*	*02/04/25 13:09*	*02/07/25 03:45*	*1*
13C6 PFDA	*76.1*		*40 - 130*	*02/04/25 13:09*	*02/07/25 03:45*	*1*
13C7 PFUnA	*73.2*		*40 - 130*	*02/04/25 13:09*	*02/07/25 03:45*	*1*
13C2 PFDoA	*69.6*		*40 - 130*	*02/04/25 13:09*	*02/07/25 03:45*	*1*
13C2 PFTeDA	*69.5*		*20 - 130*	*02/04/25 13:09*	*02/07/25 03:45*	*1*
13C3 PFBS	*84.1*		*40 - 135*	*02/04/25 13:09*	*02/07/25 03:45*	*1*
13C3 PFHxS	*77.1*		*40 - 130*	*02/04/25 13:09*	*02/07/25 03:45*	*1*
13C8 PFOS	*86.0*		*40 - 130*	*02/04/25 13:09*	*02/07/25 03:45*	*1*
13C8 FOSA	*81.5*		*40 - 130*	*02/04/25 13:09*	*02/07/25 03:45*	*1*
d3-NMeFOSAA	*86.3*		*40 - 135*	*02/04/25 13:09*	*02/07/25 03:45*	*1*
d5-NEtFOSAA	*88.8*		*40 - 150*	*02/04/25 13:09*	*02/07/25 03:45*	*1*
13C2 4:2 FTS	*105*		*40 - 165*	*02/04/25 13:09*	*02/07/25 03:45*	*1*
13C2 6:2 FTS	*86.3*		*40 - 215*	*02/04/25 13:09*	*02/07/25 03:45*	*1*
13C2 8:2 FTS	*77.7*		*40 - 275*	*02/04/25 13:09*	*02/07/25 03:45*	*1*
13C3 HFPO-DA	*85.2*		*40 - 130*	*02/04/25 13:09*	*02/07/25 03:45*	*1*

Client Sample ID: CFH-003-N-S001-01242025

Lab Sample ID: 320-118635-34
Date Collected: 01/24/25 14:20
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 87.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d7-N-MeFOSE-M	80.9		20 - 130	02/04/25 13:09	02/07/25 03:45	1
d9-N-EtFOSE-M	74.4		15 - 130	02/04/25 13:09	02/07/25 03:45	1
d5-NEtPFOSA	56.5		10 - 130	02/04/25 13:09	02/07/25 03:45	1
d3-NMePFOSA	59.6		10 - 130	02/04/25 13:09	02/07/25 03:45	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	13		0.10	0.10	%			02/03/25 11:57	1

Client Sample ID: CFH-003-N-S003-01242025

Lab Sample ID: 320-118635-35
Date Collected: 01/24/25 14:25
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 85.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.61		0.38	0.096	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
Perfluoropentanoic acid (PFPeA)	1.2		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
Perfluorohexanoic acid (PFHxA)	1.0		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
Perfluoroheptanoic acid (PFHpA)	1.6		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
Perfluorooctanoic acid (PFOA)	0.17	J	0.19	0.060	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
Perfluorobutanesulfonic acid (PFBS)	0.074	J B	0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
Perfluoropentanesulfonic acid (PFPeS)	0.12	J	0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
Perfluorohexanesulfonic acid (PFHxS)	1.1		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
Perfluorooctanesulfonic acid (PFOS)	0.065	J	0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.38	0.096	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.16	J	0.38	0.096	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.38	0.096	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: CFH-003-N-S003-01242025
Date Collected: 01/24/25 14:25
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-35
Matrix: Solid
Percent Solids: 85.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.96	0.24	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.96	0.24	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.19	0.060	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.072	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.38	0.096	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**0.49**	**J**	0.96	0.24	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	02/04/25 13:09	02/07/25 04:01	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*86.7*		*8 - 130*	*02/04/25 13:09*	*02/07/25 04:01*	*1*
13C5 PFPeA	*68.0*		*35 - 130*	*02/04/25 13:09*	*02/07/25 04:01*	*1*
13C5 PFHxA	*76.3*		*40 - 130*	*02/04/25 13:09*	*02/07/25 04:01*	*1*
13C4 PFHpA	*80.5*		*40 - 130*	*02/04/25 13:09*	*02/07/25 04:01*	*1*
13C8 PFOA	*67.9*		*40 - 130*	*02/04/25 13:09*	*02/07/25 04:01*	*1*
13C9 PFNA	*69.9*		*40 - 130*	*02/04/25 13:09*	*02/07/25 04:01*	*1*
13C6 PFDA	*66.5*		*40 - 130*	*02/04/25 13:09*	*02/07/25 04:01*	*1*
13C7 PFUnA	*60.3*		*40 - 130*	*02/04/25 13:09*	*02/07/25 04:01*	*1*
13C2 PFDoA	*62.7*		*40 - 130*	*02/04/25 13:09*	*02/07/25 04:01*	*1*
13C2 PFTeDA	*42.4*		*20 - 130*	*02/04/25 13:09*	*02/07/25 04:01*	*1*
13C3 PFBS	*77.7*		*40 - 135*	*02/04/25 13:09*	*02/07/25 04:01*	*1*
13C3 PFHxS	*68.8*		*40 - 130*	*02/04/25 13:09*	*02/07/25 04:01*	*1*
13C8 PFOS	*68.7*		*40 - 130*	*02/04/25 13:09*	*02/07/25 04:01*	*1*
13C8 FOSA	*65.0*		*40 - 130*	*02/04/25 13:09*	*02/07/25 04:01*	*1*
d3-NMeFOSAA	*60.3*		*40 - 135*	*02/04/25 13:09*	*02/07/25 04:01*	*1*
d5-NEtFOSAA	*63.5*		*40 - 150*	*02/04/25 13:09*	*02/07/25 04:01*	*1*
13C2 4:2 FTS	*86.9*		*40 - 165*	*02/04/25 13:09*	*02/07/25 04:01*	*1*
13C2 6:2 FTS	*86.9*		*40 - 215*	*02/04/25 13:09*	*02/07/25 04:01*	*1*
13C2 8:2 FTS	*64.9*		*40 - 275*	*02/04/25 13:09*	*02/07/25 04:01*	*1*
13C3 HFPO-DA	*73.7*		*40 - 130*	*02/04/25 13:09*	*02/07/25 04:01*	*1*
d7-N-MeFOSE-M	*60.3*		*20 - 130*	*02/04/25 13:09*	*02/07/25 04:01*	*1*
d9-N-EtFOSE-M	*59.1*		*15 - 130*	*02/04/25 13:09*	*02/07/25 04:01*	*1*
d5-NEtPFOSA	*49.6*		*10 - 130*	*02/04/25 13:09*	*02/07/25 04:01*	*1*
d3-NMePFOSA	*49.1*		*10 - 130*	*02/04/25 13:09*	*02/07/25 04:01*	*1*

Client Sample ID: CFH-003-N-S003-01242025

Lab Sample ID: 320-118635-35
Date Collected: 01/24/25 14:25
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 85.6

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	14		0.10	0.10	%			02/03/25 15:25	1

Client Sample ID: CFH-003-N-S009-01242025

Lab Sample ID: 320-118635-37
Date Collected: 01/24/25 14:35
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 89.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.12	J	0.42	0.10	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
Perfluoropentanoic acid (PFPeA)	0.17	J	0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
Perfluorohexanoic acid (PFHxA)	0.10	J	0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.065	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.21	0.061	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.42	0.10	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.42	0.10	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.42	0.10	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.21	0.066	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.26	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.26	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1

Client Sample ID: CFH-003-N-S009-01242025
Date Collected: 01/24/25 14:35
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-37
Matrix: Solid
Percent Solids: 89.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.21	0.065	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.21	0.078	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.21	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.42	0.10	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	02/04/25 13:09	02/07/25 04:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*83.8*		*8 - 130*	*02/04/25 13:09*	*02/07/25 04:51*	*1*
13C5 PFPeA	*84.9*		*35 - 130*	*02/04/25 13:09*	*02/07/25 04:51*	*1*
13C5 PFHxA	*82.6*		*40 - 130*	*02/04/25 13:09*	*02/07/25 04:51*	*1*
13C4 PFHpA	*80.1*		*40 - 130*	*02/04/25 13:09*	*02/07/25 04:51*	*1*
13C8 PFOA	*73.7*		*40 - 130*	*02/04/25 13:09*	*02/07/25 04:51*	*1*
13C9 PFNA	*70.1*		*40 - 130*	*02/04/25 13:09*	*02/07/25 04:51*	*1*
13C6 PFDA	*72.6*		*40 - 130*	*02/04/25 13:09*	*02/07/25 04:51*	*1*
13C7 PFUnA	*73.5*		*40 - 130*	*02/04/25 13:09*	*02/07/25 04:51*	*1*
13C2 PFDoA	*80.3*		*40 - 130*	*02/04/25 13:09*	*02/07/25 04:51*	*1*
13C2 PFTeDA	*74.6*		*20 - 130*	*02/04/25 13:09*	*02/07/25 04:51*	*1*
13C3 PFBS	*74.8*		*40 - 135*	*02/04/25 13:09*	*02/07/25 04:51*	*1*
13C3 PFHxS	*67.9*		*40 - 130*	*02/04/25 13:09*	*02/07/25 04:51*	*1*
13C8 PFOS	*70.9*		*40 - 130*	*02/04/25 13:09*	*02/07/25 04:51*	*1*
13C8 FOSA	*73.3*		*40 - 130*	*02/04/25 13:09*	*02/07/25 04:51*	*1*
d3-NMeFOSAA	*78.7*		*40 - 135*	*02/04/25 13:09*	*02/07/25 04:51*	*1*
d5-NEtFOSAA	*75.3*		*40 - 150*	*02/04/25 13:09*	*02/07/25 04:51*	*1*
13C2 4:2 FTS	*82.5*		*40 - 165*	*02/04/25 13:09*	*02/07/25 04:51*	*1*
13C2 6:2 FTS	*76.1*		*40 - 215*	*02/04/25 13:09*	*02/07/25 04:51*	*1*
13C2 8:2 FTS	*64.8*		*40 - 275*	*02/04/25 13:09*	*02/07/25 04:51*	*1*
13C3 HFPO-DA	*76.1*		*40 - 130*	*02/04/25 13:09*	*02/07/25 04:51*	*1*
d7-N-MeFOSE-M	*64.6*		*20 - 130*	*02/04/25 13:09*	*02/07/25 04:51*	*1*
d9-N-EtFOSE-M	*65.2*		*15 - 130*	*02/04/25 13:09*	*02/07/25 04:51*	*1*
d5-NEtPFOSA	*55.4*		*10 - 130*	*02/04/25 13:09*	*02/07/25 04:51*	*1*
d3-NMePFOSA	*61.1*		*10 - 130*	*02/04/25 13:09*	*02/07/25 04:51*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**10**		0.10	0.10	%			02/03/25 15:25	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: CFH-003-FD-S009-01242025
Date Collected: 01/24/25 15:05
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-38
Matrix: Solid
Percent Solids: 96.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.13**	**J**	0.36	0.089	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
Perfluoropentanoic acid (PFPeA)	**0.23**		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
Perfluorohexanoic acid (PFHxA)	**0.16**	**J**	0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
Perfluoroheptanoic acid (PFHpA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
Perfluorooctanoic acid (PFOA)	ND		0.18	0.055	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
Perfluorononanoic acid (PFNA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
Perfluorodecanoic acid (PFDA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
Perfluoroundecanoic acid (PFUnA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
Perfluorododecanoic acid (PFDoA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.18	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
Perfluorobutanesulfonic acid (PFBS)	**0.046**	**J B**	0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
Perfluorononanesulfonic acid (PFNS)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.36	0.089	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.36	0.089	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.36	0.089	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.18	0.056	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.89	0.22	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.89	0.22	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.18	0.055	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1

Client Sample ID: CFH-003-FD-S009-01242025

Lab Sample ID: 320-118635-38
Date Collected: 01/24/25 15:05
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 96.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.18	0.067	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.36	0.089	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.89	0.22	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.89	0.22	ug/Kg	☼	02/04/25 13:09	02/07/25 05:07	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*88.1*		*8 - 130*	*02/04/25 13:09*	*02/07/25 05:07*	*1*
13C5 PFPeA	*81.4*		*35 - 130*	*02/04/25 13:09*	*02/07/25 05:07*	*1*
13C5 PFHxA	*76.9*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:07*	*1*
13C4 PFHpA	*75.1*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:07*	*1*
13C8 PFOA	*71.2*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:07*	*1*
13C9 PFNA	*74.4*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:07*	*1*
13C6 PFDA	*68.3*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:07*	*1*
13C7 PFUnA	*71.2*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:07*	*1*
13C2 PFDoA	*73.6*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:07*	*1*
13C2 PFTeDA	*68.5*		*20 - 130*	*02/04/25 13:09*	*02/07/25 05:07*	*1*
13C3 PFBS	*79.2*		*40 - 135*	*02/04/25 13:09*	*02/07/25 05:07*	*1*
13C3 PFHxS	*72.4*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:07*	*1*
13C8 PFOS	*68.9*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:07*	*1*
13C8 FOSA	*63.4*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:07*	*1*
d3-NMeFOSAA	*74.4*		*40 - 135*	*02/04/25 13:09*	*02/07/25 05:07*	*1*
d5-NEtFOSAA	*70.0*		*40 - 150*	*02/04/25 13:09*	*02/07/25 05:07*	*1*
13C2 4:2 FTS	*85.2*		*40 - 165*	*02/04/25 13:09*	*02/07/25 05:07*	*1*
13C2 6:2 FTS	*83.5*		*40 - 215*	*02/04/25 13:09*	*02/07/25 05:07*	*1*
13C2 8:2 FTS	*73.8*		*40 - 275*	*02/04/25 13:09*	*02/07/25 05:07*	*1*
13C3 HFPO-DA	*75.6*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:07*	*1*
d7-N-MeFOSE-M	*58.1*		*20 - 130*	*02/04/25 13:09*	*02/07/25 05:07*	*1*
d9-N-EtFOSE-M	*57.0*		*15 - 130*	*02/04/25 13:09*	*02/07/25 05:07*	*1*
d5-NEtPFOSA	*46.8*		*10 - 130*	*02/04/25 13:09*	*02/07/25 05:07*	*1*
d3-NMePFOSA	*47.3*		*10 - 130*	*02/04/25 13:09*	*02/07/25 05:07*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**3.8**		0.10	0.10	%			02/03/25 15:25	1

Client Sample ID: CFH-002-N-S001-01242025

Lab Sample ID: 320-118635-40
Date Collected: 01/24/25 15:05
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 90.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.35**	**J**	0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
Perfluoropentanoic acid (PFPeA)	**0.45**		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
Perfluorohexanoic acid (PFHxA)	**0.35**		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
Perfluoroheptanoic acid (PFHpA)	**0.070**	**J**	0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
Perfluorooctanoic acid (PFOA)	**0.12**	**J**	0.20	0.062	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1

Client Sample ID: CFH-002-N-S001-01242025
Date Collected: 01/24/25 15:05
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-40
Matrix: Solid
Percent Solids: 90.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	**0.062**	**J**	0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
Perfluorohexanesulfonic acid (PFHxS)	**0.11**	**J**	0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
Perfluorooctanesulfonic acid (PFOS)	**0.28**		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**14**		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.20	0.062	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1

Client Sample ID: CFH-002-N-S001-01242025

Lab Sample ID: 320-118635-40

Date Collected: 01/24/25 15:05
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 90.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.89		0.40	0.10	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	6.1		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/07/25 05:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*83.6*		*8 - 130*	*02/04/25 13:09*	*02/07/25 05:24*	*1*
13C5 PFPeA	*81.1*		*35 - 130*	*02/04/25 13:09*	*02/07/25 05:24*	*1*
13C5 PFHxA	*80.2*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:24*	*1*
13C4 PFHpA	*79.0*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:24*	*1*
13C8 PFOA	*77.7*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:24*	*1*
13C9 PFNA	*73.5*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:24*	*1*
13C6 PFDA	*70.4*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:24*	*1*
13C7 PFUnA	*68.5*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:24*	*1*
13C2 PFDoA	*70.2*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:24*	*1*
13C2 PFTeDA	*67.4*		*20 - 130*	*02/04/25 13:09*	*02/07/25 05:24*	*1*
13C3 PFBS	*78.6*		*40 - 135*	*02/04/25 13:09*	*02/07/25 05:24*	*1*
13C3 PFHxS	*69.1*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:24*	*1*
13C8 PFOS	*72.4*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:24*	*1*
13C8 FOSA	*66.6*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:24*	*1*
d3-NMeFOSAA	*71.0*		*40 - 135*	*02/04/25 13:09*	*02/07/25 05:24*	*1*
d5-NEtFOSAA	*75.9*		*40 - 150*	*02/04/25 13:09*	*02/07/25 05:24*	*1*
13C2 4:2 FTS	*75.3*		*40 - 165*	*02/04/25 13:09*	*02/07/25 05:24*	*1*
13C2 6:2 FTS	*76.0*		*40 - 215*	*02/04/25 13:09*	*02/07/25 05:24*	*1*
13C2 8:2 FTS	*71.6*		*40 - 275*	*02/04/25 13:09*	*02/07/25 05:24*	*1*
13C3 HFPO-DA	*75.9*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:24*	*1*
d7-N-MeFOSE-M	*65.3*		*20 - 130*	*02/04/25 13:09*	*02/07/25 05:24*	*1*
d9-N-EtFOSE-M	*65.0*		*15 - 130*	*02/04/25 13:09*	*02/07/25 05:24*	*1*
d5-NEtPFOSA	*50.8*		*10 - 130*	*02/04/25 13:09*	*02/07/25 05:24*	*1*
d3-NMePFOSA	*54.6*		*10 - 130*	*02/04/25 13:09*	*02/07/25 05:24*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	9.9		0.10	0.10	%			02/03/25 15:25	1

Client Sample ID: CFH-002-FD-S001-01242025

Lab Sample ID: 320-118635-41

Date Collected: 01/24/25 15:35
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 84.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.28	J	0.42	0.11	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
Perfluoropentanoic acid (PFPeA)	0.43		0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
Perfluorohexanoic acid (PFHxA)	0.27		0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
Perfluoroheptanoic acid (PFHpA)	0.059	J	0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
Perfluorooctanoic acid (PFOA)	0.11	J	0.21	0.065	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
Perfluorononanoic acid (PFNA)	0.099	J	0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1

Client Sample ID: CFH-002-FD-S001-01242025
Date Collected: 01/24/25 15:35
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-41
Matrix: Solid
Percent Solids: 84.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTrDA)	ND		0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.21	0.061	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
Perfluorobutanesulfonic acid (PFBS)	**0.057**	**J B**	0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
Perfluorohexanesulfonic acid (PFHxS)	**0.098**	**J**	0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
Perfluorooctanesulfonic acid (PFOS)	**0.38**		0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.42	0.11	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**11**		0.42	0.11	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.42	0.11	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.21	0.066	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.1	0.26	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.1	0.26	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.21	0.065	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.21	0.079	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.21	0.053	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	**1.0**		0.42	0.11	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**7.1**		1.1	0.26	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1

Client Sample ID: CFH-002-FD-S001-01242025

Lab Sample ID: 320-118635-41

Date Collected: 01/24/25 15:35
Date Received: 01/30/25 09:30

Matrix: Solid
Percent Solids: 84.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.1	0.26	ug/Kg	☼	02/04/25 13:09	02/07/25 05:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91.7*		*8 - 130*	*02/04/25 13:09*	*02/07/25 05:40*	*1*
13C5 PFPeA	*74.8*		*35 - 130*	*02/04/25 13:09*	*02/07/25 05:40*	*1*
13C5 PFHxA	*81.2*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:40*	*1*
13C4 PFHpA	*76.6*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:40*	*1*
13C8 PFOA	*75.6*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:40*	*1*
13C9 PFNA	*77.0*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:40*	*1*
13C6 PFDA	*72.1*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:40*	*1*
13C7 PFUnA	*71.6*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:40*	*1*
13C2 PFDoA	*70.3*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:40*	*1*
13C2 PFTeDA	*70.9*		*20 - 130*	*02/04/25 13:09*	*02/07/25 05:40*	*1*
13C3 PFBS	*81.9*		*40 - 135*	*02/04/25 13:09*	*02/07/25 05:40*	*1*
13C3 PFHxS	*72.7*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:40*	*1*
13C8 PFOS	*76.8*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:40*	*1*
13C8 FOSA	*67.3*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:40*	*1*
d3-NMeFOSAA	*75.2*		*40 - 135*	*02/04/25 13:09*	*02/07/25 05:40*	*1*
d5-NEtFOSAA	*77.5*		*40 - 150*	*02/04/25 13:09*	*02/07/25 05:40*	*1*
13C2 4:2 FTS	*93.0*		*40 - 165*	*02/04/25 13:09*	*02/07/25 05:40*	*1*
13C2 6:2 FTS	*89.8*		*40 - 215*	*02/04/25 13:09*	*02/07/25 05:40*	*1*
13C2 8:2 FTS	*68.0*		*40 - 275*	*02/04/25 13:09*	*02/07/25 05:40*	*1*
13C3 HFPO-DA	*77.8*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:40*	*1*
d7-N-MeFOSE-M	*68.7*		*20 - 130*	*02/04/25 13:09*	*02/07/25 05:40*	*1*
d9-N-EtFOSE-M	*65.2*		*15 - 130*	*02/04/25 13:09*	*02/07/25 05:40*	*1*
d5-NEtPFOSA	*55.0*		*10 - 130*	*02/04/25 13:09*	*02/07/25 05:40*	*1*
d3-NMePFOSA	*57.0*		*10 - 130*	*02/04/25 13:09*	*02/07/25 05:40*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**15**		0.10	0.10	%			02/03/25 15:25	1

Client Sample ID: CFH-002-N-S003-01242025

Lab Sample ID: 320-118635-42

Date Collected: 01/24/25 15:10
Date Received: 01/30/25 09:30

Matrix: Solid
Percent Solids: 95.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.092**	**J**	0.36	0.090	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
Perfluoropentanoic acid (PFPeA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
Perfluorohexanoic acid (PFHxA)	**0.081**	**J**	0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
Perfluoroheptanoic acid (PFHpA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
Perfluorooctanoic acid (PFOA)	ND		0.18	0.056	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
Perfluorononanoic acid (PFNA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
Perfluorodecanoic acid (PFDA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
Perfluoroundecanoic acid (PFUnA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
Perfluorododecanoic acid (PFDoA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.18	0.052	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1

Client Sample ID: CFH-002-N-S003-01242025

Date Collected: 01/24/25 15:10
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-42

Matrix: Solid
Percent Solids: 95.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	**0.047**	**J B**	0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
Perfluorononanesulfonic acid (PFNS)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.36	0.090	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.36	0.090	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.18	0.057	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.90	0.22	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.90	0.22	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.18	0.056	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.18	0.067	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.18	0.045	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.36	0.090	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**0.56**	**J**	0.90	0.22	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.90	0.22	ug/Kg	☼	02/04/25 13:09	02/07/25 05:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*87.7*		*8 - 130*	*02/04/25 13:09*	*02/07/25 05:57*	*1*
13C5 PFPeA	*76.9*		*35 - 130*	*02/04/25 13:09*	*02/07/25 05:57*	*1*
13C5 PFHxA	*79.6*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:57*	*1*

Client Sample ID: CFH-002-N-S003-01242025

Lab Sample ID: 320-118635-42
Date Collected: 01/24/25 15:10
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 95.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFHpA	*75.7*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:57*	*1*
13C8 PFOA	*74.3*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:57*	*1*
13C9 PFNA	*74.3*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:57*	*1*
13C6 PFDA	*72.3*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:57*	*1*
13C7 PFUnA	*66.6*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:57*	*1*
13C2 PFDoA	*73.3*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:57*	*1*
13C2 PFTeDA	*70.0*		*20 - 130*	*02/04/25 13:09*	*02/07/25 05:57*	*1*
13C3 PFBS	*81.3*		*40 - 135*	*02/04/25 13:09*	*02/07/25 05:57*	*1*
13C3 PFHxS	*69.5*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:57*	*1*
13C8 PFOS	*74.3*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:57*	*1*
13C8 FOSA	*76.4*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:57*	*1*
d3-NMeFOSAA	*80.2*		*40 - 135*	*02/04/25 13:09*	*02/07/25 05:57*	*1*
d5-NEtFOSAA	*84.1*		*40 - 150*	*02/04/25 13:09*	*02/07/25 05:57*	*1*
13C2 4:2 FTS	*83.4*		*40 - 165*	*02/04/25 13:09*	*02/07/25 05:57*	*1*
13C2 8:2 FTS	*71.1*		*40 - 275*	*02/04/25 13:09*	*02/07/25 05:57*	*1*
13C3 HFPO-DA	*74.1*		*40 - 130*	*02/04/25 13:09*	*02/07/25 05:57*	*1*
d7-N-MeFOSE-M	*67.9*		*20 - 130*	*02/04/25 13:09*	*02/07/25 05:57*	*1*
d9-N-EtFOSE-M	*67.7*		*15 - 130*	*02/04/25 13:09*	*02/07/25 05:57*	*1*
d5-NEtPFOSA	*48.2*		*10 - 130*	*02/04/25 13:09*	*02/07/25 05:57*	*1*
d3-NMePFOSA	*50.8*		*10 - 130*	*02/04/25 13:09*	*02/07/25 05:57*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**33**		3.6	0.90	ug/Kg	☼	02/04/25 13:09	02/10/25 11:32	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 6:2 FTS	*102*	*3	*40 - 215*	*02/04/25 13:09*	*02/10/25 11:32*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**4.1**		0.10	0.10	%			02/03/25 15:25	1

Client Sample ID: CFH-001-N-S001-01242025

Lab Sample ID: 320-118635-47
Date Collected: 01/24/25 15:50
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 88.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.25**	**J**	0.38	0.095	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
Perfluoropentanoic acid (PFPeA)	**0.58**		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
Perfluorohexanoic acid (PFHxA)	**0.17**	**J**	0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
Perfluoroheptanoic acid (PFHpA)	**0.10**	**J**	0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
Perfluorooctanoic acid (PFOA)	**0.088**	**J**	0.19	0.059	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
Perfluorononanoic acid (PFNA)	**0.37**		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.055	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
Perfluorobutanesulfonic acid (PFBS)	**0.062**	**J B**	0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: CFH-001-N-S001-01242025
Date Collected: 01/24/25 15:50
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-47
Matrix: Solid
Percent Solids: 88.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
Perfluorohexanesulfonic acid (PFHxS)	**0.096**	**J**	0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.058**	**J**	0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
Perfluorooctanesulfonic acid (PFOS)	**4.4**		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.38	0.095	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.65**		0.38	0.095	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.38	0.095	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.060	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.95	0.24	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.95	0.24	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.19	0.059	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.071	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	**0.12**	**J**	0.38	0.095	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**2.2**		0.95	0.24	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.95	0.24	ug/Kg	☼	02/04/25 13:09	02/07/25 06:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*61.0*		*8 - 130*	*02/04/25 13:09*	*02/07/25 06:13*	*1*

Client Sample ID: CFH-001-N-S001-01242025

Lab Sample ID: 320-118635-47
Date Collected: 01/24/25 15:50
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 88.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	74.5		35 - 130	02/04/25 13:09	02/07/25 06:13	1
13C5 PFHxA	76.5		40 - 130	02/04/25 13:09	02/07/25 06:13	1
13C4 PFHpA	76.4		40 - 130	02/04/25 13:09	02/07/25 06:13	1
13C8 PFOA	68.7		40 - 130	02/04/25 13:09	02/07/25 06:13	1
13C9 PFNA	71.4		40 - 130	02/04/25 13:09	02/07/25 06:13	1
13C6 PFDA	63.8		40 - 130	02/04/25 13:09	02/07/25 06:13	1
13C7 PFUnA	63.8		40 - 130	02/04/25 13:09	02/07/25 06:13	1
13C2 PFDoA	69.9		40 - 130	02/04/25 13:09	02/07/25 06:13	1
13C2 PFTeDA	65.2		20 - 130	02/04/25 13:09	02/07/25 06:13	1
13C3 PFBS	77.4		40 - 135	02/04/25 13:09	02/07/25 06:13	1
13C3 PFHxS	67.5		40 - 130	02/04/25 13:09	02/07/25 06:13	1
13C8 PFOS	66.2		40 - 130	02/04/25 13:09	02/07/25 06:13	1
13C8 FOSA	69.9		40 - 130	02/04/25 13:09	02/07/25 06:13	1
d3-NMeFOSAA	70.9		40 - 135	02/04/25 13:09	02/07/25 06:13	1
d5-NEtFOSAA	72.7		40 - 150	02/04/25 13:09	02/07/25 06:13	1
13C2 4:2 FTS	83.9		40 - 165	02/04/25 13:09	02/07/25 06:13	1
13C2 6:2 FTS	81.5		40 - 215	02/04/25 13:09	02/07/25 06:13	1
13C2 8:2 FTS	70.8		40 - 275	02/04/25 13:09	02/07/25 06:13	1
13C3 HFPO-DA	69.8		40 - 130	02/04/25 13:09	02/07/25 06:13	1
d7-N-MeFOSE-M	63.1		20 - 130	02/04/25 13:09	02/07/25 06:13	1
d9-N-EtFOSE-M	61.1		15 - 130	02/04/25 13:09	02/07/25 06:13	1
d5-NEtPFOSA	62.7		10 - 130	02/04/25 13:09	02/07/25 06:13	1
d3-NMePFOSA	66.3		10 - 130	02/04/25 13:09	02/07/25 06:13	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	12		0.10	0.10	%			02/03/25 15:25	1

Client Sample ID: CFH-001-N-S003-01242025

Lab Sample ID: 320-118635-48
Date Collected: 01/24/25 15:55
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 90.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.27	J	0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
Perfluoropentanoic acid (PFPeA)	0.50		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
Perfluorohexanoic acid (PFHxA)	0.25		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
Perfluoroheptanoic acid (PFHpA)	0.24		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
Perfluorooctanoic acid (PFOA)	0.16	J	0.20	0.063	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
Perfluorononanoic acid (PFNA)	0.17	J	0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
Perfluorohexanesulfonic acid (PFHxS)	0.24		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: CFH-001-N-S003-01242025
Date Collected: 01/24/25 15:55
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-48
Matrix: Solid
Percent Solids: 90.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic acid (PFHpS)	**0.089**	**J**	0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
Perfluorooctanesulfonic acid (PFOS)	**0.34**		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.67**		0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.064	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	*1	0.20	0.063	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	**0.12**	**J**	0.41	0.10	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**1.3**		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/04/25 13:09	02/07/25 06:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*87.9*		*8 - 130*	*02/04/25 13:09*	*02/07/25 06:29*	*1*
13C5 PFPeA	*86.1*		*35 - 130*	*02/04/25 13:09*	*02/07/25 06:29*	*1*
13C5 PFHxA	*83.3*		*40 - 130*	*02/04/25 13:09*	*02/07/25 06:29*	*1*
13C4 PFHpA	*85.2*		*40 - 130*	*02/04/25 13:09*	*02/07/25 06:29*	*1*
13C8 PFOA	*80.6*		*40 - 130*	*02/04/25 13:09*	*02/07/25 06:29*	*1*

Client Sample ID: CFH-001-N-S003-01242025

Lab Sample ID: 320-118635-48
Date Collected: 01/24/25 15:55
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 90.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C9 PFNA	74.8		40 - 130	02/04/25 13:09	02/07/25 06:29	1
13C6 PFDA	74.9		40 - 130	02/04/25 13:09	02/07/25 06:29	1
13C7 PFUnA	67.6		40 - 130	02/04/25 13:09	02/07/25 06:29	1
13C2 PFDoA	67.6		40 - 130	02/04/25 13:09	02/07/25 06:29	1
13C2 PFTeDA	66.7		20 - 130	02/04/25 13:09	02/07/25 06:29	1
13C3 PFBS	78.9		40 - 135	02/04/25 13:09	02/07/25 06:29	1
13C3 PFHxS	72.1		40 - 130	02/04/25 13:09	02/07/25 06:29	1
13C8 PFOS	73.7		40 - 130	02/04/25 13:09	02/07/25 06:29	1
13C8 FOSA	70.1		40 - 130	02/04/25 13:09	02/07/25 06:29	1
d3-NMeFOSAA	70.5		40 - 135	02/04/25 13:09	02/07/25 06:29	1
d5-NEtFOSAA	73.6		40 - 150	02/04/25 13:09	02/07/25 06:29	1
13C2 4:2 FTS	73.4		40 - 165	02/04/25 13:09	02/07/25 06:29	1
13C2 6:2 FTS	72.3		40 - 215	02/04/25 13:09	02/07/25 06:29	1
13C2 8:2 FTS	70.0		40 - 275	02/04/25 13:09	02/07/25 06:29	1
13C3 HFPO-DA	81.8		40 - 130	02/04/25 13:09	02/07/25 06:29	1
d7-N-MeFOSE-M	65.8		20 - 130	02/04/25 13:09	02/07/25 06:29	1
d9-N-EtFOSE-M	65.8		15 - 130	02/04/25 13:09	02/07/25 06:29	1
d5-NEtPFOSA	52.2		10 - 130	02/04/25 13:09	02/07/25 06:29	1
d3-NMePFOSA	56.8		10 - 130	02/04/25 13:09	02/07/25 06:29	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	9.6		0.10	0.10	%			02/03/25 15:25	1

Client Sample ID: CFH-006-N-S003-01242025

Lab Sample ID: 320-118635-52
Date Collected: 01/24/25 11:55
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 94.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.47		0.40	0.099	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
Perfluoropentanoic acid (PFPeA)	0.14	J	0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
Perfluorohexanoic acid (PFHxA)	0.60		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
Perfluorooctanoic acid (PFOA)	0.45		0.20	0.062	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
Perfluorononanoic acid (PFNA)	0.50		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
Perfluorodecanoic acid (PFDA)	1.2		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
Perfluorohexanesulfonic acid (PFHxS)	0.37		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
Perfluoroheptanesulfonic acid (PFHpS)	0.46		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1

Client Sample ID: CFH-006-N-S003-01242025
Date Collected: 01/24/25 11:55
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-52
Matrix: Solid
Percent Solids: 94.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**20**		0.40	0.099	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
Perfluorooctanesulfonamide (PFOSA)	**0.96**		0.20	0.063	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.099	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/05/25 11:42	02/07/25 20:55	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*84.1*		*8 - 130*	*02/05/25 11:42*	*02/07/25 20:55*	*1*
13C5 PFPeA	*90.1*		*35 - 130*	*02/05/25 11:42*	*02/07/25 20:55*	*1*
13C5 PFHxA	*96.2*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:55*	*1*
13C4 PFHpA	*102*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:55*	*1*
13C8 PFOA	*81.4*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:55*	*1*
13C9 PFNA	*78.4*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:55*	*1*
13C6 PFDA	*73.2*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:55*	*1*
13C7 PFUnA	*74.8*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:55*	*1*
13C2 PFDoA	*77.4*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:55*	*1*
13C2 PFTeDA	*75.6*		*20 - 130*	*02/05/25 11:42*	*02/07/25 20:55*	*1*
13C3 PFBS	*66.6*		*40 - 135*	*02/05/25 11:42*	*02/07/25 20:55*	*1*

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: CFH-006-N-S003-01242025
Date Collected: 01/24/25 11:55
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118635-52
Matrix: Solid
Percent Solids: 94.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	73.3		40 - 130	02/05/25 11:42	02/07/25 20:55	1
13C8 PFOS	83.8	*3	40 - 130	02/05/25 11:42	02/07/25 20:55	1
13C8 FOSA	147	*5+ *3	40 - 130	02/05/25 11:42	02/07/25 20:55	1
d3-NMeFOSAA	180	*5+ *3	40 - 135	02/05/25 11:42	02/07/25 20:55	1
d5-NEtFOSAA	175	*5+ *3	40 - 150	02/05/25 11:42	02/07/25 20:55	1
13C2 4:2 FTS	67.8		40 - 165	02/05/25 11:42	02/07/25 20:55	1
13C2 6:2 FTS	74.4		40 - 215	02/05/25 11:42	02/07/25 20:55	1
13C3 HFPO-DA	87.9		40 - 130	02/05/25 11:42	02/07/25 20:55	1
d7-N-MeFOSE-M	150	*5+ *3	20 - 130	02/05/25 11:42	02/07/25 20:55	1
d9-N-EtFOSE-M	154	*5+ *3	15 - 130	02/05/25 11:42	02/07/25 20:55	1
d5-NEtPFOSA	124	*3	10 - 130	02/05/25 11:42	02/07/25 20:55	1
d3-NMePFOSA	132	*5+ *3	10 - 130	02/05/25 11:42	02/07/25 20:55	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	610		20	5.0	ug/Kg	☼	02/05/25 11:42	02/10/25 11:49	100
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	56		40	9.9	ug/Kg	☼	02/05/25 11:42	02/10/25 11:49	100

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	77.1	*3	40 - 130	02/05/25 11:42	02/10/25 11:49	100
13C2 8:2 FTS	92.3	*3	40 - 275	02/05/25 11:42	02/10/25 11:49	100

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	5.6		0.10	0.10	%			02/03/25 15:25	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118635-1
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (8-130)	PFPeA (35-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (40-130)
320-118635-2	FMB-003-N-S001-01242025	95.4	89.1	83.0	94.3	83.7	75.9	67.6	53.8
320-118635-3	FMB-003-FD-S001-01242025	90.5	73.8	87.2	85.2	79.2	80.8	64.8	54.3
320-118635-4	FMB-003-N-S003-01242025	58.4	70.7	90.7	95.5		92.2	84.7	76.9
320-118635-4 - RA	FMB-003-N-S003-01242025		62.6	81.3		84.4			
320-118635-6	FMB-003-N-S010-01242025	89.2	79.0	85.4	81.1		81.1	80.1	81.5
320-118635-6 - RA	FMB-003-N-S010-01242025		93.9	81.3		84.0			
320-118635-7	FMB-003-FD-S010-01242025	94.7	87.1	95.0	90.8		86.0	80.0	78.8
320-118635-7 - RA	FMB-003-FD-S010-01242025		84.2	86.2		78.0			
320-118635-10	FMB-002-N-S001-01242025	99.3	89.3	96.9	90.4		86.7	82.9	77.1
320-118635-10 - RA	FMB-002-N-S001-01242025		87.7	88.5		84.8			
320-118635-11	FMB-002-N-S003-01242025	95.9	85.7	96.3	87.5		77.5	62.6	48.9
320-118635-11 - RA	FMB-002-N-S003-01242025		89.3	83.0		83.0			
320-118635-11 - DL	FMB-002-N-S003-01242025								
320-118635-16	CFH-007-N-S001-01242025	97.8	85.8	96.2	89.1		84.9	70.5	51.7
320-118635-16 - RA	CFH-007-N-S001-01242025		93.2	86.4		83.8			
320-118635-17	CFH-007-FD-S001-01242025	97.2	86.8	93.7	86.7		87.0	72.7	58.2
320-118635-17 - RA	CFH-007-FD-S001-01242025		96.6	90.1		90.4			
320-118635-18	CFH-007-N-S003-01242025	100	87.6	93.1	88.8		83.1	75.0	57.4
320-118635-18 - RA	CFH-007-N-S003-01242025		82.7	82.7		81.4			
320-118635-20	CFH-006-N-S001-01242025	98.3	89.9	102	95.3		87.3	81.3	78.2
320-118635-20 - RA	CFH-006-N-S001-01242025		89.4	90.4		83.9			
320-118635-20 - DL	CFH-006-N-S001-01242025	99.8 *3	84.4 *3	89.9 *3	87.2 *3	81.2 *3	83.8 *3	77.8 *3	77.3 *3
320-118635-22	CFH-005-N-S001-01242025	97.1	86.5	94.3	89.1		83.9	66.4	49.6
320-118635-22 - DL	CFH-005-N-S001-01242025								
320-118635-22 - RA	CFH-005-N-S001-01242025		92.5	85.6		82.3			
320-118635-23	CFH-005-N-S003-01242025	96.3	90.9	94.3	88.2		88.4	80.4	81.7
320-118635-23 - RA	CFH-005-N-S003-01242025		96.3	87.7		84.9			
320-118635-24	CFH-005-FD-S003-01242025	102	93.5	102	93.1		87.0	84.3	74.8
320-118635-24 - RA	CFH-005-FD-S003-01242025		98.0	88.1		79.2			
320-118635-27	CFH-004-N-S001-01242025	96.3	88.8	95.2	93.0		78.5	63.6	48.4
320-118635-27 - RA	CFH-004-N-S001-01242025		83.6	90.9		82.7			
320-118635-27 - DL	CFH-004-N-S001-01242025								
320-118635-28	CFH-004-N-S003-01242025	96.7	97.6	101	101		83.8	70.8	64.7
320-118635-28 - DL	CFH-004-N-S003-01242025								
320-118635-28 - RA	CFH-004-N-S003-01242025		87.7	85.6		84.2			
320-118635-30	CFH-004-N-S010-01242025								
320-118635-30 - RA	CFH-004-N-S010-01242025	99.4	92.5	94.5	92.6	88.6	76.7	80.2	74.0
320-118635-31	CFH-004-FD-S010-01242025	98.5	90.7	95.3	92.5	85.2	78.8	76.3	75.6
320-118635-34	CFH-003-N-S001-01242025	95.6	87.7	84.8	92.4	80.5	81.2	76.1	73.2
320-118635-35	CFH-003-N-S003-01242025	86.7	68.0	76.3	80.5	67.9	69.9	66.5	60.3
320-118635-37	CFH-003-N-S009-01242025	83.8	84.9	82.6	80.1	73.7	70.1	72.6	73.5
320-118635-38	CFH-003-FD-S009-01242025	88.1	81.4	76.9	75.1	71.2	74.4	68.3	71.2
320-118635-40	CFH-002-N-S001-01242025	83.6	81.1	80.2	79.0	77.7	73.5	70.4	68.5
320-118635-41	CFH-002-FD-S001-01242025	91.7	74.8	81.2	76.6	75.6	77.0	72.1	71.6
320-118635-42	CFH-002-N-S003-01242025	87.7	76.9	79.6	75.7	74.3	74.3	72.3	66.6
320-118635-42 - DL	CFH-002-N-S003-01242025								
320-118635-47	CFH-001-N-S001-01242025	61.0	74.5	76.5	76.4	68.7	71.4	63.8	63.8
320-118635-48	CFH-001-N-S003-01242025	87.9	86.1	83.3	85.2	80.6	74.8	74.9	67.6
320-118635-52	CFH-006-N-S003-01242025	84.1	90.1	96.2	102	81.4	78.4	73.2	74.8

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118635-1
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Solid
Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (8-130)	PFPeA (35-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (40-130)
320-118635-52 - DL	CFH-006-N-S003-01242025								
LCS 320-831268/3-A	Lab Control Sample	99.0	94.2	96.5	96.1		87.3	79.8	81.1
LCS 320-831268/3-A - RA	Lab Control Sample		90.7	90.7		77.6			
LCS 320-831269/3-A	Lab Control Sample	90.5	87.1	83.5	82.4	84.8	78.7	76.3	74.8
LCS 320-831483/3-A	Lab Control Sample	90.2	75.3	87.9	96.3	84.1	84.5	80.6	71.1
LCSD 320-831268/4-A	Lab Control Sample Dup	76.3	77.7	88.5	93.3		87.1	81.0	80.3
LCSD 320-831268/4-A - RA	Lab Control Sample Dup		69.4	75.4		86.6			
LCSD 320-831269/4-A	Lab Control Sample Dup	90.4	88.0	83.0	86.7	75.8	76.6	76.4	75.7
LCSD 320-831483/4-A	Lab Control Sample Dup	94.9	82.3	87.3	82.1	84.5	83.5	74.6	72.1
LLCS 320-831268/2-A	Lab Control Sample	91.8	86.2	97.6	88.7		89.1	82.1	84.0
LLCS 320-831268/2-A - RA	Lab Control Sample		85.7	88.2		87.4			
LLCS 320-831269/2-A	Lab Control Sample	84.0	75.8	82.3	79.4	74.5	71.2	69.3	67.2
LLCS 320-831483/2-A	Lab Control Sample	84.1	82.6	90.5	90.0	83.6	83.6	73.7	71.5
MB 320-831268/1-A	Method Blank		88.2	90.5	87.9		89.3	82.4	79.1
MB 320-831268/1-A - RA	Method Blank	93.3	89.9	85.8		90.8			
MB 320-831269/1-A	Method Blank	96.6	90.9	88.7	101	84.5	78.7	81.1	76.4
MB 320-831483/1-A	Method Blank	90.9	97.6	99.7	113	88.4	82.3	72.9	71.7

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFDoA (40-130)	PFTDA (20-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-135)	d5NEFOS (40-150)
320-118635-2	FMB-003-N-S001-01242025	48.8	63.2	79.5	80.3	74.2	53.1	69.6	68.7
320-118635-3	FMB-003-FD-S001-01242025	42.8	26.0	81.1	83.7	80.6	58.0	61.1	55.5
320-118635-4	FMB-003-N-S003-01242025	74.6	68.7		76.7	89.3	80.7	85.7	84.0
320-118635-4 - RA	FMB-003-N-S003-01242025			64.1					
320-118635-6	FMB-003-N-S010-01242025	80.6	79.8		67.4	81.0	71.0	75.3	77.8
320-118635-6 - RA	FMB-003-N-S010-01242025			82.7					
320-118635-7	FMB-003-FD-S010-01242025	80.2	82.9		74.2	84.7	68.8	74.2	76.1
320-118635-7 - RA	FMB-003-FD-S010-01242025			83.8					
320-118635-10	FMB-002-N-S001-01242025	76.1	74.2		77.1	87.3	73.3	79.1	77.9
320-118635-10 - RA	FMB-002-N-S001-01242025			87.3					
320-118635-11	FMB-002-N-S003-01242025	44.9	50.3		77.1	71.2	58.4	55.7	49.7
320-118635-11 - RA	FMB-002-N-S003-01242025			89.0					
320-118635-11 - DL	FMB-002-N-S003-01242025					67.9 *3			
320-118635-16	CFH-007-N-S001-01242025	40.6	34.5		74.7	80.9	55.5	61.1	54.3
320-118635-16 - RA	CFH-007-N-S001-01242025			85.4					
320-118635-17	CFH-007-FD-S001-01242025	50.2	43.9		75.1	77.2	56.2	61.8	54.2
320-118635-17 - RA	CFH-007-FD-S001-01242025			77.1					
320-118635-18	CFH-007-N-S003-01242025	47.2	33.7		75.3	78.9	61.2	64.7	58.6
320-118635-18 - RA	CFH-007-N-S003-01242025			83.7					
320-118635-20	CFH-006-N-S001-01242025	80.7	77.5		76.5	93.0	136 *5+	147 *5+	141
320-118635-20 - RA	CFH-006-N-S001-01242025			85.7					
320-118635-20 - DL	CFH-006-N-S001-01242025	81.7 *3	74.3 *3	86.6 *3	78.2 *3	86.5 *3	84.4 *3	89.5 *3	90.4 *3
320-118635-22	CFH-005-N-S001-01242025	44.1	48.9		76.1	77.8	96.2	91.9	83.6
320-118635-22 - DL	CFH-005-N-S001-01242025					76.9 *3			
320-118635-22 - RA	CFH-005-N-S001-01242025			84.5					
320-118635-23	CFH-005-N-S003-01242025	79.0	74.3		79.6	89.5	74.7	84.1	84.7
320-118635-23 - RA	CFH-005-N-S003-01242025			86.5					
320-118635-24	CFH-005-FD-S003-01242025	64.1	59.6		80.5	87.0	67.3	79.5	73.0
320-118635-24 - RA	CFH-005-FD-S003-01242025			101					
320-118635-27	CFH-004-N-S001-01242025	39.8 *5-	50.7		76.6	75.5	79.0	78.8	68.9

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (40-130)	PFTDA (20-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-135)	d5NEFOS (40-150)
320-118635-27 - RA	CFH-004-N-S001-01242025			95.2					
320-118635-27 - DL	CFH-004-N-S001-01242025				74.8 *3	68.7 *3			
320-118635-28	CFH-004-N-S003-01242025	59.4	58.7		79.1	79.5	81.8	82.2	78.4
320-118635-28 - DL	CFH-004-N-S003-01242025				75.8 *3	74.7 *3			
320-118635-28 - RA	CFH-004-N-S003-01242025			86.2					
320-118635-30	CFH-004-N-S010-01242025					88.2			
320-118635-30 - RA	CFH-004-N-S010-01242025	80.3	74.1	82.2	77.7	87.4	99.7	97.3	108
320-118635-31	CFH-004-FD-S010-01242025	75.7	74.8	79.4	78.1	91.6	91.2	101	103
320-118635-34	CFH-003-N-S001-01242025	69.6	69.5	84.1	77.1	86.0	81.5	86.3	88.8
320-118635-35	CFH-003-N-S003-01242025	62.7	42.4	77.7	68.8	68.7	65.0	60.3	63.5
320-118635-37	CFH-003-N-S009-01242025	80.3	74.6	74.8	67.9	70.9	73.3	78.7	75.3
320-118635-38	CFH-003-FD-S009-01242025	73.6	68.5	79.2	72.4	68.9	63.4	74.4	70.0
320-118635-40	CFH-002-N-S001-01242025	70.2	67.4	78.6	69.1	72.4	66.6	71.0	75.9
320-118635-41	CFH-002-FD-S001-01242025	70.3	70.9	81.9	72.7	76.8	67.3	75.2	77.5
320-118635-42	CFH-002-N-S003-01242025	73.3	70.0	81.3	69.5	74.3	76.4	80.2	84.1
320-118635-42 - DL	CFH-002-N-S003-01242025								
320-118635-47	CFH-001-N-S001-01242025	69.9	65.2	77.4	67.5	66.2	69.9	70.9	72.7
320-118635-48	CFH-001-N-S003-01242025	67.6	66.7	78.9	72.1	73.7	70.1	70.5	73.6
320-118635-52	CFH-006-N-S003-01242025	77.4	75.6	66.6	73.3	83.8 *3	147 *5+ *3	180 *5+ *3	175 *5+ *3
320-118635-52 - DL	CFH-006-N-S003-01242025					77.1 *3			
LCS 320-831268/3-A	Lab Control Sample	80.1	74.9		79.8	82.3	79.5	91.1	89.3
LCS 320-831268/3-A - RA	Lab Control Sample			89.0					
LCS 320-831269/3-A	Lab Control Sample	73.0	78.1	86.9	74.2	81.8	84.4	86.6	93.5
LCS 320-831483/3-A	Lab Control Sample	73.9	62.7	81.5	78.0	84.5	76.5	93.9	95.1
LCSD 320-831268/4-A	Lab Control Sample Dup	79.3	76.1		81.2	88.4	77.6	88.4	86.9
LCSD 320-831268/4-A - RA	Lab Control Sample Dup			73.3					
LCSD 320-831269/4-A	Lab Control Sample Dup	75.3	73.6	84.3	82.3	88.6	79.2	87.2	87.7
LCSD 320-831483/4-A	Lab Control Sample Dup	75.2	79.5	87.0	78.1	83.7	71.3	96.1	90.8
LLCS 320-831268/2-A	Lab Control Sample	82.4	73.2		77.5	87.9	78.2	86.6	86.6
LLCS 320-831268/2-A - RA	Lab Control Sample			86.5					
LLCS 320-831269/2-A	Lab Control Sample	72.1	70.7	80.7	70.3	77.8	70.2	80.4	78.4
LLCS 320-831483/2-A	Lab Control Sample	60.2	67.9	80.6	77.8	84.5	70.1	95.3	93.3
MB 320-831268/1-A	Method Blank	67.6	68.2		77.9	87.9	70.4	82.5	76.9
MB 320-831268/1-A - RA	Method Blank			90.2					
MB 320-831269/1-A	Method Blank	81.5	82.6	92.3	78.3	87.0	85.0	90.6	90.4
MB 320-831483/1-A	Method Blank	65.1	65.4	82.6	80.3	91.1	66.3	92.4	85.3

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118635-2	FMB-003-N-S001-01242025	68.1	80.4	68.3	84.7	55.8	55.9	61.7	58.1
320-118635-3	FMB-003-FD-S001-01242025	72.0	81.6	65.1	79.7	62.6	64.4	47.4	57.1
320-118635-4	FMB-003-N-S003-01242025	88.7	98.1	89.2	90.3	60.0	61.0	77.7	85.3
320-118635-4 - RA	FMB-003-N-S003-01242025								
320-118635-6	FMB-003-N-S010-01242025	83.5	82.0	68.0	87.0	63.7	68.4	44.3	47.5
320-118635-6 - RA	FMB-003-N-S010-01242025								
320-118635-7	FMB-003-FD-S010-01242025	82.8	83.2	74.0	94.9	72.2	72.0	44.6	43.6
320-118635-7 - RA	FMB-003-FD-S010-01242025								
320-118635-10	FMB-002-N-S001-01242025	98.4	90.4	74.9	92.0	52.6	56.3	50.6	53.8
320-118635-10 - RA	FMB-002-N-S001-01242025								

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118635-1
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Solid
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118635-11	FMB-002-N-S003-01242025	88.1	80.7	50.7	98.7	46.9	49.9	41.9	45.2
320-118635-11 - RA	FMB-002-N-S003-01242025								
320-118635-11 - DL	FMB-002-N-S003-01242025								
320-118635-16	CFH-007-N-S001-01242025	89.9	88.0	61.1	96.1	36.1	35.3	33.1	39.2
320-118635-16 - RA	CFH-007-N-S001-01242025								
320-118635-17	CFH-007-FD-S001-01242025	93.4	82.4	61.2	92.9	39.7	40.3	38.3	45.3
320-118635-17 - RA	CFH-007-FD-S001-01242025								
320-118635-18	CFH-007-N-S003-01242025	101	83.9	63.4	99.4	43.0	42.6	36.7	47.3
320-118635-18 - RA	CFH-007-N-S003-01242025								
320-118635-20	CFH-006-N-S001-01242025	92.8	91.4	74.4	99.7	130	140 *5+	98.4	107
320-118635-20 - RA	CFH-006-N-S001-01242025								
320-118635-20 - DL	CFH-006-N-S001-01242025	88.8 *3	86.3 *3	82.2 *3	77.3 *3	73.2 *3	73.3 *3	61.5 *3	63.5 *3
320-118635-22	CFH-005-N-S001-01242025	86.7	80.1	57.1	96.8	86.5	87.6	66.1	72.4
320-118635-22 - DL	CFH-005-N-S001-01242025								
320-118635-22 - RA	CFH-005-N-S001-01242025								
320-118635-23	CFH-005-N-S003-01242025	90.2	82.1	68.2	97.7	73.2	75.3	48.3	52.0
320-118635-23 - RA	CFH-005-N-S003-01242025								
320-118635-24	CFH-005-FD-S003-01242025	94.3	82.8	67.2	96.3	56.3	58.7	52.2	55.3
320-118635-24 - RA	CFH-005-FD-S003-01242025								
320-118635-27	CFH-004-N-S001-01242025	115	91.0	65.3	97.1	67.7	74.7	71.4	70.9
320-118635-27 - RA	CFH-004-N-S001-01242025								
320-118635-27 - DL	CFH-004-N-S001-01242025								
320-118635-28	CFH-004-N-S003-01242025	88.5	84.0	68.4	103	74.2	73.0	63.3	69.9
320-118635-28 - DL	CFH-004-N-S003-01242025								
320-118635-28 - RA	CFH-004-N-S003-01242025								
320-118635-30	CFH-004-N-S010-01242025								
320-118635-30 - RA	CFH-004-N-S010-01242025	86.5	94.3	83.9	95.7	93.3	90.1	73.6	74.3
320-118635-31	CFH-004-FD-S010-01242025	83.6	87.7	74.3	86.1	83.1	82.7	61.7	66.5
320-118635-34	CFH-003-N-S001-01242025	105	86.3	77.7	85.2	80.9	74.4	56.5	59.6
320-118635-35	CFH-003-N-S003-01242025	86.9	86.9	64.9	73.7	60.3	59.1	49.6	49.1
320-118635-37	CFH-003-N-S009-01242025	82.5	76.1	64.8	76.1	64.6	65.2	55.4	61.1
320-118635-38	CFH-003-FD-S009-01242025	85.2	83.5	73.8	75.6	58.1	57.0	46.8	47.3
320-118635-40	CFH-002-N-S001-01242025	75.3	76.0	71.6	75.9	65.3	65.0	50.8	54.6
320-118635-41	CFH-002-FD-S001-01242025	93.0	89.8	68.0	77.8	68.7	65.2	55.0	57.0
320-118635-42	CFH-002-N-S003-01242025	83.4		71.1	74.1	67.9	67.7	48.2	50.8
320-118635-42 - DL	CFH-002-N-S003-01242025		102 *3						
320-118635-47	CFH-001-N-S001-01242025	83.9	81.5	70.8	69.8	63.1	61.1	62.7	66.3
320-118635-48	CFH-001-N-S003-01242025	73.4	72.3	70.0	81.8	65.8	65.8	52.2	56.8
320-118635-52	CFH-006-N-S003-01242025	67.8	74.4		87.9	150 *5+ *3	154 *5+ *3	124 *3	132 *5+ *3
320-118635-52 - DL	CFH-006-N-S003-01242025			92.3 *3					
LCS 320-831268/3-A	Lab Control Sample	101	92.0	79.4	102	77.0	75.2	75.2	81.6
LCS 320-831268/3-A - RA	Lab Control Sample								
LCS 320-831269/3-A	Lab Control Sample	88.9	100	75.5	81.7	82.4	79.4	57.8	59.7
LCS 320-831483/3-A	Lab Control Sample	65.6	94.4	75.7	81.7	64.0	65.1	79.9	87.8
LCSD 320-831268/4-A	Lab Control Sample Dup	86.2	94.4	80.8	90.6	69.1	67.8	73.1	83.1
LCSD 320-831268/4-A - RA	Lab Control Sample Dup								
LCSD 320-831269/4-A	Lab Control Sample Dup	96.8	92.6	74.6	80.8	76.9	75.4	53.6	57.8
LCSD 320-831483/4-A	Lab Control Sample Dup	70.4	89.7	79.8	87.4	84.1	83.8	62.4	63.9
LLCS 320-831268/2-A	Lab Control Sample	98.3	85.6	76.8	98.1	69.4	72.3	73.9	76.8

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118635-1
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Solid
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
LLCS 320-831268/2-A - RA	Lab Control Sample								
LLCS 320-831269/2-A	Lab Control Sample	90.5	94.1	75.2	77.4	68.1	66.5	45.6	50.3
LLCS 320-831483/2-A	Lab Control Sample	64.8	93.6	75.1	82.3	82.8	81.8	59.0	62.5
MB 320-831268/1-A	Method Blank	101	87.9	78.6	100	54.8	61.3	49.7	51.4
MB 320-831268/1-A - RA	Method Blank								
MB 320-831269/1-A	Method Blank	106	102	83.7	91.8	77.7	72.1	55.8	62.7
MB 320-831483/1-A	Method Blank	74.3	91.8	69.7	95.5	61.3	59.7	56.4	57.3

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-831268/1-A
Matrix: Solid
Analysis Batch: 831526

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 831268

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		02/04/25 13:09	02/06/25 00:03	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-831268/1-A
Matrix: Solid
Analysis Batch: 831526

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 831268

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		02/04/25 13:09	02/06/25 00:03	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		02/04/25 13:09	02/06/25 00:03	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*88.2*		*35 - 130*	*02/04/25 13:09*	*02/06/25 00:03*	*1*
13C5 PFHxA	*90.5*		*40 - 130*	*02/04/25 13:09*	*02/06/25 00:03*	*1*
13C4 PFHpA	*87.9*		*40 - 130*	*02/04/25 13:09*	*02/06/25 00:03*	*1*
13C9 PFNA	*89.3*		*40 - 130*	*02/04/25 13:09*	*02/06/25 00:03*	*1*
13C6 PFDA	*82.4*		*40 - 130*	*02/04/25 13:09*	*02/06/25 00:03*	*1*
13C7 PFUnA	*79.1*		*40 - 130*	*02/04/25 13:09*	*02/06/25 00:03*	*1*
13C2 PFDoA	*67.6*		*40 - 130*	*02/04/25 13:09*	*02/06/25 00:03*	*1*
13C2 PFTeDA	*68.2*		*20 - 130*	*02/04/25 13:09*	*02/06/25 00:03*	*1*
13C3 PFHxS	*77.9*		*40 - 130*	*02/04/25 13:09*	*02/06/25 00:03*	*1*
13C8 PFOS	*87.9*		*40 - 130*	*02/04/25 13:09*	*02/06/25 00:03*	*1*
13C8 FOSA	*70.4*		*40 - 130*	*02/04/25 13:09*	*02/06/25 00:03*	*1*
d3-NMeFOSAA	*82.5*		*40 - 135*	*02/04/25 13:09*	*02/06/25 00:03*	*1*
d5-NEtFOSAA	*76.9*		*40 - 150*	*02/04/25 13:09*	*02/06/25 00:03*	*1*
13C2 4:2 FTS	*101*		*40 - 165*	*02/04/25 13:09*	*02/06/25 00:03*	*1*
13C2 6:2 FTS	*87.9*		*40 - 215*	*02/04/25 13:09*	*02/06/25 00:03*	*1*
13C2 8:2 FTS	*78.6*		*40 - 275*	*02/04/25 13:09*	*02/06/25 00:03*	*1*
13C3 HFPO-DA	*100*		*40 - 130*	*02/04/25 13:09*	*02/06/25 00:03*	*1*
d7-N-MeFOSE-M	*54.8*		*20 - 130*	*02/04/25 13:09*	*02/06/25 00:03*	*1*
d9-N-EtFOSE-M	*61.3*		*15 - 130*	*02/04/25 13:09*	*02/06/25 00:03*	*1*
d5-NEtPFOSA	*49.7*		*10 - 130*	*02/04/25 13:09*	*02/06/25 00:03*	*1*
d3-NMePFOSA	*51.4*		*10 - 130*	*02/04/25 13:09*	*02/06/25 00:03*	*1*

Lab Sample ID: LCS 320-831268/3-A
Matrix: Solid
Analysis Batch: 831526

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 831268

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.74		ug/Kg		95	70 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.58		ug/Kg		103	65 - 145
Perfluorononanoic acid (PFNA)	2.50	2.31		ug/Kg		93	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.39		ug/Kg		95	70 - 155
Perfluoroundecanoic acid (PFUnA)	2.50	2.64		ug/Kg		106	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.69		ug/Kg		108	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.56		ug/Kg		102	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.67		ug/Kg		107	65 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.87		ug/Kg		122	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.68		ug/Kg		118	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.67		ug/Kg		112	65 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-831268/3-A
Matrix: Solid
Analysis Batch: 831526

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 831268

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonic acid (PFOS)	2.33	2.50		ug/Kg		108	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.61		ug/Kg		108	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.50		ug/Kg		104	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.28		ug/Kg		94	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.49		ug/Kg		96	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.75		ug/Kg		100	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.70		ug/Kg		98	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.44		ug/Kg		98	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.65		ug/Kg		106	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.59		ug/Kg		104	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.63		ug/Kg		105	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.63		ug/Kg		105	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.7		ug/Kg		94	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	10.7		ug/Kg		86	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.89		ug/Kg		101	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.10		ug/Kg		89	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.70		ug/Kg		108	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.54		ug/Kg		102	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.88		ug/Kg		115	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.34	2.13		ug/Kg		91	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.36	2.08		ug/Kg		88	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.23	2.26		ug/Kg		101	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	5.00	5.18		ug/Kg		104	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	12.5	10.1		ug/Kg		81	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	12.5	9.84		ug/Kg		79	60 - 150

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*99.0*		*8 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-831268/3-A
Matrix: Solid
Analysis Batch: 831526

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 831268

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C5 PFPeA	*94.2*		*35 - 130*
13C5 PFHxA	*96.5*		*40 - 130*
13C4 PFHpA	*96.1*		*40 - 130*
13C9 PFNA	*87.3*		*40 - 130*
13C6 PFDA	*79.8*		*40 - 130*
13C7 PFUnA	*81.1*		*40 - 130*
13C2 PFDoA	*80.1*		*40 - 130*
13C2 PFTeDA	*74.9*		*20 - 130*
13C3 PFHxS	*79.8*		*40 - 130*
13C8 PFOS	*82.3*		*40 - 130*
13C8 FOSA	*79.5*		*40 - 130*
d3-NMeFOSAA	*91.1*		*40 - 135*
d5-NEtFOSAA	*89.3*		*40 - 150*
13C2 4:2 FTS	*101*		*40 - 165*
13C2 6:2 FTS	*92.0*		*40 - 215*
13C2 8:2 FTS	*79.4*		*40 - 275*
13C3 HFPO-DA	*102*		*40 - 130*
d7-N-MeFOSE-M	*77.0*		*20 - 130*
d9-N-EtFOSE-M	*75.2*		*15 - 130*
d5-NEtPFOSA	*75.2*		*10 - 130*
d3-NMePFOSA	*81.6*		*10 - 130*

Lab Sample ID: LCSD 320-831268/4-A
Matrix: Solid
Analysis Batch: 831526

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 831268

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.80		ug/Kg		96	70 - 140	1	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.52		ug/Kg		101	65 - 145	2	30
Perfluorononanoic acid (PFNA)			2.50	2.32		ug/Kg		93	70 - 155	0	30
Perfluorodecanoic acid (PFDA)			2.50	2.32		ug/Kg		93	70 - 155	3	30
Perfluoroundecanoic acid (PFUnA)			2.50	2.70		ug/Kg		108	70 - 155	2	30
Perfluorododecanoic acid (PFDoA)			2.50	2.67		ug/Kg		107	70 - 150	1	30
Perfluorotridecanoic acid (PFTrDA)			2.50	2.55		ug/Kg		102	65 - 150	0	30
Perfluorotetradecanoic acid (PFTeDA)			2.50	2.30		ug/Kg		92	65 - 150	15	30
Perfluoropentanesulfonic acid (PFPeS)			2.35	2.57		ug/Kg		109	55 - 160	11	30
Perfluorohexanesulfonic acid (PFHxS)			2.28	2.60		ug/Kg		114	60 - 150	3	30
Perfluoroheptanesulfonic acid (PFHpS)			2.39	2.37		ug/Kg		99	65 - 155	12	30
Perfluorooctanesulfonic acid (PFOS)			2.33	2.33		ug/Kg		100	65 - 160	7	30
Perfluorononanesulfonic acid (PFNS)			2.41	2.34		ug/Kg		97	55 - 140	11	30
Perfluorodecanesulfonic acid (PFDS)			2.41	2.28		ug/Kg		95	40 - 155	9	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-831268/4-A
Matrix: Solid
Analysis Batch: 831526

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 831268

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorododecanesulfonic acid (PFDoS)			2.43	1.91		ug/Kg		79	25 - 160	17	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			4.69	4.71		ug/Kg		100	60 - 150	5	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			4.76	4.39		ug/Kg		92	55 - 200	8	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)			4.80	4.74		ug/Kg		99	70 - 150	1	30
Perfluorooctanesulfonamide (PFOSA)			2.50	2.41		ug/Kg		96	70 - 140	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)			2.50	2.59		ug/Kg		103	70 - 155	2	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)			2.50	2.67		ug/Kg		107	70 - 140	3	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			2.50	2.73		ug/Kg		109	65 - 155	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			2.50	2.62		ug/Kg		105	65 - 165	1	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)			12.5	11.9		ug/Kg		95	70 - 140	1	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)			12.5	11.2		ug/Kg		90	70 - 135	5	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)			1.88	1.86		ug/Kg		99	70 - 145	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.37	2.34		ug/Kg		99	70 - 160	11	30
Perfluoro-3-methoxypropanoic acid (PFMPA)			2.50	2.66		ug/Kg		106	30 - 140	2	30
Perfluoro-4-methoxybutanoic acid (PFMBA)			2.50	2.57		ug/Kg		103	60 - 150	1	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.62		ug/Kg		105	60 - 155	9	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.46		ug/Kg		106	70 - 150	14	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.40		ug/Kg		102	45 - 160	15	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.27		ug/Kg		102	70 - 140	0	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.01		ug/Kg		100	45 - 130	3	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.6		ug/Kg		85	60 - 130	5	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	10.8		ug/Kg		86	60 - 150	9	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*76.3*		*8 - 130*
13C5 PFPeA	*77.7*		*35 - 130*
13C5 PFHxA	*88.5*		*40 - 130*
13C4 PFHpA	*93.3*		*40 - 130*
13C9 PFNA	*87.1*		*40 - 130*
13C6 PFDA	*81.0*		*40 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-831268/4-A
Matrix: Solid
Analysis Batch: 831526

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 831268

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C7 PFUnA	*80.3*		*40 - 130*
13C2 PFDoA	*79.3*		*40 - 130*
13C2 PFTeDA	*76.1*		*20 - 130*
13C3 PFHxS	*81.2*		*40 - 130*
13C8 PFOS	*88.4*		*40 - 130*
13C8 FOSA	*77.6*		*40 - 130*
d3-NMeFOSAA	*88.4*		*40 - 135*
d5-NEtFOSAA	*86.9*		*40 - 150*
13C2 4:2 FTS	*86.2*		*40 - 165*
13C2 6:2 FTS	*94.4*		*40 - 215*
13C2 8:2 FTS	*80.8*		*40 - 275*
13C3 HFPO-DA	*90.6*		*40 - 130*
d7-N-MeFOSE-M	*69.1*		*20 - 130*
d9-N-EtFOSE-M	*67.8*		*15 - 130*
d5-NEtPFOSA	*73.1*		*10 - 130*
d3-NMePFOSA	*83.1*		*10 - 130*

Lab Sample ID: LLCS 320-831268/2-A
Matrix: Solid
Analysis Batch: 831526

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 831268

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	0.800	0.965		ug/Kg		121	70 - 140
Perfluoroheptanoic acid (PFHpA)	0.400	0.490		ug/Kg		122	65 - 145
Perfluorononanoic acid (PFNA)	0.400	0.418		ug/Kg		104	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.440		ug/Kg		110	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.471		ug/Kg		118	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.469		ug/Kg		117	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.441		ug/Kg		110	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.451		ug/Kg		113	65 - 150
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.495		ug/Kg		132	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.474		ug/Kg		130	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.416		ug/Kg		109	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.398		ug/Kg		107	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.403		ug/Kg		105	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.376		ug/Kg		97	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.305		ug/Kg		79	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.859		ug/Kg		114	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.869		ug/Kg		114	55 - 200

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-831268/2-A
Matrix: Solid
Analysis Batch: 831526

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 831268

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.838		ug/Kg		109	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.407		ug/Kg		102	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.434		ug/Kg		109	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.419		ug/Kg		105	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.455		ug/Kg		114	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.468		ug/Kg		117	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	2.12		ug/Kg		106	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	1.90		ug/Kg		95	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.326		ug/Kg		109	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.414		ug/Kg		109	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.514		ug/Kg		128	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.400	0.481		ug/Kg		120	60 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	0.374	0.365		ug/Kg		98	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	0.378	0.390		ug/Kg		103	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.357	0.423		ug/Kg		119	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.800	0.798		ug/Kg		100	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	2.00	1.73		ug/Kg		87	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	2.00	1.58		ug/Kg		79	60 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*91.8*		*8 - 130*
13C5 PFPeA	*86.2*		*35 - 130*
13C5 PFHxA	*97.6*		*40 - 130*
13C4 PFHpA	*88.7*		*40 - 130*
13C9 PFNA	*89.1*		*40 - 130*
13C6 PFDA	*82.1*		*40 - 130*
13C7 PFUnA	*84.0*		*40 - 130*
13C2 PFDoA	*82.4*		*40 - 130*
13C2 PFTeDA	*73.2*		*20 - 130*
13C3 PFHxS	*77.5*		*40 - 130*
13C8 PFOS	*87.9*		*40 - 130*
13C8 FOSA	*78.2*		*40 - 130*
d3-NMeFOSAA	*86.6*		*40 - 135*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-831268/2-A
Matrix: Solid
Analysis Batch: 831526

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 831268

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
d5-NEtFOSAA	*86.6*		*40 - 150*
13C2 4:2 FTS	*98.3*		*40 - 165*
13C2 6:2 FTS	*85.6*		*40 - 215*
13C2 8:2 FTS	*76.8*		*40 - 275*
13C3 HFPO-DA	*98.1*		*40 - 130*
d7-N-MeFOSE-M	*69.4*		*20 - 130*
d9-N-EtFOSE-M	*72.3*		*15 - 130*
d5-NEtPFOSA	*73.9*		*10 - 130*
d3-NMePFOSA	*76.8*		*10 - 130*

Lab Sample ID: MB 320-831269/1-A
Matrix: Solid
Analysis Batch: 831892

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 831269

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
Perfluorobutanesulfonic acid (PFBS)	0.141	J	0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-831269/1-A
Matrix: Solid
Analysis Batch: 831892

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 831269

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		02/04/25 13:09	02/07/25 02:23	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		02/04/25 13:09	02/07/25 02:23	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*96.6*		*8 - 130*	*02/04/25 13:09*	*02/07/25 02:23*	*1*
13C5 PFPeA	*90.9*		*35 - 130*	*02/04/25 13:09*	*02/07/25 02:23*	*1*
13C5 PFHxA	*88.7*		*40 - 130*	*02/04/25 13:09*	*02/07/25 02:23*	*1*
13C4 PFHpA	*101*		*40 - 130*	*02/04/25 13:09*	*02/07/25 02:23*	*1*
13C8 PFOA	*84.5*		*40 - 130*	*02/04/25 13:09*	*02/07/25 02:23*	*1*
13C9 PFNA	*78.7*		*40 - 130*	*02/04/25 13:09*	*02/07/25 02:23*	*1*
13C6 PFDA	*81.1*		*40 - 130*	*02/04/25 13:09*	*02/07/25 02:23*	*1*
13C7 PFUnA	*76.4*		*40 - 130*	*02/04/25 13:09*	*02/07/25 02:23*	*1*
13C2 PFDoA	*81.5*		*40 - 130*	*02/04/25 13:09*	*02/07/25 02:23*	*1*
13C2 PFTeDA	*82.6*		*20 - 130*	*02/04/25 13:09*	*02/07/25 02:23*	*1*
13C3 PFBS	*92.3*		*40 - 135*	*02/04/25 13:09*	*02/07/25 02:23*	*1*
13C3 PFHxS	*78.3*		*40 - 130*	*02/04/25 13:09*	*02/07/25 02:23*	*1*
13C8 PFOS	*87.0*		*40 - 130*	*02/04/25 13:09*	*02/07/25 02:23*	*1*
13C8 FOSA	*85.0*		*40 - 130*	*02/04/25 13:09*	*02/07/25 02:23*	*1*
d3-NMeFOSAA	*90.6*		*40 - 135*	*02/04/25 13:09*	*02/07/25 02:23*	*1*
d5-NEtFOSAA	*90.4*		*40 - 150*	*02/04/25 13:09*	*02/07/25 02:23*	*1*
13C2 4:2 FTS	*106*		*40 - 165*	*02/04/25 13:09*	*02/07/25 02:23*	*1*
13C2 6:2 FTS	*102*		*40 - 215*	*02/04/25 13:09*	*02/07/25 02:23*	*1*
13C2 8:2 FTS	*83.7*		*40 - 275*	*02/04/25 13:09*	*02/07/25 02:23*	*1*
13C3 HFPO-DA	*91.8*		*40 - 130*	*02/04/25 13:09*	*02/07/25 02:23*	*1*
d7-N-MeFOSE-M	*77.7*		*20 - 130*	*02/04/25 13:09*	*02/07/25 02:23*	*1*
d9-N-EtFOSE-M	*72.1*		*15 - 130*	*02/04/25 13:09*	*02/07/25 02:23*	*1*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-831269/1-A
Matrix: Solid
Analysis Batch: 831892

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 831269

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtPFOSA	55.8		10 - 130	02/04/25 13:09	02/07/25 02:23	1
d3-NMePFOSA	62.7		10 - 130	02/04/25 13:09	02/07/25 02:23	1

Lab Sample ID: LCS 320-831269/3-A
Matrix: Solid
Analysis Batch: 831892

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 831269

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	5.27		ug/Kg		105	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.71		ug/Kg		109	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	3.01		ug/Kg		120	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.93		ug/Kg		117	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.58		ug/Kg		103	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.57		ug/Kg		103	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.34		ug/Kg		94	70 - 155
Perfluoroundecanoic acid (PFUnA)	2.50	2.84		ug/Kg		114	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.72		ug/Kg		109	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.66		ug/Kg		106	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.45		ug/Kg		98	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.15		ug/Kg		97	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.90		ug/Kg		123	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.52		ug/Kg		110	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.66		ug/Kg		111	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.51		ug/Kg		108	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.51		ug/Kg		104	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.65		ug/Kg		110	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.52		ug/Kg		104	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	5.35		ug/Kg		114	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.36		ug/Kg		92	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	5.36		ug/Kg		112	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.42		ug/Kg		97	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.69		ug/Kg		107	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.62		ug/Kg		105	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.71		ug/Kg		108	65 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-831269/3-A
Matrix: Solid
Analysis Batch: 831892

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 831269

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.41		ug/Kg		97	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.7		ug/Kg		94	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	11.3		ug/Kg		90	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	2.02		ug/Kg		108	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.63		ug/Kg		111	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.31		ug/Kg		92	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.34		ug/Kg		94	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	1.85		ug/Kg		74	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.34	2.32		ug/Kg		99	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.36	2.43		ug/Kg		103	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.23	2.29		ug/Kg		103	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	5.00	4.37		ug/Kg		87	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	12.5	11.7		ug/Kg		94	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	12.5	12.2		ug/Kg		98	60 - 150

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*90.5*		*8 - 130*
13C5 PFPeA	*87.1*		*35 - 130*
13C5 PFHxA	*83.5*		*40 - 130*
13C4 PFHpA	*82.4*		*40 - 130*
13C8 PFOA	*84.8*		*40 - 130*
13C9 PFNA	*78.7*		*40 - 130*
13C6 PFDA	*76.3*		*40 - 130*
13C7 PFUnA	*74.8*		*40 - 130*
13C2 PFDoA	*73.0*		*40 - 130*
13C2 PFTeDA	*78.1*		*20 - 130*
13C3 PFBS	*86.9*		*40 - 135*
13C3 PFHxS	*74.2*		*40 - 130*
13C8 PFOS	*81.8*		*40 - 130*
13C8 FOSA	*84.4*		*40 - 130*
d3-NMeFOSAA	*86.6*		*40 - 135*
d5-NEtFOSAA	*93.5*		*40 - 150*
13C2 4:2 FTS	*88.9*		*40 - 165*
13C2 6:2 FTS	*100*		*40 - 215*
13C2 8:2 FTS	*75.5*		*40 - 275*
13C3 HFPO-DA	*81.7*		*40 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-831269/3-A
Matrix: Solid
Analysis Batch: 831892

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 831269

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
d7-N-MeFOSE-M	*82.4*		*20 - 130*
d9-N-EtFOSE-M	*79.4*		*15 - 130*
d5-NEtPFOSA	*57.8*		*10 - 130*
d3-NMePFOSA	*59.7*		*10 - 130*

Lab Sample ID: LCSD 320-831269/4-A
Matrix: Solid
Analysis Batch: 831892

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 831269

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	5.20		ug/Kg		104	70 - 140	1	30
Perfluoropentanoic acid (PFPeA)			2.50	2.62		ug/Kg		105	60 - 150	4	30
Perfluorohexanoic acid (PFHxA)			2.50	2.86		ug/Kg		115	65 - 140	5	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.63		ug/Kg		105	65 - 145	11	30
Perfluorooctanoic acid (PFOA)			2.50	2.94		ug/Kg		117	70 - 150	13	30
Perfluorononanoic acid (PFNA)			2.50	2.37		ug/Kg		95	70 - 155	8	30
Perfluorodecanoic acid (PFDA)			2.50	2.69		ug/Kg		108	70 - 155	14	30
Perfluoroundecanoic acid (PFUnA)			2.50	2.69		ug/Kg		108	70 - 155	5	30
Perfluorododecanoic acid (PFDoA)			2.50	2.77		ug/Kg		111	70 - 150	2	30
Perfluorotridecanoic acid (PFTrDA)			2.50	2.75		ug/Kg		110	65 - 150	3	30
Perfluorotetradecanoic acid (PFTeDA)			2.50	2.39		ug/Kg		96	65 - 150	2	30
Perfluorobutanesulfonic acid (PFBS)			2.22	2.13		ug/Kg		96	65 - 145	1	30
Perfluoropentanesulfonic acid (PFPeS)			2.35	2.86		ug/Kg		122	55 - 160	1	30
Perfluorohexanesulfonic acid (PFHxS)			2.28	2.37		ug/Kg		104	60 - 150	6	30
Perfluoroheptanesulfonic acid (PFHpS)			2.39	2.51		ug/Kg		105	65 - 155	6	30
Perfluorooctanesulfonic acid (PFOS)			2.33	2.32		ug/Kg		100	65 - 160	8	30
Perfluorononanesulfonic acid (PFNS)			2.41	2.07		ug/Kg		86	55 - 140	19	30
Perfluorodecanesulfonic acid (PFDS)			2.41	2.34		ug/Kg		97	40 - 155	12	30
Perfluorododecanesulfonic acid (PFDoS)			2.43	2.24		ug/Kg		93	25 - 160	12	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			4.69	4.76		ug/Kg		101	60 - 150	12	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			4.76	4.86		ug/Kg		102	55 - 200	11	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)			4.80	5.67		ug/Kg		118	70 - 150	6	30
Perfluorooctanesulfonamide (PFOSA)			2.50	2.51		ug/Kg		100	70 - 140	3	30
N-methylperfluorooctane sulfonamide (NMeFOSA)			2.50	2.67		ug/Kg		107	70 - 155	1	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)			2.50	2.59		ug/Kg		103	70 - 140	1	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-831269/4-A
Matrix: Solid
Analysis Batch: 831892

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 831269

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			2.50	2.74		ug/Kg		110	65 - 155	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			2.50	2.63		ug/Kg		105	65 - 165	9	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)			12.5	12.0		ug/Kg		96	70 - 140	3	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)			12.5	11.2		ug/Kg		90	70 - 135	0	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)			1.88	2.05		ug/Kg		109	70 - 145	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.37	2.72		ug/Kg		115	70 - 160	4	30
Perfluoro-3-methoxypropanoic acid (PFMPA)			2.50	2.39		ug/Kg		96	30 - 140	4	30
Perfluoro-4-methoxybutanoic acid (PFMBA)			2.50	2.74		ug/Kg		110	60 - 150	16	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.60	*1	ug/Kg		104	60 - 155	34	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.43		ug/Kg		104	70 - 150	5	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.35		ug/Kg		100	45 - 160	3	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.42		ug/Kg		109	70 - 140	6	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.21		ug/Kg		84	45 - 130	4	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	12.6		ug/Kg		100	60 - 130	7	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.7		ug/Kg		94	60 - 150	4	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*90.4*		*8 - 130*
13C5 PFPeA	*88.0*		*35 - 130*
13C5 PFHxA	*83.0*		*40 - 130*
13C4 PFHpA	*86.7*		*40 - 130*
13C8 PFOA	*75.8*		*40 - 130*
13C9 PFNA	*76.6*		*40 - 130*
13C6 PFDA	*76.4*		*40 - 130*
13C7 PFUnA	*75.7*		*40 - 130*
13C2 PFDoA	*75.3*		*40 - 130*
13C2 PFTeDA	*73.6*		*20 - 130*
13C3 PFBS	*84.3*		*40 - 135*
13C3 PFHxS	*82.3*		*40 - 130*
13C8 PFOS	*88.6*		*40 - 130*
13C8 FOSA	*79.2*		*40 - 130*
d3-NMeFOSAA	*87.2*		*40 - 135*
d5-NEtFOSAA	*87.7*		*40 - 150*
13C2 4:2 FTS	*96.8*		*40 - 165*
13C2 6:2 FTS	*92.6*		*40 - 215*
13C2 8:2 FTS	*74.6*		*40 - 275*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-831269/4-A
Matrix: Solid
Analysis Batch: 831892

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 831269

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*80.8*		*40 - 130*
d7-N-MeFOSE-M	*76.9*		*20 - 130*
d9-N-EtFOSE-M	*75.4*		*15 - 130*
d5-NEtPFOSA	*53.6*		*10 - 130*
d3-NMePFOSA	*57.8*		*10 - 130*

Lab Sample ID: LLCS 320-831269/2-A
Matrix: Solid
Analysis Batch: 831892

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 831269

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	0.800	0.846		ug/Kg		106	70 - 140
Perfluoropentanoic acid (PFPeA)	0.400	0.521		ug/Kg		130	60 - 150
Perfluorohexanoic acid (PFHxA)	0.400	0.415		ug/Kg		104	65 - 140
Perfluoroheptanoic acid (PFHpA)	0.400	0.452		ug/Kg		113	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.445		ug/Kg		111	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.410		ug/Kg		102	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.434		ug/Kg		109	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.480		ug/Kg		120	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.436		ug/Kg		109	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.440		ug/Kg		110	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.399		ug/Kg		100	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.366		ug/Kg		103	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.526		ug/Kg		140	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.421		ug/Kg		115	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.379		ug/Kg		99	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.398		ug/Kg		107	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.377		ug/Kg		98	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.382		ug/Kg		99	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.365		ug/Kg		94	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.656		ug/Kg		87	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.777		ug/Kg		102	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.844		ug/Kg		110	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.415		ug/Kg		104	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.446		ug/Kg		111	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-831269/2-A
Matrix: Solid
Analysis Batch: 831892

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 831269

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.450		ug/Kg		113	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.415		ug/Kg		104	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.403		ug/Kg		101	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.96		ug/Kg		98	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	1.90		ug/Kg		95	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.324		ug/Kg		108	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.422		ug/Kg		112	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.503		ug/Kg		126	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.400	0.444		ug/Kg		111	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.400	0.329		ug/Kg		82	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	0.374	0.380		ug/Kg		102	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	0.378	0.399		ug/Kg		106	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.357	0.395		ug/Kg		111	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.800	0.815		ug/Kg		102	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	2.00	1.92		ug/Kg		96	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	2.00	1.91		ug/Kg		96	60 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*84.0*		*8 - 130*
13C5 PFPeA	*75.8*		*35 - 130*
13C5 PFHxA	*82.3*		*40 - 130*
13C4 PFHpA	*79.4*		*40 - 130*
13C8 PFOA	*74.5*		*40 - 130*
13C9 PFNA	*71.2*		*40 - 130*
13C6 PFDA	*69.3*		*40 - 130*
13C7 PFUnA	*67.2*		*40 - 130*
13C2 PFDoA	*72.1*		*40 - 130*
13C2 PFTeDA	*70.7*		*20 - 130*
13C3 PFBS	*80.7*		*40 - 135*
13C3 PFHxS	*70.3*		*40 - 130*
13C8 PFOS	*77.8*		*40 - 130*
13C8 FOSA	*70.2*		*40 - 130*
d3-NMeFOSAA	*80.4*		*40 - 135*
d5-NEtFOSAA	*78.4*		*40 - 150*
13C2 4:2 FTS	*90.5*		*40 - 165*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-831269/2-A
Matrix: Solid
Analysis Batch: 831892

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 831269

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C2 6:2 FTS	*94.1*		*40 - 215*
13C2 8:2 FTS	*75.2*		*40 - 275*
13C3 HFPO-DA	*77.4*		*40 - 130*
d7-N-MeFOSE-M	*68.1*		*20 - 130*
d9-N-EtFOSE-M	*66.5*		*15 - 130*
d5-NEtPFOSA	*45.6*		*10 - 130*
d3-NMePFOSA	*50.3*		*10 - 130*

Lab Sample ID: MB 320-831483/1-A
Matrix: Solid
Analysis Batch: 832076

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 831483

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		02/05/25 11:42	02/07/25 17:54	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-831483/1-A
Matrix: Solid
Analysis Batch: 832076

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 831483

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		02/05/25 11:42	02/07/25 17:54	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*90.9*		*8 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C5 PFPeA	*97.6*		*35 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C5 PFHxA	*99.7*		*40 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C4 PFHpA	*113*		*40 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C8 PFOA	*88.4*		*40 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C9 PFNA	*82.3*		*40 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C6 PFDA	*72.9*		*40 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C7 PFUnA	*71.7*		*40 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C2 PFDoA	*65.1*		*40 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C2 PFTeDA	*65.4*		*20 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C3 PFBS	*82.6*		*40 - 135*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C3 PFHxS	*80.3*		*40 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C8 PFOS	*91.1*		*40 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C8 FOSA	*66.3*		*40 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
d3-NMeFOSAA	*92.4*		*40 - 135*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
d5-NEtFOSAA	*85.3*		*40 - 150*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C2 4:2 FTS	*74.3*		*40 - 165*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C2 6:2 FTS	*91.8*		*40 - 215*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C2 8:2 FTS	*69.7*		*40 - 275*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C3 HFPO-DA	*95.5*		*40 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
d7-N-MeFOSE-M	*61.3*		*20 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
d9-N-EtFOSE-M	*59.7*		*15 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
d5-NEtPFOSA	*56.4*		*10 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
d3-NMePFOSA	*57.3*		*10 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-831483/3-A
Matrix: Solid
Analysis Batch: 832076

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 831483

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	5.34		ug/Kg		107	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.90		ug/Kg		116	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.43		ug/Kg		97	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.59		ug/Kg		104	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.64		ug/Kg		105	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.29		ug/Kg		91	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.26		ug/Kg		90	70 - 155
Perfluoroundecanoic acid (PFUnA)	2.50	2.72		ug/Kg		109	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.47		ug/Kg		99	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.20		ug/Kg		88	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.44		ug/Kg		98	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.81		ug/Kg		127	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.68		ug/Kg		114	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.64		ug/Kg		116	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.34		ug/Kg		98	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.43		ug/Kg		105	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.39		ug/Kg		99	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.27		ug/Kg		94	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.02		ug/Kg		83	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	5.74		ug/Kg		122	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.70		ug/Kg		99	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	5.52		ug/Kg		115	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.42		ug/Kg		97	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.50		ug/Kg		100	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.66		ug/Kg		106	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.52		ug/Kg		101	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.58		ug/Kg		103	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.1		ug/Kg		89	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	11.6		ug/Kg		93	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.83		ug/Kg		97	70 - 145

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-831483/3-A
Matrix: Solid
Analysis Batch: 832076

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 831483

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.53		ug/Kg		107	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	3.12		ug/Kg		125	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	3.17		ug/Kg		127	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.59		ug/Kg		104	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.34	2.48		ug/Kg		106	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.36	2.17		ug/Kg		92	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.23	2.32		ug/Kg		104	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	5.00	5.32		ug/Kg		106	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	12.5	11.0		ug/Kg		88	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	12.5	10.8		ug/Kg		86	60 - 150

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*90.2*		*8 - 130*
13C5 PFPeA	*75.3*		*35 - 130*
13C5 PFHxA	*87.9*		*40 - 130*
13C4 PFHpA	*96.3*		*40 - 130*
13C8 PFOA	*84.1*		*40 - 130*
13C9 PFNA	*84.5*		*40 - 130*
13C6 PFDA	*80.6*		*40 - 130*
13C7 PFUnA	*71.1*		*40 - 130*
13C2 PFDoA	*73.9*		*40 - 130*
13C2 PFTeDA	*62.7*		*20 - 130*
13C3 PFBS	*81.5*		*40 - 135*
13C3 PFHxS	*78.0*		*40 - 130*
13C8 PFOS	*84.5*		*40 - 130*
13C8 FOSA	*76.5*		*40 - 130*
d3-NMeFOSAA	*93.9*		*40 - 135*
d5-NEtFOSAA	*95.1*		*40 - 150*
13C2 4:2 FTS	*65.6*		*40 - 165*
13C2 6:2 FTS	*94.4*		*40 - 215*
13C2 8:2 FTS	*75.7*		*40 - 275*
13C3 HFPO-DA	*81.7*		*40 - 130*
d7-N-MeFOSE-M	*64.0*		*20 - 130*
d9-N-EtFOSE-M	*65.1*		*15 - 130*
d5-NEtPFOSA	*79.9*		*10 - 130*
d3-NMePFOSA	*87.8*		*10 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-831483/4-A
Matrix: Solid
Analysis Batch: 832076

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 831483

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	5.20		ug/Kg		104	70 - 140	3	30
Perfluoropentanoic acid (PFPeA)			2.50	2.83		ug/Kg		113	60 - 150	3	30
Perfluorohexanoic acid (PFHxA)			2.50	2.19		ug/Kg		87	65 - 140	10	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.92		ug/Kg		117	65 - 145	12	30
Perfluorooctanoic acid (PFOA)			2.50	2.55		ug/Kg		102	70 - 150	3	30
Perfluorononanoic acid (PFNA)			2.50	2.08		ug/Kg		83	70 - 155	9	30
Perfluorodecanoic acid (PFDA)			2.50	2.36		ug/Kg		94	70 - 155	4	30
Perfluoroundecanoic acid (PFUnA)			2.50	2.67		ug/Kg		107	70 - 155	2	30
Perfluorododecanoic acid (PFDoA)			2.50	2.56		ug/Kg		102	70 - 150	4	30
Perfluorotridecanoic acid (PFTrDA)			2.50	2.38		ug/Kg		95	65 - 150	8	30
Perfluorotetradecanoic acid (PFTeDA)			2.50	2.20		ug/Kg		88	65 - 150	11	30
Perfluorobutanesulfonic acid (PFBS)			2.22	2.56		ug/Kg		115	65 - 145	10	30
Perfluoropentanesulfonic acid (PFPeS)			2.35	2.98		ug/Kg		127	55 - 160	10	30
Perfluorohexanesulfonic acid (PFHxS)			2.28	2.68		ug/Kg		117	60 - 150	1	30
Perfluoroheptanesulfonic acid (PFHpS)			2.39	2.39		ug/Kg		100	65 - 155	2	30
Perfluorooctanesulfonic acid (PFOS)			2.33	2.35		ug/Kg		101	65 - 160	4	30
Perfluorononanesulfonic acid (PFNS)			2.41	2.31		ug/Kg		96	55 - 140	3	30
Perfluorodecanesulfonic acid (PFDS)			2.41	2.29		ug/Kg		95	40 - 155	1	30
Perfluorododecanesulfonic acid (PFDoS)			2.43	2.22		ug/Kg		91	25 - 160	9	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			4.69	5.65		ug/Kg		120	60 - 150	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			4.76	4.81		ug/Kg		101	55 - 200	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)			4.80	5.21		ug/Kg		109	70 - 150	6	30
Perfluorooctanesulfonamide (PFOSA)			2.50	2.76		ug/Kg		110	70 - 140	13	30
N-methylperfluorooctane sulfonamide (NMeFOSA)			2.50	2.60		ug/Kg		104	70 - 155	4	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)			2.50	2.42		ug/Kg		97	70 - 140	9	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			2.50	2.52		ug/Kg		101	65 - 155	0	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			2.50	2.62		ug/Kg		105	65 - 165	1	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)			12.5	10.5		ug/Kg		84	70 - 140	5	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)			12.5	11.1		ug/Kg		89	70 - 135	5	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)			1.88	1.67		ug/Kg		89	70 - 145	9	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-831483/4-A
Matrix: Solid
Analysis Batch: 832076

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 831483

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.37	2.37		ug/Kg		100	70 - 160	7	30
Perfluoro-3-methoxypropanoic acid (PFMPA)			2.50	2.81		ug/Kg		112	30 - 140	10	30
Perfluoro-4-methoxybutanoic acid (PFMBA)			2.50	2.95		ug/Kg		118	60 - 150	7	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.77		ug/Kg		111	60 - 155	7	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.39		ug/Kg		102	70 - 150	4	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.25		ug/Kg		96	45 - 160	4	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.45		ug/Kg		110	70 - 140	5	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.97		ug/Kg		99	45 - 130	7	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.7		ug/Kg		94	60 - 130	6	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	10.4		ug/Kg		83	60 - 150	3	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*94.9*		*8 - 130*
13C5 PFPeA	*82.3*		*35 - 130*
13C5 PFHxA	*87.3*		*40 - 130*
13C4 PFHpA	*82.1*		*40 - 130*
13C8 PFOA	*84.5*		*40 - 130*
13C9 PFNA	*83.5*		*40 - 130*
13C6 PFDA	*74.6*		*40 - 130*
13C7 PFUnA	*72.1*		*40 - 130*
13C2 PFDoA	*75.2*		*40 - 130*
13C2 PFTeDA	*79.5*		*20 - 130*
13C3 PFBS	*87.0*		*40 - 135*
13C3 PFHxS	*78.1*		*40 - 130*
13C8 PFOS	*83.7*		*40 - 130*
13C8 FOSA	*71.3*		*40 - 130*
d3-NMeFOSAA	*96.1*		*40 - 135*
d5-NEtFOSAA	*90.8*		*40 - 150*
13C2 4:2 FTS	*70.4*		*40 - 165*
13C2 6:2 FTS	*89.7*		*40 - 215*
13C2 8:2 FTS	*79.8*		*40 - 275*
13C3 HFPO-DA	*87.4*		*40 - 130*
d7-N-MeFOSE-M	*84.1*		*20 - 130*
d9-N-EtFOSE-M	*83.8*		*15 - 130*
d5-NEtPFOSA	*62.4*		*10 - 130*
d3-NMePFOSA	*63.9*		*10 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-831483/2-A
Matrix: Solid
Analysis Batch: 832076

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 831483

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	0.800	0.967		ug/Kg		121	70 - 140
Perfluoropentanoic acid (PFPeA)	0.400	0.416		ug/Kg		104	60 - 150
Perfluorohexanoic acid (PFHxA)	0.400	0.398		ug/Kg		100	65 - 140
Perfluoroheptanoic acid (PFHpA)	0.400	0.451		ug/Kg		113	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.426		ug/Kg		106	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.350		ug/Kg		88	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.401		ug/Kg		100	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.397		ug/Kg		99	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.435		ug/Kg		109	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.448		ug/Kg		112	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.403		ug/Kg		101	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.438		ug/Kg		123	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.422		ug/Kg		112	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.432		ug/Kg		118	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.389		ug/Kg		102	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.401		ug/Kg		108	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.365		ug/Kg		95	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.359		ug/Kg		93	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.363		ug/Kg		94	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.839		ug/Kg		112	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.755		ug/Kg		99	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.843		ug/Kg		110	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.439		ug/Kg		110	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.398		ug/Kg		99	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.394		ug/Kg		98	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.384		ug/Kg		96	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.375		ug/Kg		94	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.81		ug/Kg		91	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	1.88		ug/Kg		94	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.283		ug/Kg		94	70 - 145

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-831483/2-A
Matrix: Solid
Analysis Batch: 832076

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 831483

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.368		ug/Kg		97	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.460		ug/Kg		115	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.400	0.454		ug/Kg		113	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.400	0.377		ug/Kg		94	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	0.374	0.377		ug/Kg		101	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	0.378	0.359		ug/Kg		95	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.357	0.342		ug/Kg		96	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.800	0.733		ug/Kg		92	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	2.00	1.68		ug/Kg		84	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	2.00	1.59		ug/Kg		80	60 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*84.1*		*8 - 130*
13C5 PFPeA	*82.6*		*35 - 130*
13C5 PFHxA	*90.5*		*40 - 130*
13C4 PFHpA	*90.0*		*40 - 130*
13C8 PFOA	*83.6*		*40 - 130*
13C9 PFNA	*83.6*		*40 - 130*
13C6 PFDA	*73.7*		*40 - 130*
13C7 PFUnA	*71.5*		*40 - 130*
13C2 PFDoA	*60.2*		*40 - 130*
13C2 PFTeDA	*67.9*		*20 - 130*
13C3 PFBS	*80.6*		*40 - 135*
13C3 PFHxS	*77.8*		*40 - 130*
13C8 PFOS	*84.5*		*40 - 130*
13C8 FOSA	*70.1*		*40 - 130*
d3-NMeFOSAA	*95.3*		*40 - 135*
d5-NEtFOSAA	*93.3*		*40 - 150*
13C2 4:2 FTS	*64.8*		*40 - 165*
13C2 6:2 FTS	*93.6*		*40 - 215*
13C2 8:2 FTS	*75.1*		*40 - 275*
13C3 HFPO-DA	*82.3*		*40 - 130*
d7-N-MeFOSE-M	*82.8*		*20 - 130*
d9-N-EtFOSE-M	*81.8*		*15 - 130*
d5-NEtPFOSA	*59.0*		*10 - 130*
d3-NMePFOSA	*62.5*		*10 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Lab Sample ID: MB 320-831268/1-A
Matrix: Solid
Analysis Batch: 831889

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 831268

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA) - RA	ND		0.40	0.10	ug/Kg		02/04/25 13:09	02/06/25 12:08	1
Perfluoropentanoic acid (PFPeA) - RA	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 12:08	1
Perfluorohexanoic acid (PFHxA) - RA	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 12:08	1
Perfluorooctanoic acid (PFOA) - RA	ND		0.20	0.062	ug/Kg		02/04/25 13:09	02/06/25 12:08	1
Perfluorobutanesulfonic acid (PFBS) - RA	ND		0.20	0.050	ug/Kg		02/04/25 13:09	02/06/25 12:08	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA - RA	*93.3*		*8 - 130*	*02/04/25 13:09*	*02/06/25 12:08*	*1*
13C5 PFPeA - RA	*89.9*		*35 - 130*	*02/04/25 13:09*	*02/06/25 12:08*	*1*
13C5 PFHxA - RA	*85.8*		*40 - 130*	*02/04/25 13:09*	*02/06/25 12:08*	*1*
13C8 PFOA - RA	*90.8*		*40 - 130*	*02/04/25 13:09*	*02/06/25 12:08*	*1*
13C3 PFBS - RA	*90.2*		*40 - 135*	*02/04/25 13:09*	*02/06/25 12:08*	*1*

Lab Sample ID: LCS 320-831268/3-A
Matrix: Solid
Analysis Batch: 831889

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 831268

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanoic acid (PFPeA) - RA	2.50	2.65		ug/Kg		106	60 - 150
Perfluorohexanoic acid (PFHxA) - RA	2.50	2.78		ug/Kg		111	65 - 140
Perfluorooctanoic acid (PFOA) - RA	2.50	3.00		ug/Kg		120	70 - 150
Perfluorobutanesulfonic acid (PFBS) - RA	2.22	2.26		ug/Kg		102	65 - 145

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C5 PFPeA - RA	*90.7*		*35 - 130*
13C5 PFHxA - RA	*90.7*		*40 - 130*
13C8 PFOA - RA	*77.6*		*40 - 130*
13C3 PFBS - RA	*89.0*		*40 - 135*

Lab Sample ID: LCSD 320-831268/4-A
Matrix: Solid
Analysis Batch: 831889

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 831268

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanoic acid (PFPeA) - RA	2.50	2.89		ug/Kg		116	60 - 150	9	30
Perfluorohexanoic acid (PFHxA) - RA	2.50	2.96		ug/Kg		118	65 - 140	6	30
Perfluorooctanoic acid (PFOA) - RA	2.50	2.77		ug/Kg		111	70 - 150	8	30
Perfluorobutanesulfonic acid (PFBS) - RA	2.22	2.14		ug/Kg		96	65 - 145	6	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C5 PFPeA - RA	*69.4*		*35 - 130*
13C5 PFHxA - RA	*75.4*		*40 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Lab Sample ID: LCSD 320-831268/4-A
Matrix: Solid
Analysis Batch: 831889

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 831268

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C8 PFOA - RA	86.6		40 - 130
13C3 PFBS - RA	73.3		40 - 135

Lab Sample ID: LLCS 320-831268/2-A
Matrix: Solid
Analysis Batch: 831889

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 831268

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoropentanoic acid (PFPeA) - RA			0.400	0.458		ug/Kg		114	60 - 150		
Perfluorohexanoic acid (PFHxA) - RA			0.400	0.466		ug/Kg		116	65 - 140		
Perfluorooctanoic acid (PFOA) - RA			0.400	0.450		ug/Kg		112	70 - 150		
Perfluorobutanesulfonic acid (PFBS) - RA			0.355	0.350		ug/Kg		98	65 - 145		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) - RA			0.400	0.342		ug/Kg		85	60 - 155		

Isotope Dilution	LLCS %Recovery	LLCS Qualifier	Limits
13C5 PFPeA - RA	85.7		35 - 130
13C5 PFHxA - RA	88.2		40 - 130
13C8 PFOA - RA	87.4		40 - 130
13C3 PFBS - RA	86.5		40 - 135

Method: 1633 - Percent Moisture

Lab Sample ID: 320-118635-28 DU
Matrix: Solid
Analysis Batch: 830938

Client Sample ID: CFH-004-N-S003-01242025
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	12			11		%				5	20

LCMS

Prep Batch: 831268

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-4 - RA	FMB-003-N-S003-01242025	Total/NA	Solid	1633 Shake	
320-118635-4	FMB-003-N-S003-01242025	Total/NA	Solid	1633 Shake	
320-118635-6 - RA	FMB-003-N-S010-01242025	Total/NA	Solid	1633 Shake	
320-118635-6	FMB-003-N-S010-01242025	Total/NA	Solid	1633 Shake	
320-118635-7 - RA	FMB-003-FD-S010-01242025	Total/NA	Solid	1633 Shake	
320-118635-7	FMB-003-FD-S010-01242025	Total/NA	Solid	1633 Shake	
320-118635-10 - RA	FMB-002-N-S001-01242025	Total/NA	Solid	1633 Shake	
320-118635-10	FMB-002-N-S001-01242025	Total/NA	Solid	1633 Shake	
320-118635-11 - RA	FMB-002-N-S003-01242025	Total/NA	Solid	1633 Shake	
320-118635-11 - DL	FMB-002-N-S003-01242025	Total/NA	Solid	1633 Shake	
320-118635-11	FMB-002-N-S003-01242025	Total/NA	Solid	1633 Shake	
320-118635-16 - RA	CFH-007-N-S001-01242025	Total/NA	Solid	1633 Shake	
320-118635-16	CFH-007-N-S001-01242025	Total/NA	Solid	1633 Shake	
320-118635-17 - RA	CFH-007-FD-S001-01242025	Total/NA	Solid	1633 Shake	
320-118635-17	CFH-007-FD-S001-01242025	Total/NA	Solid	1633 Shake	
320-118635-18 - RA	CFH-007-N-S003-01242025	Total/NA	Solid	1633 Shake	
320-118635-18	CFH-007-N-S003-01242025	Total/NA	Solid	1633 Shake	
320-118635-20 - RA	CFH-006-N-S001-01242025	Total/NA	Solid	1633 Shake	
320-118635-20 - DL	CFH-006-N-S001-01242025	Total/NA	Solid	1633 Shake	
320-118635-20	CFH-006-N-S001-01242025	Total/NA	Solid	1633 Shake	
320-118635-22 - RA	CFH-005-N-S001-01242025	Total/NA	Solid	1633 Shake	
320-118635-22 - DL	CFH-005-N-S001-01242025	Total/NA	Solid	1633 Shake	
320-118635-22	CFH-005-N-S001-01242025	Total/NA	Solid	1633 Shake	
320-118635-23 - RA	CFH-005-N-S003-01242025	Total/NA	Solid	1633 Shake	
320-118635-23	CFH-005-N-S003-01242025	Total/NA	Solid	1633 Shake	
320-118635-24 - RA	CFH-005-FD-S003-01242025	Total/NA	Solid	1633 Shake	
320-118635-24	CFH-005-FD-S003-01242025	Total/NA	Solid	1633 Shake	
320-118635-27 - DL	CFH-004-N-S001-01242025	Total/NA	Solid	1633 Shake	
320-118635-27 - RA	CFH-004-N-S001-01242025	Total/NA	Solid	1633 Shake	
320-118635-27	CFH-004-N-S001-01242025	Total/NA	Solid	1633 Shake	
320-118635-28 - RA	CFH-004-N-S003-01242025	Total/NA	Solid	1633 Shake	
320-118635-28 - DL	CFH-004-N-S003-01242025	Total/NA	Solid	1633 Shake	
320-118635-28	CFH-004-N-S003-01242025	Total/NA	Solid	1633 Shake	
320-118635-30 - RA	CFH-004-N-S010-01242025	Total/NA	Solid	1633 Shake	
320-118635-30	CFH-004-N-S010-01242025	Total/NA	Solid	1633 Shake	
MB 320-831268/1-A - RA	Method Blank	Total/NA	Solid	1633 Shake	
MB 320-831268/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-831268/3-A - RA	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCS 320-831268/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-831268/4-A - RA	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LCSD 320-831268/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-831268/2-A - RA	Lab Control Sample	Total/NA	Solid	1633 Shake	
LLCS 320-831268/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Prep Batch: 831269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-31	CFH-004-FD-S010-01242025	Total/NA	Solid	1633 Shake	
320-118635-34	CFH-003-N-S001-01242025	Total/NA	Solid	1633 Shake	
320-118635-35	CFH-003-N-S003-01242025	Total/NA	Solid	1633 Shake	
320-118635-37	CFH-003-N-S009-01242025	Total/NA	Solid	1633 Shake	
320-118635-38	CFH-003-FD-S009-01242025	Total/NA	Solid	1633 Shake	

LCMS (Continued)

Prep Batch: 831269 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-40	CFH-002-N-S001-01242025	Total/NA	Solid	1633 Shake	
320-118635-41	CFH-002-FD-S001-01242025	Total/NA	Solid	1633 Shake	
320-118635-42	CFH-002-N-S003-01242025	Total/NA	Solid	1633 Shake	
320-118635-42 - DL	CFH-002-N-S003-01242025	Total/NA	Solid	1633 Shake	
320-118635-47	CFH-001-N-S001-01242025	Total/NA	Solid	1633 Shake	
320-118635-48	CFH-001-N-S003-01242025	Total/NA	Solid	1633 Shake	
MB 320-831269/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-831269/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-831269/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-831269/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Prep Batch: 831483

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-2	FMB-003-N-S001-01242025	Total/NA	Solid	1633 Shake	
320-118635-3	FMB-003-FD-S001-01242025	Total/NA	Solid	1633 Shake	
320-118635-52	CFH-006-N-S003-01242025	Total/NA	Solid	1633 Shake	
320-118635-52 - DL	CFH-006-N-S003-01242025	Total/NA	Solid	1633 Shake	
MB 320-831483/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-831483/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-831483/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-831483/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 831526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-4	FMB-003-N-S003-01242025	Total/NA	Solid	1633	831268
320-118635-6	FMB-003-N-S010-01242025	Total/NA	Solid	1633	831268
320-118635-7	FMB-003-FD-S010-01242025	Total/NA	Solid	1633	831268
320-118635-10	FMB-002-N-S001-01242025	Total/NA	Solid	1633	831268
320-118635-11	FMB-002-N-S003-01242025	Total/NA	Solid	1633	831268
320-118635-16	CFH-007-N-S001-01242025	Total/NA	Solid	1633	831268
320-118635-17	CFH-007-FD-S001-01242025	Total/NA	Solid	1633	831268
320-118635-18	CFH-007-N-S003-01242025	Total/NA	Solid	1633	831268
320-118635-20	CFH-006-N-S001-01242025	Total/NA	Solid	1633	831268
320-118635-22	CFH-005-N-S001-01242025	Total/NA	Solid	1633	831268
320-118635-23	CFH-005-N-S003-01242025	Total/NA	Solid	1633	831268
320-118635-24	CFH-005-FD-S003-01242025	Total/NA	Solid	1633	831268
320-118635-27	CFH-004-N-S001-01242025	Total/NA	Solid	1633	831268
320-118635-28	CFH-004-N-S003-01242025	Total/NA	Solid	1633	831268
MB 320-831268/1-A	Method Blank	Total/NA	Solid	1633	831268
LCS 320-831268/3-A	Lab Control Sample	Total/NA	Solid	1633	831268
LCSD 320-831268/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	831268
LLCS 320-831268/2-A	Lab Control Sample	Total/NA	Solid	1633	831268

Analysis Batch: 831527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-30	CFH-004-N-S010-01242025	Total/NA	Solid	1633	831268

Analysis Batch: 831889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-4 - RA	FMB-003-N-S003-01242025	Total/NA	Solid	1633	831268
320-118635-6 - RA	FMB-003-N-S010-01242025	Total/NA	Solid	1633	831268

LCMS (Continued)

Analysis Batch: 831889 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-7 - RA	FMB-003-FD-S010-01242025	Total/NA	Solid	1633	831268
320-118635-10 - RA	FMB-002-N-S001-01242025	Total/NA	Solid	1633	831268
320-118635-11 - RA	FMB-002-N-S003-01242025	Total/NA	Solid	1633	831268
320-118635-16 - RA	CFH-007-N-S001-01242025	Total/NA	Solid	1633	831268
320-118635-17 - RA	CFH-007-FD-S001-01242025	Total/NA	Solid	1633	831268
320-118635-18 - RA	CFH-007-N-S003-01242025	Total/NA	Solid	1633	831268
320-118635-20 - RA	CFH-006-N-S001-01242025	Total/NA	Solid	1633	831268
320-118635-22 - DL	CFH-005-N-S001-01242025	Total/NA	Solid	1633	831268
320-118635-22 - RA	CFH-005-N-S001-01242025	Total/NA	Solid	1633	831268
320-118635-23 - RA	CFH-005-N-S003-01242025	Total/NA	Solid	1633	831268
320-118635-24 - RA	CFH-005-FD-S003-01242025	Total/NA	Solid	1633	831268
320-118635-27 - RA	CFH-004-N-S001-01242025	Total/NA	Solid	1633	831268
320-118635-28 - DL	CFH-004-N-S003-01242025	Total/NA	Solid	1633	831268
320-118635-28 - RA	CFH-004-N-S003-01242025	Total/NA	Solid	1633	831268
320-118635-30 - RA	CFH-004-N-S010-01242025	Total/NA	Solid	1633	831268
MB 320-831268/1-A - RA	Method Blank	Total/NA	Solid	1633	831268
LCS 320-831268/3-A - RA	Lab Control Sample	Total/NA	Solid	1633	831268
LCSD 320-831268/4-A - RA	Lab Control Sample Dup	Total/NA	Solid	1633	831268
LLCS 320-831268/2-A - RA	Lab Control Sample	Total/NA	Solid	1633	831268

Analysis Batch: 831892

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-31	CFH-004-FD-S010-01242025	Total/NA	Solid	1633	831269
320-118635-34	CFH-003-N-S001-01242025	Total/NA	Solid	1633	831269
320-118635-35	CFH-003-N-S003-01242025	Total/NA	Solid	1633	831269
320-118635-37	CFH-003-N-S009-01242025	Total/NA	Solid	1633	831269
320-118635-38	CFH-003-FD-S009-01242025	Total/NA	Solid	1633	831269
320-118635-40	CFH-002-N-S001-01242025	Total/NA	Solid	1633	831269
320-118635-41	CFH-002-FD-S001-01242025	Total/NA	Solid	1633	831269
320-118635-42	CFH-002-N-S003-01242025	Total/NA	Solid	1633	831269
320-118635-47	CFH-001-N-S001-01242025	Total/NA	Solid	1633	831269
320-118635-48	CFH-001-N-S003-01242025	Total/NA	Solid	1633	831269
MB 320-831269/1-A	Method Blank	Total/NA	Solid	1633	831269
LCS 320-831269/3-A	Lab Control Sample	Total/NA	Solid	1633	831269
LCSD 320-831269/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	831269
LLCS 320-831269/2-A	Lab Control Sample	Total/NA	Solid	1633	831269

Analysis Batch: 832076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-2	FMB-003-N-S001-01242025	Total/NA	Solid	1633	831483
320-118635-3	FMB-003-FD-S001-01242025	Total/NA	Solid	1633	831483
320-118635-52	CFH-006-N-S003-01242025	Total/NA	Solid	1633	831483
MB 320-831483/1-A	Method Blank	Total/NA	Solid	1633	831483
LCS 320-831483/3-A	Lab Control Sample	Total/NA	Solid	1633	831483
LCSD 320-831483/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	831483
LLCS 320-831483/2-A	Lab Control Sample	Total/NA	Solid	1633	831483

Analysis Batch: 832134

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-11 - DL	FMB-002-N-S003-01242025	Total/NA	Solid	1633	831268
320-118635-20 - DL	CFH-006-N-S001-01242025	Total/NA	Solid	1633	831268

LCMS (Continued)

Analysis Batch: 832134 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-27 - DL	CFH-004-N-S001-01242025	Total/NA	Solid	1633	831268

Analysis Batch: 832413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-42 - DL	CFH-002-N-S003-01242025	Total/NA	Solid	1633	831269
320-118635-52 - DL	CFH-006-N-S003-01242025	Total/NA	Solid	1633	831483

General Chemistry

Analysis Batch: 830938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-2	FMB-003-N-S001-01242025	Total/NA	Solid	1633	
320-118635-3	FMB-003-FD-S001-01242025	Total/NA	Solid	1633	
320-118635-4	FMB-003-N-S003-01242025	Total/NA	Solid	1633	
320-118635-6	FMB-003-N-S010-01242025	Total/NA	Solid	1633	
320-118635-7	FMB-003-FD-S010-01242025	Total/NA	Solid	1633	
320-118635-10	FMB-002-N-S001-01242025	Total/NA	Solid	1633	
320-118635-11	FMB-002-N-S003-01242025	Total/NA	Solid	1633	
320-118635-16	CFH-007-N-S001-01242025	Total/NA	Solid	1633	
320-118635-17	CFH-007-FD-S001-01242025	Total/NA	Solid	1633	
320-118635-18	CFH-007-N-S003-01242025	Total/NA	Solid	1633	
320-118635-20	CFH-006-N-S001-01242025	Total/NA	Solid	1633	
320-118635-22	CFH-005-N-S001-01242025	Total/NA	Solid	1633	
320-118635-23	CFH-005-N-S003-01242025	Total/NA	Solid	1633	
320-118635-24	CFH-005-FD-S003-01242025	Total/NA	Solid	1633	
320-118635-27	CFH-004-N-S001-01242025	Total/NA	Solid	1633	
320-118635-28	CFH-004-N-S003-01242025	Total/NA	Solid	1633	
320-118635-30	CFH-004-N-S010-01242025	Total/NA	Solid	1633	
320-118635-31	CFH-004-FD-S010-01242025	Total/NA	Solid	1633	
320-118635-34	CFH-003-N-S001-01242025	Total/NA	Solid	1633	
320-118635-28 DU	CFH-004-N-S003-01242025	Total/NA	Solid	1633	

Analysis Batch: 830992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118635-35	CFH-003-N-S003-01242025	Total/NA	Solid	1633	
320-118635-37	CFH-003-N-S009-01242025	Total/NA	Solid	1633	
320-118635-38	CFH-003-FD-S009-01242025	Total/NA	Solid	1633	
320-118635-40	CFH-002-N-S001-01242025	Total/NA	Solid	1633	
320-118635-41	CFH-002-FD-S001-01242025	Total/NA	Solid	1633	
320-118635-42	CFH-002-N-S003-01242025	Total/NA	Solid	1633	
320-118635-47	CFH-001-N-S001-01242025	Total/NA	Solid	1633	
320-118635-48	CFH-001-N-S003-01242025	Total/NA	Solid	1633	
320-118635-52	CFH-006-N-S003-01242025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118635-1
Project/Site: Spokane International Airport

Client Sample ID: FMB-003-N-S001-01242025
Lab Sample ID: 320-118635-2
Date Collected: 01/24/25 08:05
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830938	02/03/25 11:57	CFR	EET SAC

Client Sample ID: FMB-003-N-S001-01242025
Lab Sample ID: 320-118635-2
Date Collected: 01/24/25 08:05
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 76.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.69 g	5.00 mL	831483	02/05/25 11:42	K1D	EET SAC
Total/NA	Analysis	1633		1			832076	02/07/25 20:22	N1K	EET SAC

Client Sample ID: FMB-003-FD-S001-01242025
Lab Sample ID: 320-118635-3
Date Collected: 01/24/25 08:35
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830938	02/03/25 11:57	CFR	EET SAC

Client Sample ID: FMB-003-FD-S001-01242025
Lab Sample ID: 320-118635-3
Date Collected: 01/24/25 08:35
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 89.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.23 g	5.00 mL	831483	02/05/25 11:42	K1D	EET SAC
Total/NA	Analysis	1633		1			832076	02/07/25 20:39	N1K	EET SAC

Client Sample ID: FMB-003-N-S003-01242025
Lab Sample ID: 320-118635-4
Date Collected: 01/24/25 08:10
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830938	02/03/25 11:57	CFR	EET SAC

Client Sample ID: FMB-003-N-S003-01242025
Lab Sample ID: 320-118635-4
Date Collected: 01/24/25 08:10
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 85.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	RA		2.26 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633	RA	1			831889	02/06/25 13:14	C1P	EET SAC
Total/NA	Prep	1633 Shake			2.26 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633		1			831526	02/06/25 01:41	S1M	EET SAC

Client Sample ID: FMB-003-N-S010-01242025
Lab Sample ID: 320-118635-6
Date Collected: 01/24/25 08:20
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830938	02/03/25 11:57	CFR	EET SAC

Client Sample ID: FMB-003-N-S010-01242025
Lab Sample ID: 320-118635-6
Date Collected: 01/24/25 08:20
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 88.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	RA		2.17 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633	RA	1			831889	02/06/25 13:31	C1P	EET SAC
Total/NA	Prep	1633 Shake			2.17 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633		1			831526	02/06/25 01:58	S1M	EET SAC

Client Sample ID: FMB-003-FD-S010-01242025
Lab Sample ID: 320-118635-7
Date Collected: 01/24/25 08:50
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830938	02/03/25 11:57	CFR	EET SAC

Client Sample ID: FMB-003-FD-S010-01242025
Lab Sample ID: 320-118635-7
Date Collected: 01/24/25 08:50
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 87.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	RA		2.31 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633	RA	1			831889	02/06/25 13:47	C1P	EET SAC
Total/NA	Prep	1633 Shake			2.31 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633		1			831526	02/06/25 02:14	S1M	EET SAC

Client Sample ID: FMB-002-N-S001-01242025
Lab Sample ID: 320-118635-10
Date Collected: 01/24/25 09:05
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830938	02/03/25 11:57	CFR	EET SAC

Client Sample ID: FMB-002-N-S001-01242025
Lab Sample ID: 320-118635-10
Date Collected: 01/24/25 09:05
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 87.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	RA		2.34 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633	RA	1			831889	02/06/25 14:04	C1P	EET SAC
Total/NA	Prep	1633 Shake			2.34 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633		1			831526	02/06/25 02:31	S1M	EET SAC

Client Sample ID: FMB-002-N-S003-01242025
Lab Sample ID: 320-118635-11
Date Collected: 01/24/25 09:10
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830938	02/03/25 11:57	CFR	EET SAC

Client Sample ID: FMB-002-N-S003-01242025
Lab Sample ID: 320-118635-11
Date Collected: 01/24/25 09:10
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 85.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	RA		2.26 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633	RA	1			831889	02/06/25 14:20	C1P	EET SAC
Total/NA	Prep	1633 Shake	DL		2.26 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633	DL	10			832134	02/08/25 00:36	C1P	EET SAC
Total/NA	Prep	1633 Shake			2.26 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633		1			831526	02/06/25 03:20	S1M	EET SAC

Client Sample ID: CFH-007-N-S001-01242025
Lab Sample ID: 320-118635-16
Date Collected: 01/24/25 11:05
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830938	02/03/25 11:57	CFR	EET SAC

Client Sample ID: CFH-007-N-S001-01242025
Lab Sample ID: 320-118635-16
Date Collected: 01/24/25 11:05
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 81.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	RA		2.47 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633	RA	1			831889	02/06/25 14:36	C1P	EET SAC
Total/NA	Prep	1633 Shake			2.47 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633		1			831526	02/06/25 03:36	S1M	EET SAC

Client Sample ID: CFH-007-FD-S001-01242025
Lab Sample ID: 320-118635-17
Date Collected: 01/24/25 11:35
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830938	02/03/25 11:57	CFR	EET SAC

Client Sample ID: CFH-007-FD-S001-01242025
Lab Sample ID: 320-118635-17
Date Collected: 01/24/25 11:35
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 87.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	RA		2.29 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633	RA	1			831889	02/06/25 15:26	C1P	EET SAC

Client Sample ID: CFH-007-FD-S001-01242025

Lab Sample ID: 320-118635-17
Date Collected: 01/24/25 11:35
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 87.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.29 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633		1			831526	02/06/25 03:53	S1M	EET SAC

Client Sample ID: CFH-007-N-S003-01242025

Lab Sample ID: 320-118635-18
Date Collected: 01/24/25 11:10
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830938	02/03/25 11:57	CFR	EET SAC

Client Sample ID: CFH-007-N-S003-01242025

Lab Sample ID: 320-118635-18
Date Collected: 01/24/25 11:10
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 87.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	RA		2.28 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633	RA	1			831889	02/06/25 15:42	C1P	EET SAC
Total/NA	Prep	1633 Shake			2.28 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633		1			831526	02/06/25 04:09	S1M	EET SAC

Client Sample ID: CFH-006-N-S001-01242025

Lab Sample ID: 320-118635-20
Date Collected: 01/24/25 11:50
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830938	02/03/25 11:57	CFR	EET SAC

Client Sample ID: CFH-006-N-S001-01242025

Lab Sample ID: 320-118635-20
Date Collected: 01/24/25 11:50
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 92.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	RA		2.17 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633	RA	1			831889	02/06/25 15:59	C1P	EET SAC
Total/NA	Prep	1633 Shake	DL		2.17 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633	DL	20			832134	02/08/25 00:52	C1P	EET SAC
Total/NA	Prep	1633 Shake			2.17 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633		1			831526	02/06/25 04:26	S1M	EET SAC

Client Sample ID: CFH-005-N-S001-01242025

Lab Sample ID: 320-118635-22
Date Collected: 01/24/25 12:05
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830938	02/03/25 11:57	CFR	EET SAC

Client Sample ID: CFH-005-N-S001-01242025
Lab Sample ID: 320-118635-22
Date Collected: 01/24/25 12:05
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 79.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	DL		2.52 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633	DL	50			831889	02/06/25 17:37	C1P	EET SAC
Total/NA	Prep	1633 Shake	RA		2.52 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633	RA	1			831889	02/06/25 19:49	C1P	EET SAC
Total/NA	Prep	1633 Shake			2.52 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633		1			831526	02/06/25 04:42	S1M	EET SAC

Client Sample ID: CFH-005-N-S003-01242025
Lab Sample ID: 320-118635-23
Date Collected: 01/24/25 12:10
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830938	02/03/25 11:57	CFR	EET SAC

Client Sample ID: CFH-005-N-S003-01242025
Lab Sample ID: 320-118635-23
Date Collected: 01/24/25 12:10
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 95.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	RA		2.09 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633	RA	1			831889	02/06/25 16:15	C1P	EET SAC
Total/NA	Prep	1633 Shake			2.09 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633		1			831526	02/06/25 04:59	S1M	EET SAC

Client Sample ID: CFH-005-FD-S003-01242025
Lab Sample ID: 320-118635-24
Date Collected: 01/24/25 12:40
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830938	02/03/25 11:57	CFR	EET SAC

Client Sample ID: CFH-005-FD-S003-01242025
Lab Sample ID: 320-118635-24
Date Collected: 01/24/25 12:40
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 90.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	RA		2.16 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633	RA	1			831889	02/06/25 16:31	C1P	EET SAC
Total/NA	Prep	1633 Shake			2.16 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633		1			831526	02/06/25 05:15	S1M	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: CFH-004-N-S001-01242025
Lab Sample ID: 320-118635-27
Date Collected: 01/24/25 13:05
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830938	02/03/25 11:57	CFR	EET SAC

Client Sample ID: CFH-004-N-S001-01242025
Lab Sample ID: 320-118635-27
Date Collected: 01/24/25 13:05
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 72.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	RA		2.80 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633	RA	1			831889	02/06/25 20:05	C1P	EET SAC
Total/NA	Prep	1633 Shake	DL		2.80 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633	DL	20			832134	02/08/25 01:08	C1P	EET SAC
Total/NA	Prep	1633 Shake			2.80 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633		1			831526	02/06/25 05:31	S1M	EET SAC

Client Sample ID: CFH-004-N-S003-01242025
Lab Sample ID: 320-118635-28
Date Collected: 01/24/25 13:10
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830938	02/03/25 11:57	CFR	EET SAC

Client Sample ID: CFH-004-N-S003-01242025
Lab Sample ID: 320-118635-28
Date Collected: 01/24/25 13:10
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 88.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	DL		2.24 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633	DL	10			831889	02/06/25 18:43	C1P	EET SAC
Total/NA	Prep	1633 Shake	RA		2.24 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633	RA	1			831889	02/06/25 20:21	C1P	EET SAC
Total/NA	Prep	1633 Shake			2.24 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633		1			831526	02/06/25 05:48	S1M	EET SAC

Client Sample ID: CFH-004-N-S010-01242025
Lab Sample ID: 320-118635-30
Date Collected: 01/24/25 13:20
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830938	02/03/25 11:57	CFR	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: CFH-004-N-S010-01242025
Lab Sample ID: 320-118635-30
Date Collected: 01/24/25 13:20
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 90.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake	RA		2.16 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633	RA	1			831889	02/06/25 16:48	C1P	EET SAC
Total/NA	Prep	1633 Shake			2.16 g	5.00 mL	831268	02/04/25 13:09	BEQ	EET SAC
Total/NA	Analysis	1633		1			831527	02/06/25 08:16	S1M	EET SAC

Client Sample ID: CFH-004-FD-S010-01242025
Lab Sample ID: 320-118635-31
Date Collected: 01/24/25 13:50
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830938	02/03/25 11:57	CFR	EET SAC

Client Sample ID: CFH-004-FD-S010-01242025
Lab Sample ID: 320-118635-31
Date Collected: 01/24/25 13:50
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 92.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.34 g	5.0 mL	831269	02/04/25 13:09	ATB	EET SAC
Total/NA	Analysis	1633		1			831892	02/07/25 03:29	RS1	EET SAC

Client Sample ID: CFH-003-N-S001-01242025
Lab Sample ID: 320-118635-34
Date Collected: 01/24/25 14:20
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830938	02/03/25 11:57	CFR	EET SAC

Client Sample ID: CFH-003-N-S001-01242025
Lab Sample ID: 320-118635-34
Date Collected: 01/24/25 14:20
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 87.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.22 g	5.0 mL	831269	02/04/25 13:09	ATB	EET SAC
Total/NA	Analysis	1633		1			831892	02/07/25 03:45	RS1	EET SAC

Client Sample ID: CFH-003-N-S003-01242025
Lab Sample ID: 320-118635-35
Date Collected: 01/24/25 14:25
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830992	02/03/25 15:25	CFR	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: CFH-003-N-S003-01242025
Lab Sample ID: 320-118635-35
Date Collected: 01/24/25 14:25
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 85.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.43 g	5.0 mL	831269	02/04/25 13:09	ATB	EET SAC
Total/NA	Analysis	1633		1			831892	02/07/25 04:01	RS1	EET SAC

Client Sample ID: CFH-003-N-S009-01242025
Lab Sample ID: 320-118635-37
Date Collected: 01/24/25 14:35
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830992	02/03/25 15:25	CFR	EET SAC

Client Sample ID: CFH-003-N-S009-01242025
Lab Sample ID: 320-118635-37
Date Collected: 01/24/25 14:35
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 89.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.13 g	5.0 mL	831269	02/04/25 13:09	ATB	EET SAC
Total/NA	Analysis	1633		1			831892	02/07/25 04:51	RS1	EET SAC

Client Sample ID: CFH-003-FD-S009-01242025
Lab Sample ID: 320-118635-38
Date Collected: 01/24/25 15:05
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830992	02/03/25 15:25	CFR	EET SAC

Client Sample ID: CFH-003-FD-S009-01242025
Lab Sample ID: 320-118635-38
Date Collected: 01/24/25 15:05
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 96.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.33 g	5.0 mL	831269	02/04/25 13:09	ATB	EET SAC
Total/NA	Analysis	1633		1			831892	02/07/25 05:07	RS1	EET SAC

Client Sample ID: CFH-002-N-S001-01242025
Lab Sample ID: 320-118635-40
Date Collected: 01/24/25 15:05
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830992	02/03/25 15:25	CFR	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: CFH-002-N-S001-01242025
Lab Sample ID: 320-118635-40
Date Collected: 01/24/25 15:05
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 90.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.22 g	5.0 mL	831269	02/04/25 13:09	ATB	EET SAC
Total/NA	Analysis	1633		1			831892	02/07/25 05:24	RS1	EET SAC

Client Sample ID: CFH-002-FD-S001-01242025
Lab Sample ID: 320-118635-41
Date Collected: 01/24/25 15:35
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830992	02/03/25 15:25	CFR	EET SAC

Client Sample ID: CFH-002-FD-S001-01242025
Lab Sample ID: 320-118635-41
Date Collected: 01/24/25 15:35
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 84.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.25 g	5.0 mL	831269	02/04/25 13:09	ATB	EET SAC
Total/NA	Analysis	1633		1			831892	02/07/25 05:40	RS1	EET SAC

Client Sample ID: CFH-002-N-S003-01242025
Lab Sample ID: 320-118635-42
Date Collected: 01/24/25 15:10
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830992	02/03/25 15:25	CFR	EET SAC

Client Sample ID: CFH-002-N-S003-01242025
Lab Sample ID: 320-118635-42
Date Collected: 01/24/25 15:10
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 95.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.32 g	5.0 mL	831269	02/04/25 13:09	ATB	EET SAC
Total/NA	Analysis	1633		1			831892	02/07/25 05:57	RS1	EET SAC
Total/NA	Prep	1633 Shake	DL		2.32 g	5.0 mL	831269	02/04/25 13:09	ATB	EET SAC
Total/NA	Analysis	1633	DL	10			832413	02/10/25 11:32	EJR	EET SAC

Client Sample ID: CFH-001-N-S001-01242025
Lab Sample ID: 320-118635-47
Date Collected: 01/24/25 15:50
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830992	02/03/25 15:25	CFR	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Client Sample ID: CFH-001-N-S001-01242025
Lab Sample ID: 320-118635-47
Date Collected: 01/24/25 15:50
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 88.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.38 g	5.0 mL	831269	02/04/25 13:09	ATB	EET SAC
Total/NA	Analysis	1633		1			831892	02/07/25 06:13	RS1	EET SAC

Client Sample ID: CFH-001-N-S003-01242025
Lab Sample ID: 320-118635-48
Date Collected: 01/24/25 15:55
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830992	02/03/25 15:25	CFR	EET SAC

Client Sample ID: CFH-001-N-S003-01242025
Lab Sample ID: 320-118635-48
Date Collected: 01/24/25 15:55
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 90.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.17 g	5.0 mL	831269	02/04/25 13:09	ATB	EET SAC
Total/NA	Analysis	1633		1			831892	02/07/25 06:29	RS1	EET SAC

Client Sample ID: CFH-006-N-S003-01242025
Lab Sample ID: 320-118635-52
Date Collected: 01/24/25 11:55
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830992	02/03/25 15:25	CFR	EET SAC

Client Sample ID: CFH-006-N-S003-01242025
Lab Sample ID: 320-118635-52
Date Collected: 01/24/25 11:55
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 94.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.13 g	5.00 mL	831483	02/05/25 11:42	K1D	EET SAC
Total/NA	Analysis	1633		1			832076	02/07/25 20:55	N1K	EET SAC
Total/NA	Prep	1633 Shake	DL		2.13 g	5.00 mL	831483	02/05/25 11:42	K1D	EET SAC
Total/NA	Analysis	1633	DL	100			832413	02/10/25 11:49	EJR	EET SAC

Laboratory References:
EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118635-1
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118635-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118635-2	FMB-003-N-S001-01242025	Solid	01/24/25 08:05	01/30/25 09:30
320-118635-3	FMB-003-FD-S001-01242025	Solid	01/24/25 08:35	01/30/25 09:30
320-118635-4	FMB-003-N-S003-01242025	Solid	01/24/25 08:10	01/30/25 09:30
320-118635-6	FMB-003-N-S010-01242025	Solid	01/24/25 08:20	01/30/25 09:30
320-118635-7	FMB-003-FD-S010-01242025	Solid	01/24/25 08:50	01/30/25 09:30
320-118635-10	FMB-002-N-S001-01242025	Solid	01/24/25 09:05	01/30/25 09:30
320-118635-11	FMB-002-N-S003-01242025	Solid	01/24/25 09:10	01/30/25 09:30
320-118635-16	CFH-007-N-S001-01242025	Solid	01/24/25 11:05	01/30/25 09:30
320-118635-17	CFH-007-FD-S001-01242025	Solid	01/24/25 11:35	01/30/25 09:30
320-118635-18	CFH-007-N-S003-01242025	Solid	01/24/25 11:10	01/30/25 09:30
320-118635-20	CFH-006-N-S001-01242025	Solid	01/24/25 11:50	01/30/25 09:30
320-118635-22	CFH-005-N-S001-01242025	Solid	01/24/25 12:05	01/30/25 09:30
320-118635-23	CFH-005-N-S003-01242025	Solid	01/24/25 12:10	01/30/25 09:30
320-118635-24	CFH-005-FD-S003-01242025	Solid	01/24/25 12:40	01/30/25 09:30
320-118635-27	CFH-004-N-S001-01242025	Solid	01/24/25 13:05	01/30/25 09:30
320-118635-28	CFH-004-N-S003-01242025	Solid	01/24/25 13:10	01/30/25 09:30
320-118635-30	CFH-004-N-S010-01242025	Solid	01/24/25 13:20	01/30/25 09:30
320-118635-31	CFH-004-FD-S010-01242025	Solid	01/24/25 13:50	01/30/25 09:30
320-118635-34	CFH-003-N-S001-01242025	Solid	01/24/25 14:20	01/30/25 09:30
320-118635-35	CFH-003-N-S003-01242025	Solid	01/24/25 14:25	01/30/25 09:30
320-118635-37	CFH-003-N-S009-01242025	Solid	01/24/25 14:35	01/30/25 09:30
320-118635-38	CFH-003-FD-S009-01242025	Solid	01/24/25 15:05	01/30/25 09:30
320-118635-40	CFH-002-N-S001-01242025	Solid	01/24/25 15:05	01/30/25 09:30
320-118635-41	CFH-002-FD-S001-01242025	Solid	01/24/25 15:35	01/30/25 09:30
320-118635-42	CFH-002-N-S003-01242025	Solid	01/24/25 15:10	01/30/25 09:30
320-118635-47	CFH-001-N-S001-01242025	Solid	01/24/25 15:50	01/30/25 09:30
320-118635-48	CFH-001-N-S003-01242025	Solid	01/24/25 15:55	01/30/25 09:30
320-118635-52	CFH-006-N-S003-01242025	Solid	01/24/25 11:55	01/30/25 09:30

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE	1/27/25		
TURNAROUND TIME	Standard		
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633										HOLD	Number of Containers
FMB-003-N-S0005-01242025	1/24/2025	0800	Soil											X	1
FMB-003-N-S001-01242025	1/24/2025	0805	Soil	X											1
FMB-003-FD-S001-01242025	1/24/2025	0835	Soil	X											1
FMB-003-N-S003-01242025	1/24/2025	0810	Soil	X											1
FMB-003-N-S006-01242025	1/24/2025	0815	Soil											X	1
FMB-003-N-S010-01242025	1/24/2025	0820	Soil	X											1
FMB-003-FD-S010-01242025	1/24/2025	0850	Soil	X											1
FMB-003-N-S015-01242025	1/24/2025	0825	Soil											X	1
FMB-002-N-S0005-01242025	1/24/2025	0900	Soil											X	1
FMB-002-N-S001-01242025	1/24/2025	0905	Soil	X											1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118635 Chain of Custody

Obs Temp: 6.4°C Corr Temp: 6.8°C 10x# IRons

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo da Silva	Print Luke Peden
Firm Haley Aldrich	Firm H&A
Date 01/24/2025 Time 1800	Date 1/24/25 1800
Relinquished by	**Received by**
Sign	Sign
Print Luke Peden	Print Jenny Pierce
Firm H&A	Firm Eurofins
Date 1/27/25 Time 15:70	Date 1/27/25 1535
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print B. Morrow
Firm EELSPO	Firm EELSpo
Date 1/28/25 Time 1440	Date 01/31/25 0930

LIQUID	SOLID
VOA Vial	VOA Vial
Amber Glass	Amber Glass
Plastic Bottle	Clear Glass
Preservative	Preservative
Volume	Volume

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are requ

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY Project Manager PINK Haley & Aldrich Laboratory

November 2024

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-001
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 11922 E 1st Ave, Spokane Valley, WA 99206
CONTACT Randee Arrington

DELIVERY DATE 1/27/25
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633											HOLD	Number of Containers
FMB-002-N-S003-01242025	1/24/2025	0910	Soil	X												1
FMB-002-N-S006-01242026	1/24/2025	0915	Soil												X	1
FMB-002-N-S010-01242027	1/24/2025	0920	Soil												X	1
FMB-002-N-S013-01242028	1/24/2025	0925	Soil												X	1
CFH-007-N-S000-01242025	1/24/2025	1100	Soil												X	1
CFH-007-N-S001-01242025	1/24/2025	1105	Soil	X												1
CFH-007-FD-S001-01242025	1/24/2025	1135	Soil	X												1
CFH-007-N-S003-01242025	1/24/2025	1110	Soil	X												1
CFH-006-N-S000-01242025	1/24/2025	1145	Soil												X	1
CFH-006-N-S001-01242025	1/24/2025	1150	Soil	X												1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo da Silva	Print Luke Peden
Firm Haley Aldrich	Firm H&A
Date 01/24/2025 Time 1800	Date 1/28/25 1800
Relinquished by	**Received by**
Sign	Sign
Print Luke Peden	Print Jimmy Pardo
Firm H&A	Firm ETA spiked
Date 1/27/25 Time 15:20	Date 1/27/25 1535
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print D. Morrison
Firm EET SPO	Firm EET Spk
Date 1/28/25 Time 1440	Date 1/30/25 0930

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are requ

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

2/10/2025

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE	1/27/25		
TURNAROUND TIME	Standard		
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633										HOLD	Number of Containers
CFH-005-N-S000-01242025	1/24/2025	1200	Soil											X	1
CFH-005-N-S001-01242025	1/24/2025	1205	Soil	X											1
CFH-005-N-S003-01242025	1/24/2025	1210	Soil	X											1
CFH-005-FD-S003-01242025	1/24/2025	1240	Soil	X											1
CFH-005-N-S006-01242025	1/24/2025	1215	Soil											X	1
CFH-004-N-S000-01242025	1/24/2025	1300	Soil											X	1
CFH-004-N-S001-01242025	1/24/2025	1305	Soil	X											1
CFH-004-N-S003-01242025	1/24/2025	1310	Soil	X											1
CFH-004-N-S006-01242025	1/24/2025	1315	Soil											X	1
CFH-004-N-S010-01242025	1/24/2025	1320	Soil	X											1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo da Silva	Print Luke Peba
Firm Haley Aldrich	Firm H&A
Date 01/24/2025 Time 1400	Date 1/24/25 1800
Relinquished by	**Received by**
Sign	Sign
Print Luke Peba	Print Jonny Pavlic
Firm H&A	Firm Eta Sola
Date 1/27/25 Time 15:19	Date 1/27/25 832
Relinquished by	**Received by**
Sign	Sign
Print Mackey Morris	Print D. Morrison
Firm EES&PO	Firm FEDEX
Date 1/28/25 Time 1440	Date 01/30/25 1920

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are requ

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

HALEY ALDRICH
Haley & Aldrich, Inc.
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STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	1/27/25
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley WA 99206	TURNAROUND TIME	Standard
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633										HOLD	Number of Containers	Comments(special instructions, precautions, additional method numbers, etc.)
CFH-004-FD-S010-01242025	1/24/2025	1350	Soil	X											1	– PFAS Analysis to be conducted by Eurofins Sacramento
CFH-004-N-S015-01242025	1/24/2025	1325	Soil											X	1	Laboratory to use applicable DEP CAM methods, unless otherwise directed.
CFH-003-N-S000-01242025	1/24/2025	1415	Soil											X	1	– TOC: Total Organic Carbon
CFH-003-N-S001-01242025	1/24/2025	1420	Soil	X											1	
CFH-003-N-S003-01242025	1/24/2025	1425	Soil	X											1	
CFH-003-N-S006-01242025	1/24/2025	1430	Soil											X	1	
CFH-003-N-S009-01242025	1/24/2025	1435	Soil	X											1	
CFH-003-FD-S009-01242025	1/24/2025	1505	Soil	X											1	
CFH-002-N-S000-01242025	1/24/2025	1500	Soil											X	1	
CFH-002-N-S001-01242025	1/24/2025	1505	Soil	X											1	

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo da Silva	Print Luke Peka
Firm Haley Aldrich	Firm H&A
Date 01/24/2025 Time 1800	Date 1/24/25 1800
Relinquished by	**Received by**
Sign	Sign
Print Luke Peka	Print Joey Parker
Firm H&A	Firm CTEnviro
Date 1/27/25 Time 15:10	Date 1/27/25 1535
Relinquished by	**Received by**
Sign	Sign
Print Macky Morris	Print
Firm ELTSPO	Firm
Date 1/28/25 Time 1440	Date 01/30/25 0930

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

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Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ RC-S2 ☐ RC-GW1 ☐ RC-GW2

☐ S1 ☐ S2 ☐ S3

☐ GW1 ☐ GW2 ☐ GW3

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November 2024

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STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-001
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 11922 E 1st Ave, Spokane Valley, WA 99206
CONTACT Randee Arrington

DELIVERY DATE 1/27/25
TURNAROUND TIME Standard
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633											HOLD	Number of Containers
CFH-002-FD-S001-01242025	1/24/2025	1535	Soil	X												1
CFH-002-N-S003-01242025	1/24/2025	1510	Soil	X												1
CFH-002-N-S006-01242025	1/24/2025	1515	Soil												X	1
CFH-002-N-S010-01242025	1/24/2025	1520	Soil												X	1
CFH-002-N-S012-01242025	1/24/2025	1525	Soil												X	1
CFH-001-N-S000-01242025	1/24/2025	1545	Soil												X	1
CFH-001-N-S001-01242025	1/24/2025	1550	Soil	X												1
CFH-001-N-S003-01242025	1/24/2025	1555	Soil	X												1
CFH-001-N-S006-01242025	1/24/2025	1600	Soil												X	1
CFH-001-N-S010-01242025	1/24/2025	1605	Soil												X	1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by
Sign
Print Zack Castillo da Silva
Firm Haley Aldrich
Date 01/24/2025 Time 1800

Received by
Sign
Print Luke Peden
Firm H&A
Date 1/[illegible] 1800

Relinquished by
Sign
Print Luke Peden
Firm H&A
Date 1/27/25 Time 15:20

Received by
Sign
Print [illegible]
Firm [illegible]
Date 1/27/25 1535

Relinquished by
Sign
Print Macky Morris
Firm E/ET SPO
Date 1/28/25 Time 1410

Received by
Sign
Print [illegible]
Firm [illegible]
Date 01/31/25 0930

LIQUID

	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID

	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

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_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are requ

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☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK Haley & Aldrich Laboratory

November 2024

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H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
		DELIVERY DATE	1/27/25
		TURNAROUND TIME	Standard
		PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	HOLD	Number of Containers
CFH-001-N-S013-01242025	1/24/2025	1610	Soil		X	1
CFH-006-N-S003-01242025	1/24/2025	1155	Soil	X	I2LP	1

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo da Silva	Print Luke Peden
Firm Haley Aldrich	Firm H&A
Date 01/24/2025 Time 1800	Date 1/27/25 1800
Relinquished by	**Received by**
Sign	Sign
Print Luke Peden	Print Chris Spitzer
Firm H&A	Firm Jones-Parker
Date 1/27/25 Time 15:70	Date 1/27/25 1535
Relinquished by	**Received by**
Sign	Sign
Print Macky Moms	Print D. Monument
Firm EST SPO	Firm EUROFINS
Date 1/28/25 Time 1440	Date 01/31/25 0920

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

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☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118635

Tracking # 4242 5693 0828

Job: _____ _____

SO (PO) / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID: L06 Corr Factor (+/-) NA °C

Ice _____ Wet _____ Gel _____ Other _____

Cooler Custody Seal: 2691599

Cooler ID: 1 of 2

Temp Observed 1.3 °C Corrected 1.3 °C

From Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: DM Date: 01/30/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: DM Date 01/30/25

Notes: _____

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials DM Date 01/30/25

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Tracking # 4242 5993 0839

Job: 320-118635

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID LOV Corr Factor (+/-) NA °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal 26091594

Cooler ID 2 of 2

Temp Observed 1.7 °C Corrected 1.7 °C

From Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials DM Date: 01/30/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials DM Date 01/30/25

Notes: #14 : FMB-002-N-S013-012420250
#13, #12
#38: No "-FD-"
CFH-003-N-S009-012420250
Sample #28 not received.

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials DM Date 01/30/25

SIGNATURE
DATE
Custody S
eurofins
Environment Testing
TestAmerica
2691599
EUROFINS ENVIRONMENTAL SPOKANE
11922 E 1ST AVE
SPOKANE VALLEY, WA 99206
UNITED STATES US
CAD: 0941709/CAFE3855
BILL RECIPIENT
TO SHIPPING/RECEIVING
EUROFINS ENVIRONMENT TESTING N CAL
880 RIVERSIDE PARKWAY
WEST SACRAMENTO CA 95605
(916) 373-5600
INV:
PO:
REF:
DEPT:
FedEx
Express
1 of 2
TRK# 0201 4242 5693 0828
MASTER
XS BLUA
WED - 29 JAN 10:30A
PRIORITY OVERNIGHT
95605
CA-US SMF
eurofins
Environment Testing
TestAmerica
2691599

eurofins | Environment Testing

1 2 3 4 5 6 7 8 9 10 11 12 13 14

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 3/14/2025 12:24:51 PM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118632-3

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

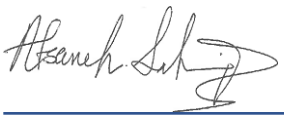
myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

Table of Contents

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Table of Contents 3
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QC Association Summary 19
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Certification Summary 21
Method Summary 22
Sample Summary 23
Chain of Custody 24

Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118632-3
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118632-3 — Eurofins Sacramento

Job Narrative
320-118632-3

Receipt
The samples were received on 1/30/2025 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.3º C and 1.7º C.

LCMS
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 28 days. The request for the analysis of the following sample in analytical batch 320-838826 occurred outside of this time period : FMB-001-N-S006-01272025 (320-118632-5).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118632-3

Client Sample ID: FMB-001-N-S006-01272025 — Lab Sample ID: 320-118632-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.064	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.059	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.12	J	0.19	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.12	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	2.4		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.069	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.098	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.7		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.12	J	0.39	0.097	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118632-3

Client Sample ID: FMB-001-N-S006-01272025
Date Collected: 01/27/25 10:00
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118632-5
Matrix: Solid
Percent Solids: 82.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.097	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
Perfluoropentanoic acid (PFPeA)	**0.064**	**J**	0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
Perfluorohexanoic acid (PFHxA)	**0.059**	**J**	0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
Perfluorooctanoic acid (PFOA)	**0.12**	**J**	0.19	0.060	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
Perfluorononanoic acid (PFNA)	**0.12**	**J**	0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
Perfluorodecanoic acid (PFDA)	**2.4**		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
Perfluoroundecanoic acid (PFUnA)	**0.069**	**J**	0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.057	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
Perfluorohexanesulfonic acid (PFHxS)	**0.098**	**J**	0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
Perfluorooctanesulfonic acid (PFOS)	**1.7**		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.12**	**J**	0.39	0.097	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.097	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118632-3

Client Sample ID: FMB-001-N-S006-01272025
Date Collected: 01/27/25 10:00
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118632-5
Matrix: Solid
Percent Solids: 82.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.073	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.049	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	03/12/25 12:05	03/13/25 02:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*77.7*		*8 - 130*	*03/12/25 12:05*	*03/13/25 02:57*	*1*
13C5 PFPeA	*99.7*		*35 - 130*	*03/12/25 12:05*	*03/13/25 02:57*	*1*
13C5 PFHxA	*87.9*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:57*	*1*
13C4 PFHpA	*95.6*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:57*	*1*
13C8 PFOA	*87.0*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:57*	*1*
13C9 PFNA	*84.7*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:57*	*1*
13C6 PFDA	*93.2*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:57*	*1*
13C7 PFUnA	*97.5*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:57*	*1*
13C2 PFDoA	*98.2*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:57*	*1*
13C2 PFTeDA	*79.8*		*20 - 130*	*03/12/25 12:05*	*03/13/25 02:57*	*1*
13C3 PFBS	*80.0*		*40 - 135*	*03/12/25 12:05*	*03/13/25 02:57*	*1*
13C3 PFHxS	*83.3*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:57*	*1*
13C8 PFOS	*87.2*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:57*	*1*
13C8 FOSA	*85.9*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:57*	*1*
d3-NMeFOSAA	*108*		*40 - 135*	*03/12/25 12:05*	*03/13/25 02:57*	*1*
d5-NEtFOSAA	*95.9*		*40 - 150*	*03/12/25 12:05*	*03/13/25 02:57*	*1*
13C2 4:2 FTS	*90.3*		*40 - 165*	*03/12/25 12:05*	*03/13/25 02:57*	*1*
13C2 6:2 FTS	*91.9*		*40 - 215*	*03/12/25 12:05*	*03/13/25 02:57*	*1*
13C2 8:2 FTS	*86.7*		*40 - 275*	*03/12/25 12:05*	*03/13/25 02:57*	*1*
13C3 HFPO-DA	*95.7*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:57*	*1*
d7-N-MeFOSE-M	*77.3*		*20 - 130*	*03/12/25 12:05*	*03/13/25 02:57*	*1*
d9-N-EtFOSE-M	*66.4*		*15 - 130*	*03/12/25 12:05*	*03/13/25 02:57*	*1*
d5-NEtPFOSA	*81.6*		*10 - 130*	*03/12/25 12:05*	*03/13/25 02:57*	*1*
d3-NMePFOSA	*81.8*		*10 - 130*	*03/12/25 12:05*	*03/13/25 02:57*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**17**	**H**	0.10	0.10	%			03/10/25 15:47	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118632-3

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(8-130)	(35-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)
320-118632-5	FMB-001-N-S006-01272025	77.7	99.7	87.9	95.6	87.0	84.7	93.2	97.5
LCS 320-839244/3-A	Lab Control Sample	69.6	104	90.6	99.9	93.4	84.3	99.9	97.1
LCSD 320-839244/4-A	Lab Control Sample Dup	88.0	101	89.0	98.5	100	83.1	100	97.9
LLCS 320-839244/2-A	Lab Control Sample	76.1	92.5	90.1	92.4	89.4	83.5	102	99.6
MB 320-839244/1-A	Method Blank	71.9	89.5	86.1	88.7	85.9	82.8	97.5	94.6

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(40-130)	(20-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-135)	(40-150)
320-118632-5	FMB-001-N-S006-01272025	98.2	79.8	80.0	83.3	87.2	85.9	108	95.9
LCS 320-839244/3-A	Lab Control Sample	97.6	82.8	80.1	87.1	95.7	92.7	109	104
LCSD 320-839244/4-A	Lab Control Sample Dup	98.9	81.8	85.7	89.9	88.1	85.9	104	90.3
LLCS 320-839244/2-A	Lab Control Sample	97.6	88.4	87.2	89.8	87.4	87.6	103	95.4
MB 320-839244/1-A	Method Blank	96.7	83.5	82.0	84.5	87.9	84.7	99.8	90.9

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-165)	(40-215)	(40-275)	(40-130)	(20-130)	(15-130)	(10-130)	(10-130)
320-118632-5	FMB-001-N-S006-01272025	90.3	91.9	86.7	95.7	77.3	66.4	81.6	81.8
LCS 320-839244/3-A	Lab Control Sample	88.2	94.7	91.1	99.9	84.1	73.4	88.6	87.9
LCSD 320-839244/4-A	Lab Control Sample Dup	92.6	98.7	91.8	94.7	72.6	61.2	81.0	80.5
LLCS 320-839244/2-A	Lab Control Sample	88.6	102	92.9	93.6	78.8	68.0	82.3	82.4
MB 320-839244/1-A	Method Blank	87.7	96.2	87.3	92.3	78.7	67.6	81.6	83.2

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-839244/1-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 839244

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-839244/1-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 839244

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		03/12/25 12:05	03/12/25 21:45	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*71.9*		*8 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C5 PFPeA	*89.5*		*35 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C5 PFHxA	*86.1*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C4 PFHpA	*88.7*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C8 PFOA	*85.9*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C9 PFNA	*82.8*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C6 PFDA	*97.5*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C7 PFUnA	*94.6*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 PFDoA	*96.7*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 PFTeDA	*83.5*		*20 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C3 PFBS	*82.0*		*40 - 135*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C3 PFHxS	*84.5*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C8 PFOS	*87.9*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C8 FOSA	*84.7*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d3-NMeFOSAA	*99.8*		*40 - 135*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d5-NEtFOSAA	*90.9*		*40 - 150*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 4:2 FTS	*87.7*		*40 - 165*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 6:2 FTS	*96.2*		*40 - 215*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 8:2 FTS	*87.3*		*40 - 275*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C3 HFPO-DA	*92.3*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d7-N-MeFOSE-M	*78.7*		*20 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d9-N-EtFOSE-M	*67.6*		*15 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d5-NEtPFOSA	*81.6*		*10 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d3-NMePFOSA	*83.2*		*10 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*

Lab Sample ID: LCS 320-839244/3-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.84		ug/Kg		97	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.13		ug/Kg		85	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.31		ug/Kg		92	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.53		ug/Kg		101	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.21		ug/Kg		88	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.48		ug/Kg		99	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.29		ug/Kg		91	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-839244/3-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.60		ug/Kg		104	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.49		ug/Kg		100	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.62		ug/Kg		105	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.68		ug/Kg		107	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	1.75		ug/Kg		79	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.05		ug/Kg		87	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.89		ug/Kg		83	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.42		ug/Kg		102	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.28		ug/Kg		98	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.36		ug/Kg		98	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.35		ug/Kg		98	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.30		ug/Kg		95	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.87		ug/Kg		104	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.83		ug/Kg		101	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.87		ug/Kg		102	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.36		ug/Kg		94	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.49		ug/Kg		100	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.47		ug/Kg		99	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.21		ug/Kg		89	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.32		ug/Kg		93	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.9		ug/Kg		95	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	13.0		ug/Kg		104	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.90		ug/Kg		102	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.17		ug/Kg		92	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	1.95		ug/Kg		78	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.15		ug/Kg		86	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.09		ug/Kg		84	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-839244/3-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.29		ug/Kg		98	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.21		ug/Kg		94	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.14		ug/Kg		96	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	2.99		ug/Kg		60	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.6		ug/Kg		93	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*69.6*		*8 - 130*
13C5 PFPeA	*104*		*35 - 130*
13C5 PFHxA	*90.6*		*40 - 130*
13C4 PFHpA	*99.9*		*40 - 130*
13C8 PFOA	*93.4*		*40 - 130*
13C9 PFNA	*84.3*		*40 - 130*
13C6 PFDA	*99.9*		*40 - 130*
13C7 PFUnA	*97.1*		*40 - 130*
13C2 PFDoA	*97.6*		*40 - 130*
13C2 PFTeDA	*82.8*		*20 - 130*
13C3 PFBS	*80.1*		*40 - 135*
13C3 PFHxS	*87.1*		*40 - 130*
13C8 PFOS	*95.7*		*40 - 130*
13C8 FOSA	*92.7*		*40 - 130*
d3-NMeFOSAA	*109*		*40 - 135*
d5-NEtFOSAA	*104*		*40 - 150*
13C2 4:2 FTS	*88.2*		*40 - 165*
13C2 6:2 FTS	*94.7*		*40 - 215*
13C2 8:2 FTS	*91.1*		*40 - 275*
13C3 HFPO-DA	*99.9*		*40 - 130*
d7-N-MeFOSE-M	*84.1*		*20 - 130*
d9-N-EtFOSE-M	*73.4*		*15 - 130*
d5-NEtPFOSA	*88.6*		*10 - 130*
d3-NMePFOSA	*87.9*		*10 - 130*

Lab Sample ID: LCSD 320-839244/4-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.82		ug/Kg		96	70 - 140	0	30
Perfluoropentanoic acid (PFPeA)			2.50	2.14		ug/Kg		86	60 - 150	0	30
Perfluorohexanoic acid (PFHxA)			2.50	2.38		ug/Kg		95	65 - 140	3	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.35		ug/Kg		94	65 - 145	7	30
Perfluorooctanoic acid (PFOA)			2.50	2.14		ug/Kg		86	70 - 150	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-839244/4-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 839244

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.33		ug/Kg		93	70 - 155	6	30
Perfluorodecanoic acid (PFDA)	2.50	2.27		ug/Kg		91	70 - 155	1	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.59		ug/Kg		104	70 - 155	0	30
Perfluorododecanoic acid (PFDoA)	2.50	2.39		ug/Kg		96	70 - 150	4	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.53		ug/Kg		101	65 - 150	3	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.57		ug/Kg		103	65 - 150	4	30
Perfluorobutanesulfonic acid (PFBS)	2.22	1.61		ug/Kg		73	65 - 145	8	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.01		ug/Kg		86	55 - 160	2	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.88		ug/Kg		83	60 - 150	1	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.39		ug/Kg		100	65 - 155	2	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.24		ug/Kg		96	65 - 160	2	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.33		ug/Kg		97	55 - 140	1	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.36		ug/Kg		98	40 - 155	0	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.10		ug/Kg		87	25 - 160	9	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	5.00		ug/Kg		107	60 - 150	3	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.84		ug/Kg		102	55 - 200	0	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.88		ug/Kg		102	70 - 150	0	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.34		ug/Kg		94	70 - 140	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.44		ug/Kg		97	70 - 155	2	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.39		ug/Kg		95	70 - 140	3	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.14		ug/Kg		85	65 - 155	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.50		ug/Kg		100	65 - 165	7	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.6		ug/Kg		93	70 - 140	3	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.6		ug/Kg		101	70 - 135	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.83		ug/Kg		97	70 - 145	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.12		ug/Kg		89	70 - 160	3	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	1.98		ug/Kg		79	30 - 140	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.04		ug/Kg		82	60 - 150	5	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-839244/4-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	1.69		ug/Kg		67	60 - 155	22	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.26		ug/Kg		97	70 - 150	1	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.11		ug/Kg		90	45 - 160	4	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.27		ug/Kg		102	70 - 140	6	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.04		ug/Kg		81	45 - 130	30	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 130	0	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 150	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*88.0*		*8 - 130*
13C5 PFPeA	*101*		*35 - 130*
13C5 PFHxA	*89.0*		*40 - 130*
13C4 PFHpA	*98.5*		*40 - 130*
13C8 PFOA	*100*		*40 - 130*
13C9 PFNA	*83.1*		*40 - 130*
13C6 PFDA	*100*		*40 - 130*
13C7 PFUnA	*97.9*		*40 - 130*
13C2 PFDoA	*98.9*		*40 - 130*
13C2 PFTeDA	*81.8*		*20 - 130*
13C3 PFBS	*85.7*		*40 - 135*
13C3 PFHxS	*89.9*		*40 - 130*
13C8 PFOS	*88.1*		*40 - 130*
13C8 FOSA	*85.9*		*40 - 130*
d3-NMeFOSAA	*104*		*40 - 135*
d5-NEtFOSAA	*90.3*		*40 - 150*
13C2 4:2 FTS	*92.6*		*40 - 165*
13C2 6:2 FTS	*98.7*		*40 - 215*
13C2 8:2 FTS	*91.8*		*40 - 275*
13C3 HFPO-DA	*94.7*		*40 - 130*
d7-N-MeFOSE-M	*72.6*		*20 - 130*
d9-N-EtFOSE-M	*61.2*		*15 - 130*
d5-NEtPFOSA	*81.0*		*10 - 130*
d3-NMePFOSA	*80.5*		*10 - 130*

Lab Sample ID: LLCS 320-839244/2-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.786		ug/Kg		98	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.364		ug/Kg		91	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.407		ug/Kg		102	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-839244/2-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.433		ug/Kg		108	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.411		ug/Kg		103	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.396		ug/Kg		99	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.394		ug/Kg		99	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.431		ug/Kg		108	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.421		ug/Kg		105	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.450		ug/Kg		113	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.439		ug/Kg		110	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.283		ug/Kg		80	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.341		ug/Kg		91	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.302		ug/Kg		83	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.392		ug/Kg		103	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.378		ug/Kg		101	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.400		ug/Kg		104	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.398		ug/Kg		103	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.340		ug/Kg		88	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.807		ug/Kg		108	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.803		ug/Kg		105	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.747		ug/Kg		97	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.396		ug/Kg		99	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.381		ug/Kg		95	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.387		ug/Kg		97	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.348		ug/Kg		87	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.364		ug/Kg		91	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.88		ug/Kg		94	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.06		ug/Kg		103	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.278		ug/Kg		93	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.361		ug/Kg		95	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.352		ug/Kg		88	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-839244/2-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.368		ug/Kg		92	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.367		ug/Kg		92	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.377		ug/Kg		101	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.365		ug/Kg		97	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.337		ug/Kg		95	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.587		ug/Kg		73	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	1.78		ug/Kg		89	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	1.83		ug/Kg		91	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*76.1*		*8 - 130*
13C5 PFPeA	*92.5*		*35 - 130*
13C5 PFHxA	*90.1*		*40 - 130*
13C4 PFHpA	*92.4*		*40 - 130*
13C8 PFOA	*89.4*		*40 - 130*
13C9 PFNA	*83.5*		*40 - 130*
13C6 PFDA	*102*		*40 - 130*
13C7 PFUnA	*99.6*		*40 - 130*
13C2 PFDoA	*97.6*		*40 - 130*
13C2 PFTeDA	*88.4*		*20 - 130*
13C3 PFBS	*87.2*		*40 - 135*
13C3 PFHxS	*89.8*		*40 - 130*
13C8 PFOS	*87.4*		*40 - 130*
13C8 FOSA	*87.6*		*40 - 130*
d3-NMeFOSAA	*103*		*40 - 135*
d5-NEtFOSAA	*95.4*		*40 - 150*
13C2 4:2 FTS	*88.6*		*40 - 165*
13C2 6:2 FTS	*102*		*40 - 215*
13C2 8:2 FTS	*92.9*		*40 - 275*
13C3 HFPO-DA	*93.6*		*40 - 130*
d7-N-MeFOSE-M	*78.8*		*20 - 130*
d9-N-EtFOSE-M	*68.0*		*15 - 130*
d5-NEtPFOSA	*82.3*		*10 - 130*
d3-NMePFOSA	*82.4*		*10 - 130*

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118632-3

Method: 1633 - Percent Moisture

Lab Sample ID: 320-118632-5 DU
Matrix: Solid
Analysis Batch: 838826

Client Sample ID: FMB-001-N-S006-01272025
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	17	H		16		%				7	20

QC Association Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118632-3

LCMS

Prep Batch: 839244

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118632-5	FMB-001-N-S006-01272025	Total/NA	Solid	1633 Shake	
MB 320-839244/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-839244/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-839244/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-839244/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 839392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118632-5	FMB-001-N-S006-01272025	Total/NA	Solid	1633	839244
MB 320-839244/1-A	Method Blank	Total/NA	Solid	1633	839244
LCS 320-839244/3-A	Lab Control Sample	Total/NA	Solid	1633	839244
LCSD 320-839244/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	839244
LLCS 320-839244/2-A	Lab Control Sample	Total/NA	Solid	1633	839244

General Chemistry

Analysis Batch: 838826

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118632-5	FMB-001-N-S006-01272025	Total/NA	Solid	1633	
320-118632-5 DU	FMB-001-N-S006-01272025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118632-3
Project/Site: Spokane International Airport

Client Sample ID: FMB-001-N-S006-01272025
Lab Sample ID: 320-118632-5

Date Collected: 01/27/25 10:00
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			838826	03/10/25 15:47	JCB	EET SAC

Client Sample ID: FMB-001-N-S006-01272025
Lab Sample ID: 320-118632-5

Date Collected: 01/27/25 10:00
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 82.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.48 g	5.0 mL	839244	03/12/25 12:05	MKC	EET SAC
Total/NA	Analysis	1633		1			839392	03/13/25 02:57	C1P	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118632-3
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118632-3

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118632-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118632-5	FMB-001-N-S006-01272025	Solid	01/27/25 10:00	01/30/25 09:30

HALEY ALDRICH

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

Page 1 of 1

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
		DELIVERY DATE	1/27/25
		TURNAROUND TIME	Standard
		PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633										HOLD	Number of Containers
FMB-001-N-S0005-01272025	1/27/2025	0945	Soil											X	1
FMB-001-N-S001-01272025	1/27/2025	0950	Soil	X											1
FMB-001-FD-S001-01272025	1/27/2025	1020	Soil	X											1
FMB-001-N-S003-01272025	1/27/2025	0955	Soil	X											
FMB-001-N-S006-01272025	1/27/2025	1000	Soil											X	1
FMB-001-N-S005-01272025	1/27/2025	1005	Soil											X	1
															1
															1
															1
															1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118632 Chain of Custody

HS Temp: 4.1°C Cell Temp 4.4°C ID# 1R06

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castrillo da Silva	Print Luke Peden
Firm Haley Aldrich	Firm Haley & Aldrich
Date 01/27/2025 Time 1400	Date 1/27/25 1400
Relinquished by	**Received by**
Sign	Sign
Print Luke Peden	Print [illegible]
Firm H&A	Firm EEA Spokane
Date 1/27/25 Time 15:20	Date 01/27/25 1530
Relinquished by	**Received by**
Sign	Sign
Print Wacky Moms	Print D Nemerson
Firm EFI-CSP0	Firm EFISPC
Date 1/28/25 Time 1440	Date 01/31/25 0943

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

Form 3003 November 2024

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118632

Tracking # 4242 5693 0828

Job: _____

SO (PO) / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC

Therm. ID: L06 Corr. Factor (+ / -) NA °C

Ice _____ Wet _____ Gel _____ Other _____

Cooler Custody Seal: 2691599

Cooler ID: 1 of 2

Temp Observed: 1.3 °C Corrected: 1.3 °C

From: Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: DM Date: 01/30/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: DM Date: 01/30/25

Notes: _____

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials DM Date: 01/30/25

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Tracking # 4242 5993 0839

Job: 320-118632

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC

Therm. ID: L06 Corr Factor (+/-) NA °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: 26091594

Cooler ID: 2 of 2

Temp Observed: 1.7 °C Corrected: 1.7 °C

From: Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: DM Date: 01/30/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: DM Date: 01/30/25

Notes: _____

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials: DM Date: 01/30/25

SIGNATURE
DATE 1/28/25
Custody S
eurofins | Environment Testing TestAmerica
2691599
EUROFINS ENVIRONMENTAL SPOKANE
11922 E 1ST AVE
SPOKANE VALLEY, WA 99206
UNITED STATES US
CAD: 0941709/CAFE3855
BILL RECIPIENT
Part # 163498-4-4 MIT EX-0925
TO SHIPPING/RECEIVING
EUROFINS ENVIRONMENT TESTING N CAL
880 RIVERSIDE PARKWAY
WEST SACRAMENTO CA 95605
(916) 373-5600
INV:
PO:
REF:
DEPT:
FedEx Express
J243824070401uv
1 of 2
TRK# 0201 4242 5693 0828
MASTER
XS BLUA
WED - 29 JAN 10:30A
PRIORITY OVERNIGHT
95605
CA-US SMF
eal
eurofins | Environment Testing TestAmerica
2691599

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 3/3/2025 2:01:45 PM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118632-2

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

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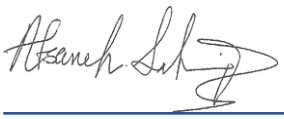

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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118632-2
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-118632-2

Receipt
The samples were received on 1/30/2025 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.3º C and 1.7º C.

LCMS
Method 1633: The continuing calibration verification (CCV) associated with batch 320-836644 recovered above the upper control limit for isotope dilution analytes (IDA) 13C2 4:2 FTS and 13C2 8:2 FTS. The associated target analytes, 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) and 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) were within control limits in the CCV, therefore the data is reported: (CCV 320-836644/1).

Method 1633: The continuing calibration verifications (CCV) associated with batch 320-836644 recovered above the upper control limit for the isotope dilution analytes (IDA) 13C2 4:2 FTS, 13C2 6:2 FTS and 13C2 8:2 FTS. The associated target analytes, 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS), 1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) and 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) were within control limits in the CCVs, therefore the data is reported: FMB-001-N-S0005-01272025 (320-118632-1), FMB-001-N-S005-01272025 (320-118632-6), (CCV 320-836644/13) and (CCV 320-836644/25).

Method 1633: The low level continuing calibration verification (CCVL) associated with batch 320-836600 recovered above the upper control limit for isotope dilution analytes (IDA) 13C2 6:2 FTS, 13C2 8:2 FTS and d3-NMeFOSAA, The associated target analytes, 1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS), 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) and N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA), were within control limits in the CCV, therefore the data is reported: (CCVL 320-836600/2).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118632-2

Client Sample ID: FMB-001-N-S0005-01272025 — Lab Sample ID: 320-118632-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorododecanoic acid (PFDoA)	0.12	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.16	J	0.20	0.058	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.051	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.17	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FMB-001-N-S005-01272025 — Lab Sample ID: 320-118632-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.050	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.087	J	0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.050	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.38		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.069	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.52		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.10	J	0.40	0.099	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118632-2

Client Sample ID: FMB-001-N-S0005-01272025
Date Collected: 01/27/25 09:45
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118632-1
Matrix: Solid
Percent Solids: 93.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
Perfluorododecanoic acid (PFDoA)	**0.12**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
Perfluorotetradecanoic acid (PFTeDA)	**0.16**	**J**	0.20	0.058	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
Perfluorooctanesulfonic acid (PFOS)	**0.051**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.17**	**J**	0.40	0.10	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1

Client Sample ID: FMB-001-N-S0005-01272025

Lab Sample ID: 320-118632-1

Date Collected: 01/27/25 09:45
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 93.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 20:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*93.0*		*8 - 130*	*02/27/25 09:28*	*02/28/25 20:48*	*1*
13C5 PFPeA	*92.2*		*35 - 130*	*02/27/25 09:28*	*02/28/25 20:48*	*1*
13C5 PFHxA	*97.1*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:48*	*1*
13C4 PFHpA	*102*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:48*	*1*
13C8 PFOA	*91.8*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:48*	*1*
13C9 PFNA	*89.5*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:48*	*1*
13C6 PFDA	*86.1*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:48*	*1*
13C7 PFUnA	*76.9*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:48*	*1*
13C2 PFDoA	*81.2*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:48*	*1*
13C2 PFTeDA	*76.0*		*20 - 130*	*02/27/25 09:28*	*02/28/25 20:48*	*1*
13C3 PFBS	*78.1*		*40 - 135*	*02/27/25 09:28*	*02/28/25 20:48*	*1*
13C3 PFHxS	*74.7*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:48*	*1*
13C8 PFOS	*79.9*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:48*	*1*
13C8 FOSA	*74.5*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:48*	*1*
d3-NMeFOSAA	*106*		*40 - 135*	*02/27/25 09:28*	*02/28/25 20:48*	*1*
d5-NEtFOSAA	*115*		*40 - 150*	*02/27/25 09:28*	*02/28/25 20:48*	*1*
13C2 4:2 FTS	*131*		*40 - 165*	*02/27/25 09:28*	*02/28/25 20:48*	*1*
13C2 6:2 FTS	*148*		*40 - 215*	*02/27/25 09:28*	*02/28/25 20:48*	*1*
13C2 8:2 FTS	*149*		*40 - 275*	*02/27/25 09:28*	*02/28/25 20:48*	*1*
13C3 HFPO-DA	*103*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:48*	*1*
d7-N-MeFOSE-M	*65.1*		*20 - 130*	*02/27/25 09:28*	*02/28/25 20:48*	*1*
d9-N-EtFOSE-M	*55.4*		*15 - 130*	*02/27/25 09:28*	*02/28/25 20:48*	*1*
d5-NEtPFOSA	*59.1*		*10 - 130*	*02/27/25 09:28*	*02/28/25 20:48*	*1*
d3-NMePFOSA	*61.2*		*10 - 130*	*02/27/25 09:28*	*02/28/25 20:48*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**6.9**		0.10	0.10	%			02/21/25 13:36	1

Client Sample ID: FMB-001-N-S005-01272025

Lab Sample ID: 320-118632-6

Date Collected: 01/27/25 10:05
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 93.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.099	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
Perfluoropentanoic acid (PFPeA)	**0.050**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1

Client Sample ID: FMB-001-N-S005-01272025
Date Collected: 01/27/25 10:05
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118632-6
Matrix: Solid
Percent Solids: 93.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
Perfluorooctanoic acid (PFOA)	**0.087**	**J**	0.20	0.061	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
Perfluorononanoic acid (PFNA)	**0.050**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
Perfluorodecanoic acid (PFDA)	**0.38**		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
Perfluorohexanesulfonic acid (PFHxS)	**0.069**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
Perfluorooctanesulfonic acid (PFOS)	**0.52**		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.10**	**J**	0.40	0.099	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1

Client Sample ID: FMB-001-N-S005-01272025
Date Collected: 01/27/25 10:05
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118632-6
Matrix: Solid
Percent Solids: 93.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.099	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 21:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*71.4*		*8 - 130*	*02/27/25 09:28*	*02/28/25 21:37*	*1*
13C5 PFPeA	*84.9*		*35 - 130*	*02/27/25 09:28*	*02/28/25 21:37*	*1*
13C5 PFHxA	*85.9*		*40 - 130*	*02/27/25 09:28*	*02/28/25 21:37*	*1*
13C4 PFHpA	*89.4*		*40 - 130*	*02/27/25 09:28*	*02/28/25 21:37*	*1*
13C8 PFOA	*91.2*		*40 - 130*	*02/27/25 09:28*	*02/28/25 21:37*	*1*
13C9 PFNA	*88.0*		*40 - 130*	*02/27/25 09:28*	*02/28/25 21:37*	*1*
13C6 PFDA	*81.9*		*40 - 130*	*02/27/25 09:28*	*02/28/25 21:37*	*1*
13C7 PFUnA	*74.8*		*40 - 130*	*02/27/25 09:28*	*02/28/25 21:37*	*1*
13C2 PFDoA	*77.7*		*40 - 130*	*02/27/25 09:28*	*02/28/25 21:37*	*1*
13C2 PFTeDA	*69.2*		*20 - 130*	*02/27/25 09:28*	*02/28/25 21:37*	*1*
13C3 PFBS	*65.6*		*40 - 135*	*02/27/25 09:28*	*02/28/25 21:37*	*1*
13C3 PFHxS	*70.7*		*40 - 130*	*02/27/25 09:28*	*02/28/25 21:37*	*1*
13C8 PFOS	*74.2*		*40 - 130*	*02/27/25 09:28*	*02/28/25 21:37*	*1*
13C8 FOSA	*71.4*		*40 - 130*	*02/27/25 09:28*	*02/28/25 21:37*	*1*
d3-NMeFOSAA	*98.6*		*40 - 135*	*02/27/25 09:28*	*02/28/25 21:37*	*1*
d5-NEtFOSAA	*104*		*40 - 150*	*02/27/25 09:28*	*02/28/25 21:37*	*1*
13C2 4:2 FTS	*122*		*40 - 165*	*02/27/25 09:28*	*02/28/25 21:37*	*1*
13C2 6:2 FTS	*116*		*40 - 215*	*02/27/25 09:28*	*02/28/25 21:37*	*1*
13C2 8:2 FTS	*131*		*40 - 275*	*02/27/25 09:28*	*02/28/25 21:37*	*1*
13C3 HFPO-DA	*98.7*		*40 - 130*	*02/27/25 09:28*	*02/28/25 21:37*	*1*
d7-N-MeFOSE-M	*72.2*		*20 - 130*	*02/27/25 09:28*	*02/28/25 21:37*	*1*
d9-N-EtFOSE-M	*55.0*		*15 - 130*	*02/27/25 09:28*	*02/28/25 21:37*	*1*
d5-NEtPFOSA	*66.7*		*10 - 130*	*02/27/25 09:28*	*02/28/25 21:37*	*1*
d3-NMePFOSA	*66.0*		*10 - 130*	*02/27/25 09:28*	*02/28/25 21:37*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**6.5**		0.10	0.10	%			02/21/25 13:36	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118632-2

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(8-130)	(35-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)
320-118632-1	FMB-001-N-S0005-01272025	93.0	92.2	97.1	102	91.8	89.5	86.1	76.9
320-118632-6	FMB-001-N-S005-01272025	71.4	84.9	85.9	89.4	91.2	88.0	81.9	74.8
LCS 320-836188/3-A	Lab Control Sample	91.8	85.9	93.1	91.5	84.2	84.5	84.2	83.6
LCSD 320-836188/4-A	Lab Control Sample Dup	93.7	85.8	93.1	92.2	87.4	86.1	79.0	70.2
LLCS 320-836188/2-A	Lab Control Sample	90.5	84.3	87.5	91.1	82.3	86.3	79.4	77.6
MB 320-836188/1-A	Method Blank	94.3	84.8	77.1	87.3	88.5	83.3	83.6	77.0

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(40-130)	(20-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-135)	(40-150)
320-118632-1	FMB-001-N-S0005-01272025	81.2	76.0	78.1	74.7	79.9	74.5	106	115
320-118632-6	FMB-001-N-S005-01272025	77.7	69.2	65.6	70.7	74.2	71.4	98.6	104
LCS 320-836188/3-A	Lab Control Sample	80.8	69.8	71.1	73.1	81.9	72.5	114	109
LCSD 320-836188/4-A	Lab Control Sample Dup	63.3	52.6	75.7	82.4	77.2	59.5	95.8	95.8
LLCS 320-836188/2-A	Lab Control Sample	72.5	65.3	63.5	71.2	73.7	65.5	104	104
MB 320-836188/1-A	Method Blank	76.7	65.0	77.4	80.4	80.8	67.5	110	110

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-165)	(40-215)	(40-275)	(40-130)	(20-130)	(15-130)	(10-130)	(10-130)
320-118632-1	FMB-001-N-S0005-01272025	131	148	149	103	65.1	55.4	59.1	61.2
320-118632-6	FMB-001-N-S005-01272025	122	116	131	98.7	72.2	55.0	66.7	66.0
LCS 320-836188/3-A	Lab Control Sample	127	137	142	102	66.1	54.5	50.3	49.8
LCSD 320-836188/4-A	Lab Control Sample Dup	133	142	145	103	46.3	37.3	37.5	37.7
LLCS 320-836188/2-A	Lab Control Sample	127	136	138	95.9	63.2	51.4	45.3	42.9
MB 320-836188/1-A	Method Blank	140	143	147	101	56.7	46.5	40.7	39.6

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118632-2
Project/Site: Spokane International Airport

d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-836188/1-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 836188

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-836188/1-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 836188

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		02/27/25 09:28	02/28/25 18:20	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*94.3*		*8 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C5 PFPeA	*84.8*		*35 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C5 PFHxA	*77.1*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C4 PFHpA	*87.3*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C8 PFOA	*88.5*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C9 PFNA	*83.3*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C6 PFDA	*83.6*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C7 PFUnA	*77.0*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C2 PFDoA	*76.7*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C2 PFTeDA	*65.0*		*20 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C3 PFBS	*77.4*		*40 - 135*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C3 PFHxS	*80.4*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C8 PFOS	*80.8*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C8 FOSA	*67.5*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
d3-NMeFOSAA	*110*		*40 - 135*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
d5-NEtFOSAA	*110*		*40 - 150*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C2 4:2 FTS	*140*		*40 - 165*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C2 6:2 FTS	*143*		*40 - 215*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C2 8:2 FTS	*147*		*40 - 275*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C3 HFPO-DA	*101*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
d7-N-MeFOSE-M	*56.7*		*20 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
d9-N-EtFOSE-M	*46.5*		*15 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
d5-NEtPFOSA	*40.7*		*10 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
d3-NMePFOSA	*39.6*		*10 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*

Lab Sample ID: LCS 320-836188/3-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836188

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	5.05		ug/Kg		101	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.63		ug/Kg		105	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.45		ug/Kg		98	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.57		ug/Kg		103	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.66		ug/Kg		107	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.65		ug/Kg		106	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	3.00		ug/Kg		120	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-836188/3-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836188

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.71		ug/Kg		108	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.51		ug/Kg		100	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.54		ug/Kg		102	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.84		ug/Kg		114	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.20		ug/Kg		99	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.40		ug/Kg		102	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.15		ug/Kg		94	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.35		ug/Kg		98	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.12		ug/Kg		91	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.48		ug/Kg		103	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	1.96		ug/Kg		81	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	1.88		ug/Kg		78	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.07		ug/Kg		87	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.31		ug/Kg		91	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	5.01		ug/Kg		104	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.70		ug/Kg		108	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	3.18		ug/Kg		127	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.77		ug/Kg		111	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.51		ug/Kg		100	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.43		ug/Kg		97	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.6		ug/Kg		93	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	13.3		ug/Kg		107	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.75		ug/Kg		93	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	1.89		ug/Kg		80	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.38		ug/Kg		95	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.94		ug/Kg		118	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.53		ug/Kg		101	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-836188/3-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836188

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.08		ug/Kg		89	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.74		ug/Kg		74	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.87		ug/Kg		84	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.96		ug/Kg		99	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.7		ug/Kg		86	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.6		ug/Kg		93	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*91.8*		*8 - 130*
13C5 PFPeA	*85.9*		*35 - 130*
13C5 PFHxA	*93.1*		*40 - 130*
13C4 PFHpA	*91.5*		*40 - 130*
13C8 PFOA	*84.2*		*40 - 130*
13C9 PFNA	*84.5*		*40 - 130*
13C6 PFDA	*84.2*		*40 - 130*
13C7 PFUnA	*83.6*		*40 - 130*
13C2 PFDoA	*80.8*		*40 - 130*
13C2 PFTeDA	*69.8*		*20 - 130*
13C3 PFBS	*71.1*		*40 - 135*
13C3 PFHxS	*73.1*		*40 - 130*
13C8 PFOS	*81.9*		*40 - 130*
13C8 FOSA	*72.5*		*40 - 130*
d3-NMeFOSAA	*114*		*40 - 135*
d5-NEtFOSAA	*109*		*40 - 150*
13C2 4:2 FTS	*127*		*40 - 165*
13C2 6:2 FTS	*137*		*40 - 215*
13C2 8:2 FTS	*142*		*40 - 275*
13C3 HFPO-DA	*102*		*40 - 130*
d7-N-MeFOSE-M	*66.1*		*20 - 130*
d9-N-EtFOSE-M	*54.5*		*15 - 130*
d5-NEtPFOSA	*50.3*		*10 - 130*
d3-NMePFOSA	*49.8*		*10 - 130*

Lab Sample ID: LCSD 320-836188/4-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 836188

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	5.15		ug/Kg		103	70 - 140	2	30
Perfluoropentanoic acid (PFPeA)			2.50	2.87		ug/Kg		115	60 - 150	9	30
Perfluorohexanoic acid (PFHxA)			2.50	2.49		ug/Kg		100	65 - 140	2	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.57		ug/Kg		103	65 - 145	0	30
Perfluorooctanoic acid (PFOA)			2.50	2.65		ug/Kg		106	70 - 150	0	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-836188/4-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 836188

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.71		ug/Kg		109	70 - 155	2	30
Perfluorodecanoic acid (PFDA)	2.50	3.18		ug/Kg		127	70 - 155	6	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.84		ug/Kg		113	70 - 155	5	30
Perfluorododecanoic acid (PFDoA)	2.50	2.72		ug/Kg		109	70 - 150	8	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.64		ug/Kg		105	65 - 150	4	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.95		ug/Kg		118	65 - 150	4	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.09		ug/Kg		94	65 - 145	5	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.38		ug/Kg		101	55 - 160	1	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.08		ug/Kg		91	60 - 150	3	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.76		ug/Kg		116	65 - 155	16	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.30		ug/Kg		99	65 - 160	8	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.45		ug/Kg		102	55 - 140	1	30
Perfluorodecanesulfonic acid (PFDS)	2.41	1.86		ug/Kg		77	40 - 155	5	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	1.63		ug/Kg		67	25 - 160	14	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.07		ug/Kg		87	60 - 150	0	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.88		ug/Kg		102	55 - 200	12	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.48		ug/Kg		93	70 - 150	11	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.91		ug/Kg		116	70 - 140	7	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	3.18		ug/Kg		127	70 - 155	0	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.83		ug/Kg		113	70 - 140	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.82		ug/Kg		113	65 - 155	11	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.44		ug/Kg		98	65 - 165	1	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.8		ug/Kg		95	70 - 140	2	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	14.6		ug/Kg		117	70 - 135	9	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.85		ug/Kg		98	70 - 145	6	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.03		ug/Kg		86	70 - 160	7	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.53		ug/Kg		101	30 - 140	6	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.85		ug/Kg		114	60 - 150	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-836188/4-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 836188

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.48		ug/Kg		99	60 - 155	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.14		ug/Kg		92	70 - 150	3	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.53		ug/Kg		65	45 - 160	13	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.01		ug/Kg		90	70 - 140	7	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.56		ug/Kg		111	45 - 130	11	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.4		ug/Kg		91	60 - 130	6	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	12.1		ug/Kg		97	60 - 150	4	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*93.7*		*8 - 130*
13C5 PFPeA	*85.8*		*35 - 130*
13C5 PFHxA	*93.1*		*40 - 130*
13C4 PFHpA	*92.2*		*40 - 130*
13C8 PFOA	*87.4*		*40 - 130*
13C9 PFNA	*86.1*		*40 - 130*
13C6 PFDA	*79.0*		*40 - 130*
13C7 PFUnA	*70.2*		*40 - 130*
13C2 PFDoA	*63.3*		*40 - 130*
13C2 PFTeDA	*52.6*		*20 - 130*
13C3 PFBS	*75.7*		*40 - 135*
13C3 PFHxS	*82.4*		*40 - 130*
13C8 PFOS	*77.2*		*40 - 130*
13C8 FOSA	*59.5*		*40 - 130*
d3-NMeFOSAA	*95.8*		*40 - 135*
d5-NEtFOSAA	*95.8*		*40 - 150*
13C2 4:2 FTS	*133*		*40 - 165*
13C2 6:2 FTS	*142*		*40 - 215*
13C2 8:2 FTS	*145*		*40 - 275*
13C3 HFPO-DA	*103*		*40 - 130*
d7-N-MeFOSE-M	*46.3*		*20 - 130*
d9-N-EtFOSE-M	*37.3*		*15 - 130*
d5-NEtPFOSA	*37.5*		*10 - 130*
d3-NMePFOSA	*37.7*		*10 - 130*

Lab Sample ID: LLCS 320-836188/2-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836188

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.816		ug/Kg		102	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.447		ug/Kg		112	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.446		ug/Kg		111	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-836188/2-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836188

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.426		ug/Kg		107	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.470		ug/Kg		118	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.427		ug/Kg		107	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.536		ug/Kg		134	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.450		ug/Kg		113	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.438		ug/Kg		109	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.458		ug/Kg		114	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.484		ug/Kg		121	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.477		ug/Kg		134	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.392		ug/Kg		104	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.392		ug/Kg		108	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.432		ug/Kg		113	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.415		ug/Kg		112	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.442		ug/Kg		115	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.329		ug/Kg		85	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.357		ug/Kg		92	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.701		ug/Kg		93	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.799		ug/Kg		105	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.727		ug/Kg		95	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.451		ug/Kg		113	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.536		ug/Kg		134	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.453		ug/Kg		113	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.442		ug/Kg		110	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.414		ug/Kg		104	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.91		ug/Kg		95	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.33		ug/Kg		117	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.293		ug/Kg		98	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.327		ug/Kg		86	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.407		ug/Kg		102	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-836188/2-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836188

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.449		ug/Kg		112	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.440		ug/Kg		110	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.354		ug/Kg		95	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.301		ug/Kg		80	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.307		ug/Kg		86	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.727		ug/Kg		91	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	1.79		ug/Kg		90	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	2.08		ug/Kg		104	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*90.5*		*8 - 130*
13C5 PFPeA	*84.3*		*35 - 130*
13C5 PFHxA	*87.5*		*40 - 130*
13C4 PFHpA	*91.1*		*40 - 130*
13C8 PFOA	*82.3*		*40 - 130*
13C9 PFNA	*86.3*		*40 - 130*
13C6 PFDA	*79.4*		*40 - 130*
13C7 PFUnA	*77.6*		*40 - 130*
13C2 PFDoA	*72.5*		*40 - 130*
13C2 PFTeDA	*65.3*		*20 - 130*
13C3 PFBS	*63.5*		*40 - 135*
13C3 PFHxS	*71.2*		*40 - 130*
13C8 PFOS	*73.7*		*40 - 130*
13C8 FOSA	*65.5*		*40 - 130*
d3-NMeFOSAA	*104*		*40 - 135*
d5-NEtFOSAA	*104*		*40 - 150*
13C2 4:2 FTS	*127*		*40 - 165*
13C2 6:2 FTS	*136*		*40 - 215*
13C2 8:2 FTS	*138*		*40 - 275*
13C3 HFPO-DA	*95.9*		*40 - 130*
d7-N-MeFOSE-M	*63.2*		*20 - 130*
d9-N-EtFOSE-M	*51.4*		*15 - 130*
d5-NEtPFOSA	*45.3*		*10 - 130*
d3-NMePFOSA	*42.9*		*10 - 130*

QC Association Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118632-2

LCMS

Prep Batch: 836188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118632-1	FMB-001-N-S0005-01272025	Total/NA	Solid	1633 Shake	
320-118632-6	FMB-001-N-S005-01272025	Total/NA	Solid	1633 Shake	
MB 320-836188/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-836188/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-836188/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-836188/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 836644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118632-1	FMB-001-N-S0005-01272025	Total/NA	Solid	1633	836188
320-118632-6	FMB-001-N-S005-01272025	Total/NA	Solid	1633	836188
MB 320-836188/1-A	Method Blank	Total/NA	Solid	1633	836188
LCS 320-836188/3-A	Lab Control Sample	Total/NA	Solid	1633	836188
LCSD 320-836188/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	836188
LLCS 320-836188/2-A	Lab Control Sample	Total/NA	Solid	1633	836188

General Chemistry

Analysis Batch: 834909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118632-1	FMB-001-N-S0005-01272025	Total/NA	Solid	1633	
320-118632-6	FMB-001-N-S005-01272025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118632-2

Client Sample ID: FMB-001-N-S0005-01272025
Lab Sample ID: 320-118632-1
Date Collected: 01/27/25 09:45
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834909	02/21/25 13:36	JCB	EET SAC

Client Sample ID: FMB-001-N-S0005-01272025
Lab Sample ID: 320-118632-1
Date Collected: 01/27/25 09:45
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 93.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.15 g	5.0 mL	836188	02/27/25 09:28	KTH	EET SAC
Total/NA	Analysis	1633		1			836644	02/28/25 20:48	K1S	EET SAC

Client Sample ID: FMB-001-N-S005-01272025
Lab Sample ID: 320-118632-6
Date Collected: 01/27/25 10:05
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834909	02/21/25 13:36	JCB	EET SAC

Client Sample ID: FMB-001-N-S005-01272025
Lab Sample ID: 320-118632-6
Date Collected: 01/27/25 10:05
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 93.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.16 g	5.0 mL	836188	02/27/25 09:28	KTH	EET SAC
Total/NA	Analysis	1633		1			836644	02/28/25 21:37	K1S	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118632-2
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118632-2

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118632-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118632-1	FMB-001-N-S0005-01272025	Solid	01/27/25 09:45	01/30/25 09:30
320-118632-6	FMB-001-N-S005-01272025	Solid	01/27/25 10:05	01/30/25 09:30

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

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JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118632-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Job Notes

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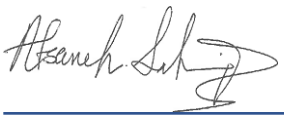

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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118632-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118632-1 — Eurofins Sacramento

Job Narrative
320-118632-1

Receipt
The samples were received on 1/30/2025 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.3º C and 1.7º C.

LCMS
Method 1633: The continuing calibration verification (CCV) associated with batch 320-832076 recovered above the upper control limit for the following isotope dilution analyte (IDA): d3-NMeFOSAA. The associated target analyte, N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA), is within control limits The method blank (MB) and samples associated with this CCV were non-detect for the affected analyte and the low level laboratory control sample, laboratory control sample, and laboratory control sample duplicate (LLCS/LCS/LCSD) were within control limits; therefore, the data have been reported. The associated samples are impacted: FMB-001-N-S001-01272025 (320-118632-2), FMB-001-FD-S001-01272025 (320-118632-3), FMB-001-N-S003-01272025 (320-118632-4), (CCV 320-832076/13), (LCS 320-831483/3-A), (LCSD 320-831483/4-A), (LLCS 320-831483/2-A) and (MB 320-831483/1-A).

Method 1633: The Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: FMB-001-N-S001-01272025 (320-118632-2). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118632-1

Client Sample ID: FMB-001-N-S001-01272025 — Lab Sample ID: 320-118632-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.11	J	0.40	0.099	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.14	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.10	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.38		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.13	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.38		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.080	J	0.20	0.057	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.25		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.74		0.40	0.099	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FMB-001-FD-S001-01272025 — Lab Sample ID: 320-118632-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.10	J	0.38	0.096	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.089	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.069	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.27		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.13	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.47		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.090	J	0.19	0.055	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.11	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.57		0.38	0.096	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FMB-001-N-S003-01272025 — Lab Sample ID: 320-118632-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.11	J	0.39	0.097	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.16	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.071	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.13	J	0.19	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.067	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.22		0.19	0.049	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118632-1

Client Sample ID: FMB-001-N-S001-01272025
Date Collected: 01/27/25 09:50
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118632-2
Matrix: Solid
Percent Solids: 85.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.11**	**J**	0.40	0.099	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
Perfluoropentanoic acid (PFPeA)	**0.14**	**J**	0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
Perfluorohexanoic acid (PFHxA)	**0.10**	**J**	0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
Perfluorodecanoic acid (PFDA)	**0.38**		0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
Perfluoroundecanoic acid (PFUnA)	**0.13**	**J**	0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
Perfluorododecanoic acid (PFDoA)	**0.38**		0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
Perfluorotetradecanoic acid (PFTeDA)	**0.080**	**J**	0.20	0.057	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
Perfluorooctanesulfonic acid (PFOS)	**0.25**		0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.74**		0.40	0.099	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.099	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1

Client Sample ID: FMB-001-N-S001-01272025

Lab Sample ID: 320-118632-2
Date Collected: 01/27/25 09:50
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 85.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.099	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/05/25 11:42	02/07/25 19:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*88.4*		*8 - 130*	*02/05/25 11:42*	*02/07/25 19:00*	*1*
13C5 PFPeA	*81.2*		*35 - 130*	*02/05/25 11:42*	*02/07/25 19:00*	*1*
13C5 PFHxA	*81.5*		*40 - 130*	*02/05/25 11:42*	*02/07/25 19:00*	*1*
13C4 PFHpA	*83.5*		*40 - 130*	*02/05/25 11:42*	*02/07/25 19:00*	*1*
13C8 PFOA	*82.0*		*40 - 130*	*02/05/25 11:42*	*02/07/25 19:00*	*1*
13C9 PFNA	*82.0*		*40 - 130*	*02/05/25 11:42*	*02/07/25 19:00*	*1*
13C6 PFDA	*63.2*		*40 - 130*	*02/05/25 11:42*	*02/07/25 19:00*	*1*
13C7 PFUnA	*47.0*		*40 - 130*	*02/05/25 11:42*	*02/07/25 19:00*	*1*
13C2 PFDoA	*39.6*	**5-*	*40 - 130*	*02/05/25 11:42*	*02/07/25 19:00*	*1*
13C2 PFTeDA	*52.4*		*20 - 130*	*02/05/25 11:42*	*02/07/25 19:00*	*1*
13C3 PFBS	*79.5*		*40 - 135*	*02/05/25 11:42*	*02/07/25 19:00*	*1*
13C3 PFHxS	*81.1*		*40 - 130*	*02/05/25 11:42*	*02/07/25 19:00*	*1*
13C8 PFOS	*71.9*		*40 - 130*	*02/05/25 11:42*	*02/07/25 19:00*	*1*
13C8 FOSA	*48.5*		*40 - 130*	*02/05/25 11:42*	*02/07/25 19:00*	*1*
d3-NMeFOSAA	*63.9*		*40 - 135*	*02/05/25 11:42*	*02/07/25 19:00*	*1*
d5-NEtFOSAA	*54.1*		*40 - 150*	*02/05/25 11:42*	*02/07/25 19:00*	*1*
13C2 4:2 FTS	*79.7*		*40 - 165*	*02/05/25 11:42*	*02/07/25 19:00*	*1*
13C2 6:2 FTS	*98.4*		*40 - 215*	*02/05/25 11:42*	*02/07/25 19:00*	*1*
13C2 8:2 FTS	*71.0*		*40 - 275*	*02/05/25 11:42*	*02/07/25 19:00*	*1*
13C3 HFPO-DA	*77.8*		*40 - 130*	*02/05/25 11:42*	*02/07/25 19:00*	*1*
d7-N-MeFOSE-M	*44.7*		*20 - 130*	*02/05/25 11:42*	*02/07/25 19:00*	*1*
d9-N-EtFOSE-M	*45.4*		*15 - 130*	*02/05/25 11:42*	*02/07/25 19:00*	*1*
d5-NEtPFOSA	*46.6*		*10 - 130*	*02/05/25 11:42*	*02/07/25 19:00*	*1*
d3-NMePFOSA	*46.2*		*10 - 130*	*02/05/25 11:42*	*02/07/25 19:00*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**15**		0.10	0.10	%			02/03/25 13:42	1

Client Sample ID: FMB-001-FD-S001-01272025

Lab Sample ID: 320-118632-3
Date Collected: 01/27/25 10:20
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 84.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.10**	**J**	0.38	0.096	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
Perfluoropentanoic acid (PFPeA)	**0.089**	**J**	0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
Perfluorohexanoic acid (PFHxA)	**0.069**	**J**	0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118632-1

Client Sample ID: FMB-001-FD-S001-01272025
Date Collected: 01/27/25 10:20
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118632-3
Matrix: Solid
Percent Solids: 84.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.059	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
Perfluorodecanoic acid (PFDA)	**0.27**		0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
Perfluoroundecanoic acid (PFUnA)	**0.13**	**J**	0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
Perfluorododecanoic acid (PFDoA)	**0.47**		0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
Perfluorotetradecanoic acid (PFTeDA)	**0.090**	**J**	0.19	0.055	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
Perfluorooctanesulfonic acid (PFOS)	**0.11**	**J**	0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.38	0.096	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.57**		0.38	0.096	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.38	0.096	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.060	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.96	0.24	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.96	0.24	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.059	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1

Client Sample ID: FMB-001-FD-S001-01272025

Lab Sample ID: 320-118632-3
Date Collected: 01/27/25 10:20
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 84.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.072	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.38	0.096	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	02/05/25 11:42	02/07/25 19:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*83.7*		*8 - 130*	*02/05/25 11:42*	*02/07/25 19:17*	*1*
13C5 PFPeA	*87.7*		*35 - 130*	*02/05/25 11:42*	*02/07/25 19:17*	*1*
13C5 PFHxA	*88.6*		*40 - 130*	*02/05/25 11:42*	*02/07/25 19:17*	*1*
13C4 PFHpA	*94.4*		*40 - 130*	*02/05/25 11:42*	*02/07/25 19:17*	*1*
13C8 PFOA	*80.5*		*40 - 130*	*02/05/25 11:42*	*02/07/25 19:17*	*1*
13C9 PFNA	*86.5*		*40 - 130*	*02/05/25 11:42*	*02/07/25 19:17*	*1*
13C6 PFDA	*70.2*		*40 - 130*	*02/05/25 11:42*	*02/07/25 19:17*	*1*
13C7 PFUnA	*63.7*		*40 - 130*	*02/05/25 11:42*	*02/07/25 19:17*	*1*
13C2 PFDoA	*59.9*		*40 - 130*	*02/05/25 11:42*	*02/07/25 19:17*	*1*
13C2 PFTeDA	*64.7*		*20 - 130*	*02/05/25 11:42*	*02/07/25 19:17*	*1*
13C3 PFBS	*76.9*		*40 - 135*	*02/05/25 11:42*	*02/07/25 19:17*	*1*
13C3 PFHxS	*75.5*		*40 - 130*	*02/05/25 11:42*	*02/07/25 19:17*	*1*
13C8 PFOS	*77.2*		*40 - 130*	*02/05/25 11:42*	*02/07/25 19:17*	*1*
13C8 FOSA	*70.1*		*40 - 130*	*02/05/25 11:42*	*02/07/25 19:17*	*1*
d3-NMeFOSAA	*84.5*		*40 - 135*	*02/05/25 11:42*	*02/07/25 19:17*	*1*
d5-NEtFOSAA	*81.2*		*40 - 150*	*02/05/25 11:42*	*02/07/25 19:17*	*1*
13C2 4:2 FTS	*71.0*		*40 - 165*	*02/05/25 11:42*	*02/07/25 19:17*	*1*
13C2 6:2 FTS	*90.6*		*40 - 215*	*02/05/25 11:42*	*02/07/25 19:17*	*1*
13C2 8:2 FTS	*71.4*		*40 - 275*	*02/05/25 11:42*	*02/07/25 19:17*	*1*
13C3 HFPO-DA	*84.9*		*40 - 130*	*02/05/25 11:42*	*02/07/25 19:17*	*1*
d7-N-MeFOSE-M	*58.5*		*20 - 130*	*02/05/25 11:42*	*02/07/25 19:17*	*1*
d9-N-EtFOSE-M	*60.8*		*15 - 130*	*02/05/25 11:42*	*02/07/25 19:17*	*1*
d5-NEtPFOSA	*61.9*		*10 - 130*	*02/05/25 11:42*	*02/07/25 19:17*	*1*
d3-NMePFOSA	*69.0*		*10 - 130*	*02/05/25 11:42*	*02/07/25 19:17*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**16**		0.10	0.10	%			02/03/25 13:42	1

Client Sample ID: FMB-001-N-S003-01272025

Lab Sample ID: 320-118632-4
Date Collected: 01/27/25 09:55
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 90.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.11**	**J**	0.39	0.097	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
Perfluoropentanoic acid (PFPeA)	**0.16**	**J**	0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
Perfluorohexanoic acid (PFHxA)	**0.071**	**J**	0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
Perfluorooctanoic acid (PFOA)	**0.13**	**J**	0.19	0.060	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118632-1

Client Sample ID: FMB-001-N-S003-01272025
Date Collected: 01/27/25 09:55
Date Received: 01/30/25 09:30

Lab Sample ID: 320-118632-4
Matrix: Solid
Percent Solids: 90.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
Perfluorohexanesulfonic acid (PFHxS)	**0.067**	**J**	0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
Perfluorooctanesulfonic acid (PFOS)	**0.22**		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.073	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.049	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1

Client Sample ID: FMB-001-N-S003-01272025
Lab Sample ID: 320-118632-4

Date Collected: 01/27/25 09:55
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 90.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	02/05/25 11:42	02/07/25 20:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*90.6*		*8 - 130*	*02/05/25 11:42*	*02/07/25 20:06*	*1*
13C5 PFPeA	*84.0*		*35 - 130*	*02/05/25 11:42*	*02/07/25 20:06*	*1*
13C5 PFHxA	*93.6*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:06*	*1*
13C4 PFHpA	*94.6*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:06*	*1*
13C8 PFOA	*88.2*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:06*	*1*
13C9 PFNA	*81.6*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:06*	*1*
13C6 PFDA	*77.9*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:06*	*1*
13C7 PFUnA	*69.3*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:06*	*1*
13C2 PFDoA	*71.7*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:06*	*1*
13C2 PFTeDA	*79.3*		*20 - 130*	*02/05/25 11:42*	*02/07/25 20:06*	*1*
13C3 PFBS	*74.5*		*40 - 135*	*02/05/25 11:42*	*02/07/25 20:06*	*1*
13C3 PFHxS	*78.7*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:06*	*1*
13C8 PFOS	*80.5*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:06*	*1*
13C8 FOSA	*67.0*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:06*	*1*
d3-NMeFOSAA	*93.8*		*40 - 135*	*02/05/25 11:42*	*02/07/25 20:06*	*1*
d5-NEtFOSAA	*87.7*		*40 - 150*	*02/05/25 11:42*	*02/07/25 20:06*	*1*
13C2 4:2 FTS	*72.0*		*40 - 165*	*02/05/25 11:42*	*02/07/25 20:06*	*1*
13C2 6:2 FTS	*93.2*		*40 - 215*	*02/05/25 11:42*	*02/07/25 20:06*	*1*
13C2 8:2 FTS	*75.0*		*40 - 275*	*02/05/25 11:42*	*02/07/25 20:06*	*1*
13C3 HFPO-DA	*85.9*		*40 - 130*	*02/05/25 11:42*	*02/07/25 20:06*	*1*
d7-N-MeFOSE-M	*77.8*		*20 - 130*	*02/05/25 11:42*	*02/07/25 20:06*	*1*
d9-N-EtFOSE-M	*76.5*		*15 - 130*	*02/05/25 11:42*	*02/07/25 20:06*	*1*
d5-NEtPFOSA	*61.2*		*10 - 130*	*02/05/25 11:42*	*02/07/25 20:06*	*1*
d3-NMePFOSA	*63.5*		*10 - 130*	*02/05/25 11:42*	*02/07/25 20:06*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**9.1**		0.10	0.10	%			02/03/25 13:42	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118632-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(8-130)	(35-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)
320-118632-2	FMB-001-N-S001-01272025	88.4	81.2	81.5	83.5	82.0	82.0	63.2	47.0
320-118632-3	FMB-001-FD-S001-01272025	83.7	87.7	88.6	94.4	80.5	86.5	70.2	63.7
320-118632-4	FMB-001-N-S003-01272025	90.6	84.0	93.6	94.6	88.2	81.6	77.9	69.3
LCS 320-831483/3-A	Lab Control Sample	90.2	75.3	87.9	96.3	84.1	84.5	80.6	71.1
LCSD 320-831483/4-A	Lab Control Sample Dup	94.9	82.3	87.3	82.1	84.5	83.5	74.6	72.1
LLCS 320-831483/2-A	Lab Control Sample	84.1	82.6	90.5	90.0	83.6	83.6	73.7	71.5
MB 320-831483/1-A	Method Blank	90.9	97.6	99.7	113	88.4	82.3	72.9	71.7

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(40-130)	(20-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-135)	(40-150)
320-118632-2	FMB-001-N-S001-01272025	39.6 *5-	52.4	79.5	81.1	71.9	48.5	63.9	54.1
320-118632-3	FMB-001-FD-S001-01272025	59.9	64.7	76.9	75.5	77.2	70.1	84.5	81.2
320-118632-4	FMB-001-N-S003-01272025	71.7	79.3	74.5	78.7	80.5	67.0	93.8	87.7
LCS 320-831483/3-A	Lab Control Sample	73.9	62.7	81.5	78.0	84.5	76.5	93.9	95.1
LCSD 320-831483/4-A	Lab Control Sample Dup	75.2	79.5	87.0	78.1	83.7	71.3	96.1	90.8
LLCS 320-831483/2-A	Lab Control Sample	60.2	67.9	80.6	77.8	84.5	70.1	95.3	93.3
MB 320-831483/1-A	Method Blank	65.1	65.4	82.6	80.3	91.1	66.3	92.4	85.3

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-165)	(40-215)	(40-275)	(40-130)	(20-130)	(15-130)	(10-130)	(10-130)
320-118632-2	FMB-001-N-S001-01272025	79.7	98.4	71.0	77.8	44.7	45.4	46.6	46.2
320-118632-3	FMB-001-FD-S001-01272025	71.0	90.6	71.4	84.9	58.5	60.8	61.9	69.0
320-118632-4	FMB-001-N-S003-01272025	72.0	93.2	75.0	85.9	77.8	76.5	61.2	63.5
LCS 320-831483/3-A	Lab Control Sample	65.6	94.4	75.7	81.7	64.0	65.1	79.9	87.8
LCSD 320-831483/4-A	Lab Control Sample Dup	70.4	89.7	79.8	87.4	84.1	83.8	62.4	63.9
LLCS 320-831483/2-A	Lab Control Sample	64.8	93.6	75.1	82.3	82.8	81.8	59.0	62.5
MB 320-831483/1-A	Method Blank	74.3	91.8	69.7	95.5	61.3	59.7	56.4	57.3

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118632-1
Project/Site: Spokane International Airport

NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-831483/1-A
Matrix: Solid
Analysis Batch: 832076

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 831483

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-831483/1-A
Matrix: Solid
Analysis Batch: 832076

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 831483

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		02/05/25 11:42	02/07/25 17:54	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		02/05/25 11:42	02/07/25 17:54	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*90.9*		*8 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C5 PFPeA	*97.6*		*35 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C5 PFHxA	*99.7*		*40 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C4 PFHpA	*113*		*40 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C8 PFOA	*88.4*		*40 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C9 PFNA	*82.3*		*40 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C6 PFDA	*72.9*		*40 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C7 PFUnA	*71.7*		*40 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C2 PFDoA	*65.1*		*40 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C2 PFTeDA	*65.4*		*20 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C3 PFBS	*82.6*		*40 - 135*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C3 PFHxS	*80.3*		*40 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C8 PFOS	*91.1*		*40 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C8 FOSA	*66.3*		*40 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
d3-NMeFOSAA	*92.4*		*40 - 135*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
d5-NEtFOSAA	*85.3*		*40 - 150*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C2 4:2 FTS	*74.3*		*40 - 165*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C2 6:2 FTS	*91.8*		*40 - 215*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C2 8:2 FTS	*69.7*		*40 - 275*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
13C3 HFPO-DA	*95.5*		*40 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
d7-N-MeFOSE-M	*61.3*		*20 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
d9-N-EtFOSE-M	*59.7*		*15 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
d5-NEtPFOSA	*56.4*		*10 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*
d3-NMePFOSA	*57.3*		*10 - 130*	*02/05/25 11:42*	*02/07/25 17:54*	*1*

Lab Sample ID: LCS 320-831483/3-A
Matrix: Solid
Analysis Batch: 832076

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 831483

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	5.34		ug/Kg		107	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.90		ug/Kg		116	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.43		ug/Kg		97	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.59		ug/Kg		104	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.64		ug/Kg		105	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.29		ug/Kg		91	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.26		ug/Kg		90	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-831483/3-A
Matrix: Solid
Analysis Batch: 832076

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 831483

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.72		ug/Kg		109	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.47		ug/Kg		99	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.20		ug/Kg		88	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.44		ug/Kg		98	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.81		ug/Kg		127	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.68		ug/Kg		114	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.64		ug/Kg		116	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.34		ug/Kg		98	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.43		ug/Kg		105	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.39		ug/Kg		99	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.27		ug/Kg		94	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.02		ug/Kg		83	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	5.74		ug/Kg		122	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.70		ug/Kg		99	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	5.52		ug/Kg		115	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.42		ug/Kg		97	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.50		ug/Kg		100	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.66		ug/Kg		106	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.52		ug/Kg		101	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.58		ug/Kg		103	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.1		ug/Kg		89	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	11.6		ug/Kg		93	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.83		ug/Kg		97	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.53		ug/Kg		107	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	3.12		ug/Kg		125	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	3.17		ug/Kg		127	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.59		ug/Kg		104	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-831483/3-A
Matrix: Solid
Analysis Batch: 832076

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 831483

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.48		ug/Kg		106	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.17		ug/Kg		92	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.32		ug/Kg		104	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.32		ug/Kg		106	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.0		ug/Kg		88	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	10.8		ug/Kg		86	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*90.2*		*8 - 130*
13C5 PFPeA	*75.3*		*35 - 130*
13C5 PFHxA	*87.9*		*40 - 130*
13C4 PFHpA	*96.3*		*40 - 130*
13C8 PFOA	*84.1*		*40 - 130*
13C9 PFNA	*84.5*		*40 - 130*
13C6 PFDA	*80.6*		*40 - 130*
13C7 PFUnA	*71.1*		*40 - 130*
13C2 PFDoA	*73.9*		*40 - 130*
13C2 PFTeDA	*62.7*		*20 - 130*
13C3 PFBS	*81.5*		*40 - 135*
13C3 PFHxS	*78.0*		*40 - 130*
13C8 PFOS	*84.5*		*40 - 130*
13C8 FOSA	*76.5*		*40 - 130*
d3-NMeFOSAA	*93.9*		*40 - 135*
d5-NEtFOSAA	*95.1*		*40 - 150*
13C2 4:2 FTS	*65.6*		*40 - 165*
13C2 6:2 FTS	*94.4*		*40 - 215*
13C2 8:2 FTS	*75.7*		*40 - 275*
13C3 HFPO-DA	*81.7*		*40 - 130*
d7-N-MeFOSE-M	*64.0*		*20 - 130*
d9-N-EtFOSE-M	*65.1*		*15 - 130*
d5-NEtPFOSA	*79.9*		*10 - 130*
d3-NMePFOSA	*87.8*		*10 - 130*

Lab Sample ID: LCSD 320-831483/4-A
Matrix: Solid
Analysis Batch: 832076

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 831483

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	5.20		ug/Kg		104	70 - 140	3	30
Perfluoropentanoic acid (PFPeA)			2.50	2.83		ug/Kg		113	60 - 150	3	30
Perfluorohexanoic acid (PFHxA)			2.50	2.19		ug/Kg		87	65 - 140	10	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.92		ug/Kg		117	65 - 145	12	30
Perfluorooctanoic acid (PFOA)			2.50	2.55		ug/Kg		102	70 - 150	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-831483/4-A
Matrix: Solid
Analysis Batch: 832076

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 831483

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.08		ug/Kg		83	70 - 155	9	30
Perfluorodecanoic acid (PFDA)	2.50	2.36		ug/Kg		94	70 - 155	4	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.67		ug/Kg		107	70 - 155	2	30
Perfluorododecanoic acid (PFDoA)	2.50	2.56		ug/Kg		102	70 - 150	4	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.38		ug/Kg		95	65 - 150	8	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.20		ug/Kg		88	65 - 150	11	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.56		ug/Kg		115	65 - 145	10	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.98		ug/Kg		127	55 - 160	10	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.68		ug/Kg		117	60 - 150	1	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.39		ug/Kg		100	65 - 155	2	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.35		ug/Kg		101	65 - 160	4	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.31		ug/Kg		96	55 - 140	3	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.29		ug/Kg		95	40 - 155	1	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.22		ug/Kg		91	25 - 160	9	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	5.65		ug/Kg		120	60 - 150	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.81		ug/Kg		101	55 - 200	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	5.21		ug/Kg		109	70 - 150	6	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.76		ug/Kg		110	70 - 140	13	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.60		ug/Kg		104	70 - 155	4	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.42		ug/Kg		97	70 - 140	9	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.52		ug/Kg		101	65 - 155	0	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.62		ug/Kg		105	65 - 165	1	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	10.5		ug/Kg		84	70 - 140	5	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	11.1		ug/Kg		89	70 - 135	5	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.67		ug/Kg		89	70 - 145	9	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.37		ug/Kg		100	70 - 160	7	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.81		ug/Kg		112	30 - 140	10	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.95		ug/Kg		118	60 - 150	7	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-831483/4-A
Matrix: Solid
Analysis Batch: 832076

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 831483

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.77		ug/Kg		111	60 - 155	7	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.39		ug/Kg		102	70 - 150	4	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.25		ug/Kg		96	45 - 160	4	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.45		ug/Kg		110	70 - 140	5	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.97		ug/Kg		99	45 - 130	7	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.7		ug/Kg		94	60 - 130	6	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	10.4		ug/Kg		83	60 - 150	3	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*94.9*		*8 - 130*
13C5 PFPeA	*82.3*		*35 - 130*
13C5 PFHxA	*87.3*		*40 - 130*
13C4 PFHpA	*82.1*		*40 - 130*
13C8 PFOA	*84.5*		*40 - 130*
13C9 PFNA	*83.5*		*40 - 130*
13C6 PFDA	*74.6*		*40 - 130*
13C7 PFUnA	*72.1*		*40 - 130*
13C2 PFDoA	*75.2*		*40 - 130*
13C2 PFTeDA	*79.5*		*20 - 130*
13C3 PFBS	*87.0*		*40 - 135*
13C3 PFHxS	*78.1*		*40 - 130*
13C8 PFOS	*83.7*		*40 - 130*
13C8 FOSA	*71.3*		*40 - 130*
d3-NMeFOSAA	*96.1*		*40 - 135*
d5-NEtFOSAA	*90.8*		*40 - 150*
13C2 4:2 FTS	*70.4*		*40 - 165*
13C2 6:2 FTS	*89.7*		*40 - 215*
13C2 8:2 FTS	*79.8*		*40 - 275*
13C3 HFPO-DA	*87.4*		*40 - 130*
d7-N-MeFOSE-M	*84.1*		*20 - 130*
d9-N-EtFOSE-M	*83.8*		*15 - 130*
d5-NEtPFOSA	*62.4*		*10 - 130*
d3-NMePFOSA	*63.9*		*10 - 130*

Lab Sample ID: LLCS 320-831483/2-A
Matrix: Solid
Analysis Batch: 832076

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 831483

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.967		ug/Kg		121	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.416		ug/Kg		104	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.398		ug/Kg		100	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-831483/2-A
Matrix: Solid
Analysis Batch: 832076

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 831483

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.451		ug/Kg		113	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.426		ug/Kg		106	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.350		ug/Kg		88	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.401		ug/Kg		100	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.397		ug/Kg		99	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.435		ug/Kg		109	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.448		ug/Kg		112	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.403		ug/Kg		101	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.438		ug/Kg		123	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.422		ug/Kg		112	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.432		ug/Kg		118	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.389		ug/Kg		102	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.401		ug/Kg		108	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.365		ug/Kg		95	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.359		ug/Kg		93	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.363		ug/Kg		94	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.839		ug/Kg		112	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.755		ug/Kg		99	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.843		ug/Kg		110	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.439		ug/Kg		110	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.398		ug/Kg		99	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.394		ug/Kg		98	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.384		ug/Kg		96	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.375		ug/Kg		94	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.81		ug/Kg		91	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	1.88		ug/Kg		94	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.283		ug/Kg		94	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.368		ug/Kg		97	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.460		ug/Kg		115	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-831483/2-A
Matrix: Solid
Analysis Batch: 832076

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 831483

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.454		ug/Kg		113	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.377		ug/Kg		94	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.377		ug/Kg		101	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.359		ug/Kg		95	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.342		ug/Kg		96	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.733		ug/Kg		92	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	1.68		ug/Kg		84	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	1.59		ug/Kg		80	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*84.1*		*8 - 130*
13C5 PFPeA	*82.6*		*35 - 130*
13C5 PFHxA	*90.5*		*40 - 130*
13C4 PFHpA	*90.0*		*40 - 130*
13C8 PFOA	*83.6*		*40 - 130*
13C9 PFNA	*83.6*		*40 - 130*
13C6 PFDA	*73.7*		*40 - 130*
13C7 PFUnA	*71.5*		*40 - 130*
13C2 PFDoA	*60.2*		*40 - 130*
13C2 PFTeDA	*67.9*		*20 - 130*
13C3 PFBS	*80.6*		*40 - 135*
13C3 PFHxS	*77.8*		*40 - 130*
13C8 PFOS	*84.5*		*40 - 130*
13C8 FOSA	*70.1*		*40 - 130*
d3-NMeFOSAA	*95.3*		*40 - 135*
d5-NEtFOSAA	*93.3*		*40 - 150*
13C2 4:2 FTS	*64.8*		*40 - 165*
13C2 6:2 FTS	*93.6*		*40 - 215*
13C2 8:2 FTS	*75.1*		*40 - 275*
13C3 HFPO-DA	*82.3*		*40 - 130*
d7-N-MeFOSE-M	*82.8*		*20 - 130*
d9-N-EtFOSE-M	*81.8*		*15 - 130*
d5-NEtPFOSA	*59.0*		*10 - 130*
d3-NMePFOSA	*62.5*		*10 - 130*

QC Association Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118632-1

LCMS

Prep Batch: 831483

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118632-2	FMB-001-N-S001-01272025	Total/NA	Solid	1633 Shake	
320-118632-3	FMB-001-FD-S001-01272025	Total/NA	Solid	1633 Shake	
320-118632-4	FMB-001-N-S003-01272025	Total/NA	Solid	1633 Shake	
MB 320-831483/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-831483/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-831483/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-831483/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 832076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118632-2	FMB-001-N-S001-01272025	Total/NA	Solid	1633	831483
320-118632-3	FMB-001-FD-S001-01272025	Total/NA	Solid	1633	831483
320-118632-4	FMB-001-N-S003-01272025	Total/NA	Solid	1633	831483
MB 320-831483/1-A	Method Blank	Total/NA	Solid	1633	831483
LCS 320-831483/3-A	Lab Control Sample	Total/NA	Solid	1633	831483
LCSD 320-831483/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	831483
LLCS 320-831483/2-A	Lab Control Sample	Total/NA	Solid	1633	831483

General Chemistry

Analysis Batch: 830975

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118632-2	FMB-001-N-S001-01272025	Total/NA	Solid	1633	
320-118632-3	FMB-001-FD-S001-01272025	Total/NA	Solid	1633	
320-118632-4	FMB-001-N-S003-01272025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118632-1
Project/Site: Spokane International Airport

Client Sample ID: FMB-001-N-S001-01272025
Lab Sample ID: 320-118632-2
Date Collected: 01/27/25 09:50
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830975	02/03/25 13:42	K1D	EET SAC

Client Sample ID: FMB-001-N-S001-01272025
Lab Sample ID: 320-118632-2
Date Collected: 01/27/25 09:50
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 85.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.38 g	5.00 mL	831483	02/05/25 11:42	K1D	EET SAC
Total/NA	Analysis	1633		1			832076	02/07/25 19:00	N1K	EET SAC

Client Sample ID: FMB-001-FD-S001-01272025
Lab Sample ID: 320-118632-3
Date Collected: 01/27/25 10:20
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830975	02/03/25 13:42	K1D	EET SAC

Client Sample ID: FMB-001-FD-S001-01272025
Lab Sample ID: 320-118632-3
Date Collected: 01/27/25 10:20
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 84.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.49 g	5.00 mL	831483	02/05/25 11:42	K1D	EET SAC
Total/NA	Analysis	1633		1			832076	02/07/25 19:17	N1K	EET SAC

Client Sample ID: FMB-001-N-S003-01272025
Lab Sample ID: 320-118632-4
Date Collected: 01/27/25 09:55
Matrix: Solid
Date Received: 01/30/25 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			830975	02/03/25 13:42	K1D	EET SAC

Client Sample ID: FMB-001-N-S003-01272025
Lab Sample ID: 320-118632-4
Date Collected: 01/27/25 09:55
Matrix: Solid
Date Received: 01/30/25 09:30
Percent Solids: 90.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.26 g	5.00 mL	831483	02/05/25 11:42	K1D	EET SAC
Total/NA	Analysis	1633		1			832076	02/07/25 20:06	N1K	EET SAC

Laboratory References:
EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118632-1
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118632-1

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118632-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118632-2	FMB-001-N-S001-01272025	Solid	01/27/25 09:50	01/30/25 09:30
320-118632-3	FMB-001-FD-S001-01272025	Solid	01/27/25 10:20	01/30/25 09:30
320-118632-4	FMB-001-N-S003-01272025	Solid	01/27/25 09:55	01/30/25 09:30

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

CHAIN OF CUSTODY RECORD

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
		DELIVERY DATE	1/27/25
		TURNAROUND TIME	Standard
		PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	HOLD	Number of Containers
FMB-001-N-S0005-01272025	1/27/2025	0945	Soil		X	1
FMB-001-N-S001-01272025	1/27/2025	0950	Soil	X		1
FMB-001-FD-S001-01272025	1/27/2025	1020	Soil	X		1
FMB-001-N-S003-01272025	1/27/2025	0955	Soil	X		
FMB-001-N-S006-01272025	1/27/2025	1000	Soil		X	1
FMB-001-N-S005-01272025	1/27/2025	1005	Soil		X	1
						1
						1
						1
						1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118632 Chain of Custody

HS Temp: 4.1°C Cell Temp 4.4°C ID# 1R06

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Castillo da Silva	Print Luke Peden
Firm Haley Aldrich	Firm Haley & Aldrich
Date 01/27/2025 Time 1400	Date 1/27/25 1400
Relinquished by	**Received by**
Sign	Sign
Print Luke Peden	Print Dennis Brandt
Firm H&A	Firm EEA Spokane
Date 1/27/25 Time 15:20	Date 01/27/25 1530
Relinquished by	**Received by**
Sign	Sign
Print Wacky Moms	Print D Nemerson
Firm EFI-CSP0	Firm EFISPC
Date 1/28/25 Time 1440	Date 01/30/25 0943

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

Form 3003 November 2024

2/10/2025

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118632

Tracking # 4242 5693 0828

Job: _____

SO (PO) / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC

Therm. ID: L06 Corr. Factor (+ / -) NA °C

Ice _____ Wet _____ Gel _____ Other _____

Cooler Custody Seal: 2691599

Cooler ID: 1 of 2

Temp Observed: 1.3 °C Corrected: 1.3 °C

From: Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: DM Date: 01/30/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: DM Date: 01/30/25

Notes: _____

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials DM Date: 01/30/25

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Sacramento Sample Receiving Notes (SSRN)

Tracking # 4242 59308 39

Job: 320-118632

SO / (PO) / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC

Therm. ID: L06 Corr Factor (+/-) NA °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: 26091594

Cooler ID: 2 of 2

Temp Observed: 1.7 °C Corrected: 1.7 °C

From: Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: DM Date: 01/30/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: DM Date: 01/30/25

Notes: _____

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials: DM Date: 01/30/25

SIGNATURE
DATE 1/28/25
Custody S

eurofins | Environment Testing TestAmerica

2691599

EUROFINS ENVIRONMENTAL SPOKANE
11922 E 1ST AVE
SPOKANE VALLEY, WA 99206
UNITED STATES US

CAD: 0941709/CAFE3855
BILL RECIPIENT

Part # 163498-4-4 MIT EX-0925

TO SHIPPING/RECEIVING
EUROFINS ENVIRONMENT TESTING N CAL
880 RIVERSIDE PARKWAY

WEST SACRAMENTO CA 95605
(916) 373-5600 REF:
INV:
PO: DEPT:

FedEx Express

1 of 2
TRK# 0201 4242 5693 0828
MASTER
XS BLUA

WED - 29 JAN 10:30A
PRIORITY OVERNIGHT

95605
CA-US SMF

eal

eurofins | Environment Testing TestAmerica

2691599

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 2/3/2025 10:32:59 AM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118554-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Job Notes

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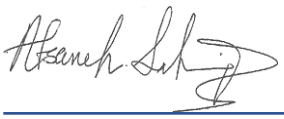

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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118554-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118554-1 — Eurofins Sacramento

Job Narrative
320-118554-1

Receipt
The samples were received on 1/25/2025 8:45 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.1º C.

Receipt Exceptions

The container label for the following samples did not match the information listed on the Chain-of-Custody (COC): EB-01232025 (320-118554-1) and DW-01232025 (320-118554-3).
Sample 1, container time 1500. COC time 0000.
Sample 3, container time 0900. COC time 0715.

LCMS
Method 1633: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-829978 and analytical batch 320-830522 recovered outside control limits for the following analytes: Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA), 3-Perfluoropentylpropanoic acid (5:3 FTCA) and 3-Perfluoroheptylpropanoic acid (7:3 FTCA).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118554-1

Client Sample ID: EB-01232025 — Lab Sample ID: 320-118554-1

No Detections.

Client Sample ID: FB-01232025 — Lab Sample ID: 320-118554-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.65	J	1.5	0.38	ng/L	1		1633	Total/NA

Client Sample ID: DW-01232025 — Lab Sample ID: 320-118554-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	1.2	J *+	1.6	0.39	ng/L	1		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.95	J	1.6	0.39	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.40	J	1.6	0.39	ng/L	1		1633	Total/NA
Perfluorooctanoic acid (PFOA)	1.0	J	1.6	0.39	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.59	J *+	1.6	0.39	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.50	J	1.6	0.39	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.1	J	1.6	0.39	ng/L	1		1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118554-1

Client Sample ID: EB-01232025
Date Collected: 01/23/25 07:15
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118554-1
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.2	0.79	ng/L		01/28/25 12:06	01/30/25 02:51	1
Perfluoropentanoic acid (PFPeA)	ND	*+	1.6	0.40	ng/L		01/28/25 12:06	01/30/25 02:51	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.40	ng/L		01/28/25 12:06	01/30/25 02:51	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.40	ng/L		01/28/25 12:06	01/30/25 02:51	1
Perfluorooctanoic acid (PFOA)	ND		1.6	0.40	ng/L		01/28/25 12:06	01/30/25 02:51	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.40	ng/L		01/28/25 12:06	01/30/25 02:51	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.40	ng/L		01/28/25 12:06	01/30/25 02:51	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.40	ng/L		01/28/25 12:06	01/30/25 02:51	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.44	ng/L		01/28/25 12:06	01/30/25 02:51	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.6	0.46	ng/L		01/28/25 12:06	01/30/25 02:51	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.6	0.64	ng/L		01/28/25 12:06	01/30/25 02:51	1
Perfluorobutanesulfonic acid (PFBS)	ND	*+	1.6	0.40	ng/L		01/28/25 12:06	01/30/25 02:51	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.6	0.40	ng/L		01/28/25 12:06	01/30/25 02:51	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.40	ng/L		01/28/25 12:06	01/30/25 02:51	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.40	ng/L		01/28/25 12:06	01/30/25 02:51	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.40	ng/L		01/28/25 12:06	01/30/25 02:51	1
Perfluorononanesulfonic acid (PFNS)	ND		1.6	0.40	ng/L		01/28/25 12:06	01/30/25 02:51	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.40	ng/L		01/28/25 12:06	01/30/25 02:51	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.6	0.42	ng/L		01/28/25 12:06	01/30/25 02:51	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.2	0.79	ng/L		01/28/25 12:06	01/30/25 02:51	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.2	0.79	ng/L		01/28/25 12:06	01/30/25 02:51	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.2	0.79	ng/L		01/28/25 12:06	01/30/25 02:51	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.40	ng/L		01/28/25 12:06	01/30/25 02:51	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.6	0.40	ng/L		01/28/25 12:06	01/30/25 02:51	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.6	0.40	ng/L		01/28/25 12:06	01/30/25 02:51	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.6	0.40	ng/L		01/28/25 12:06	01/30/25 02:51	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.6	0.40	ng/L		01/28/25 12:06	01/30/25 02:51	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		7.9	2.0	ng/L		01/28/25 12:06	01/30/25 02:51	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		7.9	2.0	ng/L		01/28/25 12:06	01/30/25 02:51	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.2	0.31	ng/L		01/28/25 12:06	01/30/25 02:51	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.6	0.40	ng/L		01/28/25 12:06	01/30/25 02:51	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.6	0.40	ng/L		01/28/25 12:06	01/30/25 02:51	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.6	0.57	ng/L		01/28/25 12:06	01/30/25 02:51	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.6	0.46	ng/L		01/28/25 12:06	01/30/25 02:51	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.6	0.40	ng/L		01/28/25 12:06	01/30/25 02:51	1

Client Sample ID: EB-01232025

Date Collected: 01/23/25 07:15
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118554-1
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND	*1	1.6	0.40	ng/L		01/28/25 12:06	01/30/25 02:51	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.2	0.79	ng/L		01/28/25 12:06	01/30/25 02:51	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND	*1	7.9	2.0	ng/L		01/28/25 12:06	01/30/25 02:51	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND	*1	7.9	2.0	ng/L		01/28/25 12:06	01/30/25 02:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*94.7*		*5 - 130*	*01/28/25 12:06*	*01/30/25 02:51*	*1*
13C5 PFPeA	*90.0*		*40 - 130*	*01/28/25 12:06*	*01/30/25 02:51*	*1*
13C5 PFHxA	*81.9*		*40 - 130*	*01/28/25 12:06*	*01/30/25 02:51*	*1*
13C4 PFHpA	*86.8*		*40 - 130*	*01/28/25 12:06*	*01/30/25 02:51*	*1*
13C8 PFOA	*86.3*		*40 - 130*	*01/28/25 12:06*	*01/30/25 02:51*	*1*
13C9 PFNA	*72.7*		*40 - 130*	*01/28/25 12:06*	*01/30/25 02:51*	*1*
13C6 PFDA	*70.7*		*40 - 130*	*01/28/25 12:06*	*01/30/25 02:51*	*1*
13C7 PFUnA	*65.3*		*30 - 130*	*01/28/25 12:06*	*01/30/25 02:51*	*1*
13C2 PFDoA	*78.1*		*10 - 130*	*01/28/25 12:06*	*01/30/25 02:51*	*1*
13C2 PFTeDA	*71.6*		*10 - 130*	*01/28/25 12:06*	*01/30/25 02:51*	*1*
13C3 PFBS	*91.4*		*40 - 135*	*01/28/25 12:06*	*01/30/25 02:51*	*1*
13C3 PFHxS	*90.6*		*40 - 130*	*01/28/25 12:06*	*01/30/25 02:51*	*1*
13C8 PFOS	*82.7*		*40 - 130*	*01/28/25 12:06*	*01/30/25 02:51*	*1*
13C8 FOSA	*73.0*		*40 - 130*	*01/28/25 12:06*	*01/30/25 02:51*	*1*
d3-NMeFOSAA	*84.1*		*40 - 170*	*01/28/25 12:06*	*01/30/25 02:51*	*1*
d5-NEtFOSAA	*90.0*		*25 - 135*	*01/28/25 12:06*	*01/30/25 02:51*	*1*
13C2 4:2 FTS	*71.4*		*40 - 200*	*01/28/25 12:06*	*01/30/25 02:51*	*1*
13C2 6:2 FTS	*93.6*		*40 - 200*	*01/28/25 12:06*	*01/30/25 02:51*	*1*
13C2 8:2 FTS	*88.7*		*40 - 300*	*01/28/25 12:06*	*01/30/25 02:51*	*1*
13C3 HFPO-DA	*83.1*		*40 - 130*	*01/28/25 12:06*	*01/30/25 02:51*	*1*
d7-N-MeFOSE-M	*70.8*		*10 - 130*	*01/28/25 12:06*	*01/30/25 02:51*	*1*
d9-N-EtFOSE-M	*67.1*		*10 - 130*	*01/28/25 12:06*	*01/30/25 02:51*	*1*
d5-NEtPFOSA	*70.3*		*10 - 130*	*01/28/25 12:06*	*01/30/25 02:51*	*1*
d3-NMePFOSA	*69.1*		*10 - 130*	*01/28/25 12:06*	*01/30/25 02:51*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.6	0.40	ng/L		01/28/25 12:06	01/31/25 23:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*84.7*		*40 - 130*	*01/28/25 12:06*	*01/31/25 23:04*	*1*

Client Sample ID: FB-01232025

Date Collected: 01/23/25 00:00
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118554-2
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.0	0.76	ng/L		01/28/25 12:06	01/30/25 03:40	1
Perfluoropentanoic acid (PFPeA)	ND	*+	1.5	0.38	ng/L		01/28/25 12:06	01/30/25 03:40	1
Perfluorohexanoic acid (PFHxA)	ND		1.5	0.38	ng/L		01/28/25 12:06	01/30/25 03:40	1
Perfluoroheptanoic acid (PFHpA)	ND		1.5	0.38	ng/L		01/28/25 12:06	01/30/25 03:40	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118554-1

Client Sample ID: FB-01232025
Date Collected: 01/23/25 00:00
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118554-2
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	ND		1.5	0.38	ng/L		01/28/25 12:06	01/30/25 03:40	1
Perfluorononanoic acid (PFNA)	ND		1.5	0.38	ng/L		01/28/25 12:06	01/30/25 03:40	1
Perfluorodecanoic acid (PFDA)	ND		1.5	0.38	ng/L		01/28/25 12:06	01/30/25 03:40	1
Perfluoroundecanoic acid (PFUnA)	ND		1.5	0.38	ng/L		01/28/25 12:06	01/30/25 03:40	1
Perfluorododecanoic acid (PFDoA)	ND		1.5	0.42	ng/L		01/28/25 12:06	01/30/25 03:40	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.5	0.44	ng/L		01/28/25 12:06	01/30/25 03:40	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.5	0.61	ng/L		01/28/25 12:06	01/30/25 03:40	1
Perfluorobutanesulfonic acid (PFBS)	ND	*+	1.5	0.38	ng/L		01/28/25 12:06	01/30/25 03:40	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.5	0.38	ng/L		01/28/25 12:06	01/30/25 03:40	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.5	0.38	ng/L		01/28/25 12:06	01/30/25 03:40	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.5	0.38	ng/L		01/28/25 12:06	01/30/25 03:40	1
Perfluorooctanesulfonic acid (PFOS)	**0.65**	**J**	1.5	0.38	ng/L		01/28/25 12:06	01/30/25 03:40	1
Perfluorononanesulfonic acid (PFNS)	ND		1.5	0.38	ng/L		01/28/25 12:06	01/30/25 03:40	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.5	0.38	ng/L		01/28/25 12:06	01/30/25 03:40	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.5	0.40	ng/L		01/28/25 12:06	01/30/25 03:40	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.0	0.76	ng/L		01/28/25 12:06	01/30/25 03:40	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.0	0.76	ng/L		01/28/25 12:06	01/30/25 03:40	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.0	0.76	ng/L		01/28/25 12:06	01/30/25 03:40	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.5	0.38	ng/L		01/28/25 12:06	01/30/25 03:40	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.5	0.38	ng/L		01/28/25 12:06	01/30/25 03:40	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.5	0.38	ng/L		01/28/25 12:06	01/30/25 03:40	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.5	0.38	ng/L		01/28/25 12:06	01/30/25 03:40	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.5	0.38	ng/L		01/28/25 12:06	01/30/25 03:40	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		7.6	1.9	ng/L		01/28/25 12:06	01/30/25 03:40	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		7.6	1.9	ng/L		01/28/25 12:06	01/30/25 03:40	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.1	0.29	ng/L		01/28/25 12:06	01/30/25 03:40	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.5	0.38	ng/L		01/28/25 12:06	01/30/25 03:40	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.5	0.38	ng/L		01/28/25 12:06	01/30/25 03:40	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.5	0.54	ng/L		01/28/25 12:06	01/30/25 03:40	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.5	0.44	ng/L		01/28/25 12:06	01/30/25 03:40	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.5	0.38	ng/L		01/28/25 12:06	01/30/25 03:40	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND	*1	1.5	0.38	ng/L		01/28/25 12:06	01/30/25 03:40	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.0	0.76	ng/L		01/28/25 12:06	01/30/25 03:40	1

Client Sample ID: FB-01232025

Date Collected: 01/23/25 00:00
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118554-2
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND	*1	7.6	1.9	ng/L		01/28/25 12:06	01/30/25 03:40	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND	*1	7.6	1.9	ng/L		01/28/25 12:06	01/30/25 03:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*94.8*		*5 - 130*	*01/28/25 12:06*	*01/30/25 03:40*	*1*
13C5 PFPeA	*89.6*		*40 - 130*	*01/28/25 12:06*	*01/30/25 03:40*	*1*
13C5 PFHxA	*85.4*		*40 - 130*	*01/28/25 12:06*	*01/30/25 03:40*	*1*
13C4 PFHpA	*80.6*		*40 - 130*	*01/28/25 12:06*	*01/30/25 03:40*	*1*
13C8 PFOA	*100*		*40 - 130*	*01/28/25 12:06*	*01/30/25 03:40*	*1*
13C9 PFNA	*69.6*		*40 - 130*	*01/28/25 12:06*	*01/30/25 03:40*	*1*
13C6 PFDA	*69.6*		*40 - 130*	*01/28/25 12:06*	*01/30/25 03:40*	*1*
13C7 PFUnA	*78.9*		*30 - 130*	*01/28/25 12:06*	*01/30/25 03:40*	*1*
13C2 PFDoA	*80.1*		*10 - 130*	*01/28/25 12:06*	*01/30/25 03:40*	*1*
13C2 PFTeDA	*76.3*		*10 - 130*	*01/28/25 12:06*	*01/30/25 03:40*	*1*
13C3 PFBS	*92.5*		*40 - 135*	*01/28/25 12:06*	*01/30/25 03:40*	*1*
13C3 PFHxS	*82.7*		*40 - 130*	*01/28/25 12:06*	*01/30/25 03:40*	*1*
13C8 PFOS	*82.8*		*40 - 130*	*01/28/25 12:06*	*01/30/25 03:40*	*1*
13C8 FOSA	*77.1*		*40 - 130*	*01/28/25 12:06*	*01/30/25 03:40*	*1*
d3-NMeFOSAA	*87.2*		*40 - 170*	*01/28/25 12:06*	*01/30/25 03:40*	*1*
d5-NEtFOSAA	*78.5*		*25 - 135*	*01/28/25 12:06*	*01/30/25 03:40*	*1*
13C2 4:2 FTS	*69.2*		*40 - 200*	*01/28/25 12:06*	*01/30/25 03:40*	*1*
13C2 6:2 FTS	*88.9*		*40 - 200*	*01/28/25 12:06*	*01/30/25 03:40*	*1*
13C2 8:2 FTS	*69.8*		*40 - 300*	*01/28/25 12:06*	*01/30/25 03:40*	*1*
13C3 HFPO-DA	*80.7*		*40 - 130*	*01/28/25 12:06*	*01/30/25 03:40*	*1*
d7-N-MeFOSE-M	*68.6*		*10 - 130*	*01/28/25 12:06*	*01/30/25 03:40*	*1*
d9-N-EtFOSE-M	*63.1*		*10 - 130*	*01/28/25 12:06*	*01/30/25 03:40*	*1*
d5-NEtPFOSA	*64.6*		*10 - 130*	*01/28/25 12:06*	*01/30/25 03:40*	*1*
d3-NMePFOSA	*65.9*		*10 - 130*	*01/28/25 12:06*	*01/30/25 03:40*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.5	0.38	ng/L		01/28/25 12:06	01/31/25 23:20	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*88.0*		*40 - 130*	*01/28/25 12:06*	*01/31/25 23:20*	*1*

Client Sample ID: DW-01232025

Date Collected: 01/23/25 15:00
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118554-3
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.1	0.78	ng/L		01/28/25 12:07	01/30/25 03:56	1
Perfluoropentanoic acid (PFPeA)	**1.2**	**J *+**	1.6	0.39	ng/L		01/28/25 12:07	01/30/25 03:56	1
Perfluorohexanoic acid (PFHxA)	**0.95**	**J**	1.6	0.39	ng/L		01/28/25 12:07	01/30/25 03:56	1
Perfluoroheptanoic acid (PFHpA)	**0.40**	**J**	1.6	0.39	ng/L		01/28/25 12:07	01/30/25 03:56	1
Perfluorooctanoic acid (PFOA)	**1.0**	**J**	1.6	0.39	ng/L		01/28/25 12:07	01/30/25 03:56	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.39	ng/L		01/28/25 12:07	01/30/25 03:56	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.39	ng/L		01/28/25 12:07	01/30/25 03:56	1

Client Sample ID: DW-01232025
Date Collected: 01/23/25 15:00
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118554-3
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.39	ng/L		01/28/25 12:07	01/30/25 03:56	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.43	ng/L		01/28/25 12:07	01/30/25 03:56	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.6	0.45	ng/L		01/28/25 12:07	01/30/25 03:56	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.6	0.63	ng/L		01/28/25 12:07	01/30/25 03:56	1
Perfluorobutanesulfonic acid (PFBS)	**0.59**	**J *+**	1.6	0.39	ng/L		01/28/25 12:07	01/30/25 03:56	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.6	0.39	ng/L		01/28/25 12:07	01/30/25 03:56	1
Perfluorohexanesulfonic acid (PFHxS)	**0.50**	**J**	1.6	0.39	ng/L		01/28/25 12:07	01/30/25 03:56	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.39	ng/L		01/28/25 12:07	01/30/25 03:56	1
Perfluorooctanesulfonic acid (PFOS)	**1.1**	**J**	1.6	0.39	ng/L		01/28/25 12:07	01/30/25 03:56	1
Perfluorononanesulfonic acid (PFNS)	ND		1.6	0.39	ng/L		01/28/25 12:07	01/30/25 03:56	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.39	ng/L		01/28/25 12:07	01/30/25 03:56	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.6	0.41	ng/L		01/28/25 12:07	01/30/25 03:56	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.1	0.78	ng/L		01/28/25 12:07	01/30/25 03:56	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.1	0.78	ng/L		01/28/25 12:07	01/30/25 03:56	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.1	0.78	ng/L		01/28/25 12:07	01/30/25 03:56	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.39	ng/L		01/28/25 12:07	01/30/25 03:56	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.6	0.39	ng/L		01/28/25 12:07	01/30/25 03:56	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.6	0.39	ng/L		01/28/25 12:07	01/30/25 03:56	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.6	0.39	ng/L		01/28/25 12:07	01/30/25 03:56	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.6	0.39	ng/L		01/28/25 12:07	01/30/25 03:56	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		7.8	1.9	ng/L		01/28/25 12:07	01/30/25 03:56	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		7.8	1.9	ng/L		01/28/25 12:07	01/30/25 03:56	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.2	0.30	ng/L		01/28/25 12:07	01/30/25 03:56	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.6	0.39	ng/L		01/28/25 12:07	01/30/25 03:56	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.6	0.39	ng/L		01/28/25 12:07	01/30/25 03:56	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.6	0.56	ng/L		01/28/25 12:07	01/30/25 03:56	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.6	0.45	ng/L		01/28/25 12:07	01/30/25 03:56	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.6	0.39	ng/L		01/28/25 12:07	01/30/25 03:56	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND	*1	1.6	0.39	ng/L		01/28/25 12:07	01/30/25 03:56	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.1	0.78	ng/L		01/28/25 12:07	01/30/25 03:56	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND	*1	7.8	1.9	ng/L		01/28/25 12:07	01/30/25 03:56	1

Client Sample ID: DW-01232025

Date Collected: 01/23/25 15:00
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118554-3

Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND	*1	7.8	1.9	ng/L		01/28/25 12:07	01/30/25 03:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*95.2*		*5 - 130*	*01/28/25 12:07*	*01/30/25 03:56*	*1*
13C5 PFPeA	*99.0*		*40 - 130*	*01/28/25 12:07*	*01/30/25 03:56*	*1*
13C5 PFHxA	*88.3*		*40 - 130*	*01/28/25 12:07*	*01/30/25 03:56*	*1*
13C4 PFHpA	*92.9*		*40 - 130*	*01/28/25 12:07*	*01/30/25 03:56*	*1*
13C8 PFOA	*98.9*		*40 - 130*	*01/28/25 12:07*	*01/30/25 03:56*	*1*
13C9 PFNA	*80.0*		*40 - 130*	*01/28/25 12:07*	*01/30/25 03:56*	*1*
13C6 PFDA	*79.8*		*40 - 130*	*01/28/25 12:07*	*01/30/25 03:56*	*1*
13C7 PFUnA	*79.9*		*30 - 130*	*01/28/25 12:07*	*01/30/25 03:56*	*1*
13C2 PFDoA	*75.0*		*10 - 130*	*01/28/25 12:07*	*01/30/25 03:56*	*1*
13C2 PFTeDA	*65.9*		*10 - 130*	*01/28/25 12:07*	*01/30/25 03:56*	*1*
13C3 PFBS	*92.2*		*40 - 135*	*01/28/25 12:07*	*01/30/25 03:56*	*1*
13C3 PFHxS	*90.9*		*40 - 130*	*01/28/25 12:07*	*01/30/25 03:56*	*1*
13C8 PFOS	*81.5*		*40 - 130*	*01/28/25 12:07*	*01/30/25 03:56*	*1*
13C8 FOSA	*69.4*		*40 - 130*	*01/28/25 12:07*	*01/30/25 03:56*	*1*
d3-NMeFOSAA	*81.9*		*40 - 170*	*01/28/25 12:07*	*01/30/25 03:56*	*1*
d5-NEtFOSAA	*85.8*		*25 - 135*	*01/28/25 12:07*	*01/30/25 03:56*	*1*
13C2 4:2 FTS	*91.5*		*40 - 200*	*01/28/25 12:07*	*01/30/25 03:56*	*1*
13C2 6:2 FTS	*80.1*		*40 - 200*	*01/28/25 12:07*	*01/30/25 03:56*	*1*
13C2 8:2 FTS	*75.2*		*40 - 300*	*01/28/25 12:07*	*01/30/25 03:56*	*1*
13C3 HFPO-DA	*92.8*		*40 - 130*	*01/28/25 12:07*	*01/30/25 03:56*	*1*
d7-N-MeFOSE-M	*65.8*		*10 - 130*	*01/28/25 12:07*	*01/30/25 03:56*	*1*
d9-N-EtFOSE-M	*63.8*		*10 - 130*	*01/28/25 12:07*	*01/30/25 03:56*	*1*
d5-NEtPFOSA	*66.4*		*10 - 130*	*01/28/25 12:07*	*01/30/25 03:56*	*1*
d3-NMePFOSA	*72.7*		*10 - 130*	*01/28/25 12:07*	*01/30/25 03:56*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.6	0.39	ng/L		01/28/25 12:07	01/31/25 23:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*91.8*		*40 - 130*	*01/28/25 12:07*	*01/31/25 23:37*	*1*

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118554-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (5-130)	PFPeA (40-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (30-130)
320-118554-1	EB-01232025	94.7	90.0	81.9	86.8	86.3	72.7	70.7	65.3
320-118554-1 - RA	EB-01232025								
320-118554-2	FB-01232025	94.8	89.6	85.4	80.6	100	69.6	69.6	78.9
320-118554-2 - RA	FB-01232025								
320-118554-3	DW-01232025	95.2	99.0	88.3	92.9	98.9	80.0	79.8	79.9
320-118554-3 - RA	DW-01232025								
LCS 320-829978/3-A	Lab Control Sample	94.7	112	87.0	107	76.3	68.4	73.2	70.5
LCS 320-829978/3-A - RA	Lab Control Sample								
LCSD 320-829978/4-A	Lab Control Sample Dup	104	101	89.8	99.5	82.5	76.9	72.0	69.1
LCSD 320-829978/4-A - RA	Lab Control Sample Dup								
LLCS 320-829978/2-A	Lab Control Sample	95.4	105	97.7	111	91.2	79.5	74.9	77.6
LLCS 320-829978/2-A - RA	Lab Control Sample		112						
MB 320-829978/1-A	Method Blank	95.2	90.9	79.0	78.3	75.0	73.0	65.0	66.2
MB 320-829978/1-A - RA	Method Blank								

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (10-130)	PFTDA (10-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-170)	d5NEFOS (25-135)
320-118554-1	EB-01232025	78.1	71.6	91.4	90.6	82.7	73.0	84.1	90.0
320-118554-1 - RA	EB-01232025								
320-118554-2	FB-01232025	80.1	76.3	92.5	82.7	82.8	77.1	87.2	78.5
320-118554-2 - RA	FB-01232025								
320-118554-3	DW-01232025	75.0	65.9	92.2	90.9	81.5	69.4	81.9	85.8
320-118554-3 - RA	DW-01232025								
LCS 320-829978/3-A	Lab Control Sample	65.0	68.6	94.9	90.4	85.7	84.1	93.7	90.3
LCS 320-829978/3-A - RA	Lab Control Sample								
LCSD 320-829978/4-A	Lab Control Sample Dup	79.6	66.6	88.1	74.6	79.9	82.9	76.0	93.6
LCSD 320-829978/4-A - RA	Lab Control Sample Dup								
LLCS 320-829978/2-A	Lab Control Sample	81.8	79.0	89.9	92.1	104	97.7		94.5
LLCS 320-829978/2-A - RA	Lab Control Sample							85.5	
MB 320-829978/1-A	Method Blank	72.0	62.9	80.8	80.1	81.2	73.8	68.5	74.3
MB 320-829978/1-A - RA	Method Blank								

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-200)	M262FTS (40-200)	M282FTS (40-300)	HFPODA (40-130)	NMFM (10-130)	NEFM (10-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118554-1	EB-01232025	71.4	93.6	88.7	83.1	70.8	67.1	70.3	69.1
320-118554-1 - RA	EB-01232025				84.7				
320-118554-2	FB-01232025	69.2	88.9	69.8	80.7	68.6	63.1	64.6	65.9
320-118554-2 - RA	FB-01232025				88.0				
320-118554-3	DW-01232025	91.5	80.1	75.2	92.8	65.8	63.8	66.4	72.7
320-118554-3 - RA	DW-01232025				91.8				
LCS 320-829978/3-A	Lab Control Sample	111	123	103	112	77.9	72.7	69.3	69.5
LCS 320-829978/3-A - RA	Lab Control Sample				93.7				
LCSD 320-829978/4-A	Lab Control Sample Dup	83.6	74.9	81.7	78.4	80.4	72.3	74.9	68.2
LCSD 320-829978/4-A - RA	Lab Control Sample Dup				92.4				
LLCS 320-829978/2-A	Lab Control Sample	86.8	104	96.6	90.2	84.6	76.2	81.5	81.0
LLCS 320-829978/2-A - RA	Lab Control Sample				94.6				
MB 320-829978/1-A	Method Blank	72.0	86.7	75.6	83.0	72.2	61.8	66.6	63.1
MB 320-829978/1-A - RA	Method Blank				88.6				

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118554-1

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-829978/1-A
Matrix: Water
Analysis Batch: 830522

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 829978

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.0	1.0	ng/L		01/28/25 12:06	01/29/25 21:06	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.50	ng/L		01/28/25 12:06	01/29/25 21:06	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		01/28/25 12:06	01/29/25 21:06	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		01/28/25 12:06	01/29/25 21:06	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		01/28/25 12:06	01/29/25 21:06	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		01/28/25 12:06	01/29/25 21:06	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		01/28/25 12:06	01/29/25 21:06	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		01/28/25 12:06	01/29/25 21:06	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		01/28/25 12:06	01/29/25 21:06	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.58	ng/L		01/28/25 12:06	01/29/25 21:06	1
Perfluorotetradecanoic acid (PFTeDA)	ND		2.0	0.81	ng/L		01/28/25 12:06	01/29/25 21:06	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		01/28/25 12:06	01/29/25 21:06	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		01/28/25 12:06	01/29/25 21:06	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		01/28/25 12:06	01/29/25 21:06	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.50	ng/L		01/28/25 12:06	01/29/25 21:06	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		01/28/25 12:06	01/29/25 21:06	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		01/28/25 12:06	01/29/25 21:06	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		01/28/25 12:06	01/29/25 21:06	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.53	ng/L		01/28/25 12:06	01/29/25 21:06	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		4.0	1.0	ng/L		01/28/25 12:06	01/29/25 21:06	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		4.0	1.0	ng/L		01/28/25 12:06	01/29/25 21:06	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		4.0	1.0	ng/L		01/28/25 12:06	01/29/25 21:06	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		01/28/25 12:06	01/29/25 21:06	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		2.0	0.50	ng/L		01/28/25 12:06	01/29/25 21:06	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		2.0	0.50	ng/L		01/28/25 12:06	01/29/25 21:06	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ng/L		01/28/25 12:06	01/29/25 21:06	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.50	ng/L		01/28/25 12:06	01/29/25 21:06	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		10	2.5	ng/L		01/28/25 12:06	01/29/25 21:06	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		10	2.5	ng/L		01/28/25 12:06	01/29/25 21:06	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.5	0.39	ng/L		01/28/25 12:06	01/29/25 21:06	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	0.50	ng/L		01/28/25 12:06	01/29/25 21:06	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	0.50	ng/L		01/28/25 12:06	01/29/25 21:06	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	0.72	ng/L		01/28/25 12:06	01/29/25 21:06	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		2.0	0.58	ng/L		01/28/25 12:06	01/29/25 21:06	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	0.50	ng/L		01/28/25 12:06	01/29/25 21:06	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-829978/1-A
Matrix: Water
Analysis Batch: 830522

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 829978

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	0.50	ng/L		01/28/25 12:06	01/29/25 21:06	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		4.0	1.0	ng/L		01/28/25 12:06	01/29/25 21:06	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		10	2.5	ng/L		01/28/25 12:06	01/29/25 21:06	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		10	2.5	ng/L		01/28/25 12:06	01/29/25 21:06	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*95.2*		*5 - 130*	*01/28/25 12:06*	*01/29/25 21:06*	*1*
13C5 PFPeA	*90.9*		*40 - 130*	*01/28/25 12:06*	*01/29/25 21:06*	*1*
13C5 PFHxA	*79.0*		*40 - 130*	*01/28/25 12:06*	*01/29/25 21:06*	*1*
13C4 PFHpA	*78.3*		*40 - 130*	*01/28/25 12:06*	*01/29/25 21:06*	*1*
13C8 PFOA	*75.0*		*40 - 130*	*01/28/25 12:06*	*01/29/25 21:06*	*1*
13C9 PFNA	*73.0*		*40 - 130*	*01/28/25 12:06*	*01/29/25 21:06*	*1*
13C6 PFDA	*65.0*		*40 - 130*	*01/28/25 12:06*	*01/29/25 21:06*	*1*
13C7 PFUnA	*66.2*		*30 - 130*	*01/28/25 12:06*	*01/29/25 21:06*	*1*
13C2 PFDoA	*72.0*		*10 - 130*	*01/28/25 12:06*	*01/29/25 21:06*	*1*
13C2 PFTeDA	*62.9*		*10 - 130*	*01/28/25 12:06*	*01/29/25 21:06*	*1*
13C3 PFBS	*80.8*		*40 - 135*	*01/28/25 12:06*	*01/29/25 21:06*	*1*
13C3 PFHxS	*80.1*		*40 - 130*	*01/28/25 12:06*	*01/29/25 21:06*	*1*
13C8 PFOS	*81.2*		*40 - 130*	*01/28/25 12:06*	*01/29/25 21:06*	*1*
13C8 FOSA	*73.8*		*40 - 130*	*01/28/25 12:06*	*01/29/25 21:06*	*1*
d3-NMeFOSAA	*68.5*		*40 - 170*	*01/28/25 12:06*	*01/29/25 21:06*	*1*
d5-NEtFOSAA	*74.3*		*25 - 135*	*01/28/25 12:06*	*01/29/25 21:06*	*1*
13C2 4:2 FTS	*72.0*		*40 - 200*	*01/28/25 12:06*	*01/29/25 21:06*	*1*
13C2 6:2 FTS	*86.7*		*40 - 200*	*01/28/25 12:06*	*01/29/25 21:06*	*1*
13C2 8:2 FTS	*75.6*		*40 - 300*	*01/28/25 12:06*	*01/29/25 21:06*	*1*
13C3 HFPO-DA	*83.0*		*40 - 130*	*01/28/25 12:06*	*01/29/25 21:06*	*1*
d7-N-MeFOSE-M	*72.2*		*10 - 130*	*01/28/25 12:06*	*01/29/25 21:06*	*1*
d9-N-EtFOSE-M	*61.8*		*10 - 130*	*01/28/25 12:06*	*01/29/25 21:06*	*1*
d5-NEtPFOSA	*66.6*		*10 - 130*	*01/28/25 12:06*	*01/29/25 21:06*	*1*
d3-NMePFOSA	*63.1*		*10 - 130*	*01/28/25 12:06*	*01/29/25 21:06*	*1*

Lab Sample ID: LCS 320-829978/3-A
Matrix: Water
Analysis Batch: 830522

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829978

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	87.7		ng/L		110	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	46.4		ng/L		116	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	44.2		ng/L		111	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	44.5		ng/L		111	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	41.2		ng/L		103	70 - 150
Perfluorononanoic acid (PFNA)	40.0	44.8		ng/L		112	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	40.4		ng/L		101	70 - 140
Perfluoroundecanoic acid (PFUnA)	40.0	39.4		ng/L		99	70 - 145

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-829978/3-A
Matrix: Water
Analysis Batch: 830522

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829978

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorododecanoic acid (PFDoA)	40.0	43.7		ng/L		109	70 - 140
Perfluorotridecanoic acid (PFTrDA)	40.0	42.5		ng/L		106	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	40.0	36.9		ng/L		92	60 - 140
Perfluorobutanesulfonic acid (PFBS)	35.5	39.0		ng/L		110	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	46.9		ng/L		125	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	38.3		ng/L		105	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	40.2		ng/L		105	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	38.3		ng/L		103	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	39.4		ng/L		102	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	39.7		ng/L		103	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	37.6		ng/L		97	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	67.7		ng/L		90	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	67.9		ng/L		89	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	76.7		ng/L		100	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	40.1		ng/L		100	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	45.7		ng/L		114	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	44.4		ng/L		111	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	41.0		ng/L		102	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	39.7		ng/L		99	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	209		ng/L		105	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	214		ng/L		107	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	32.3		ng/L		108	70 - 140
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	46.7		ng/L		117	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	42.2		ng/L		105	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	47.7		ng/L		119	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	37.4	30.4		ng/L		81	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	37.8	36.9		ng/L		98	55 - 160

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-829978/3-A
Matrix: Water
Analysis Batch: 830522

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829978

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	35.7	44.7		ng/L		125	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	80.0	90.0		ng/L		113	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	200	248		ng/L		124	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	200	237		ng/L		118	50 - 145

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*94.7*		*5 - 130*
13C5 PFPeA	*112*		*40 - 130*
13C5 PFHxA	*87.0*		*40 - 130*
13C4 PFHpA	*107*		*40 - 130*
13C8 PFOA	*76.3*		*40 - 130*
13C9 PFNA	*68.4*		*40 - 130*
13C6 PFDA	*73.2*		*40 - 130*
13C7 PFUnA	*70.5*		*30 - 130*
13C2 PFDoA	*65.0*		*10 - 130*
13C2 PFTeDA	*68.6*		*10 - 130*
13C3 PFBS	*94.9*		*40 - 135*
13C3 PFHxS	*90.4*		*40 - 130*
13C8 PFOS	*85.7*		*40 - 130*
13C8 FOSA	*84.1*		*40 - 130*
d3-NMeFOSAA	*93.7*		*40 - 170*
d5-NEtFOSAA	*90.3*		*25 - 135*
13C2 4:2 FTS	*111*		*40 - 200*
13C2 6:2 FTS	*123*		*40 - 200*
13C2 8:2 FTS	*103*		*40 - 300*
13C3 HFPO-DA	*112*		*40 - 130*
d7-N-MeFOSE-M	*77.9*		*10 - 130*
d9-N-EtFOSE-M	*72.7*		*10 - 130*
d5-NEtPFOSA	*69.3*		*10 - 130*
d3-NMePFOSA	*69.5*		*10 - 130*

Lab Sample ID: LCSD 320-829978/4-A
Matrix: Water
Analysis Batch: 830522

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829978

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	80.0	73.4		ng/L		92	70 - 140	18	30
Perfluoropentanoic acid (PFPeA)	40.0	38.2		ng/L		95	65 - 135	20	30
Perfluorohexanoic acid (PFHxA)	40.0	42.8		ng/L		107	70 - 145	3	30
Perfluoroheptanoic acid (PFHpA)	40.0	42.8		ng/L		107	70 - 150	4	30
Perfluorooctanoic acid (PFOA)	40.0	46.0		ng/L		115	70 - 150	11	30
Perfluorononanoic acid (PFNA)	40.0	38.5		ng/L		96	70 - 150	15	30
Perfluorodecanoic acid (PFDA)	40.0	40.4		ng/L		101	70 - 140	0	30
Perfluoroundecanoic acid (PFUnA)	40.0	42.9		ng/L		107	70 - 145	9	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-829978/4-A
Matrix: Water
Analysis Batch: 830522

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829978

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorododecanoic acid (PFDoA)			40.0	37.2		ng/L		93	70 - 140	16	30
Perfluorotridecanoic acid (PFTrDA)			40.0	39.7		ng/L		99	65 - 140	7	30
Perfluorotetradecanoic acid (PFTeDA)			40.0	41.9		ng/L		105	60 - 140	13	30
Perfluorobutanesulfonic acid (PFBS)			35.5	35.2		ng/L		99	60 - 145	10	30
Perfluoropentanesulfonic acid (PFPeS)			37.6	45.4		ng/L		121	65 - 140	3	30
Perfluorohexanesulfonic acid (PFHxS)			36.5	41.6		ng/L		114	65 - 145	8	30
Perfluoroheptanesulfonic acid (PFHpS)			38.2	40.5		ng/L		106	70 - 150	1	30
Perfluorooctanesulfonic acid (PFOS)			37.2	39.8		ng/L		107	55 - 150	4	30
Perfluorononanesulfonic acid (PFNS)			38.5	39.9		ng/L		104	65 - 145	1	30
Perfluorodecanesulfonic acid (PFDS)			38.6	39.8		ng/L		103	60 - 145	0	30
Perfluorododecanesulfonic acid (PFDoS)			38.8	39.8		ng/L		102	50 - 145	6	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			75.0	85.1		ng/L		113	70 - 145	23	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			76.2	78.9		ng/L		104	65 - 155	15	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)			76.8	70.9		ng/L		92	60 - 150	8	30
Perfluorooctanesulfonamide (PFOSA)			40.0	40.4		ng/L		101	70 - 145	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)			40.0	48.0		ng/L		120	60 - 150	5	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)			40.0	41.8		ng/L		104	65 - 145	6	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			40.0	48.1		ng/L		120	50 - 140	16	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			40.0	40.6		ng/L		102	70 - 145	2	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)			200	196		ng/L		98	70 - 145	7	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)			200	215		ng/L		107	70 - 135	0	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)			30.0	31.2		ng/L		104	70 - 140	4	30
Perfluoro-3-methoxypropanoic acid (PFMPA)			40.0	42.8		ng/L		107	55 - 140	9	30
Perfluoro-4-methoxybutanoic acid (PFMBA)			40.0	38.6		ng/L		97	60 - 150	9	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			40.0	39.0		ng/L		98	50 - 150	20	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			37.4	37.1		ng/L		99	70 - 155	20	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	39.6		ng/L		105	55 - 160	7	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-829978/4-A
Matrix: Water
Analysis Batch: 830522

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829978

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	32.3	*1	ng/L		91	70 - 140	32	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	74.1		ng/L		93	65 - 130	19	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	179	*1	ng/L		89	70 - 135	32	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	160	*1	ng/L		80	50 - 145	39	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*104*		*5 - 130*
13C5 PFPeA	*101*		*40 - 130*
13C5 PFHxA	*89.8*		*40 - 130*
13C4 PFHpA	*99.5*		*40 - 130*
13C8 PFOA	*82.5*		*40 - 130*
13C9 PFNA	*76.9*		*40 - 130*
13C6 PFDA	*72.0*		*40 - 130*
13C7 PFUnA	*69.1*		*30 - 130*
13C2 PFDoA	*79.6*		*10 - 130*
13C2 PFTeDA	*66.6*		*10 - 130*
13C3 PFBS	*88.1*		*40 - 135*
13C3 PFHxS	*74.6*		*40 - 130*
13C8 PFOS	*79.9*		*40 - 130*
13C8 FOSA	*82.9*		*40 - 130*
d3-NMeFOSAA	*76.0*		*40 - 170*
d5-NEtFOSAA	*93.6*		*25 - 135*
13C2 4:2 FTS	*83.6*		*40 - 200*
13C2 6:2 FTS	*74.9*		*40 - 200*
13C2 8:2 FTS	*81.7*		*40 - 300*
13C3 HFPO-DA	*78.4*		*40 - 130*
d7-N-MeFOSE-M	*80.4*		*10 - 130*
d9-N-EtFOSE-M	*72.3*		*10 - 130*
d5-NEtPFOSA	*74.9*		*10 - 130*
d3-NMePFOSA	*68.2*		*10 - 130*

Lab Sample ID: LLCS 320-829978/2-A
Matrix: Water
Analysis Batch: 830522

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829978

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			8.00	10.1		ng/L		126	70 - 140
Perfluorohexanoic acid (PFHxA)			4.00	5.66		ng/L		142	70 - 145
Perfluoroheptanoic acid (PFHpA)			4.00	4.31		ng/L		108	70 - 150
Perfluorooctanoic acid (PFOA)			4.00	5.37		ng/L		134	70 - 150
Perfluorononanoic acid (PFNA)			4.00	5.25		ng/L		131	70 - 150
Perfluorodecanoic acid (PFDA)			4.00	5.58		ng/L		139	70 - 140
Perfluoroundecanoic acid (PFUnA)			4.00	5.19		ng/L		130	70 - 145
Perfluorododecanoic acid (PFDoA)			4.00	4.68		ng/L		117	70 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-829978/2-A
Matrix: Water
Analysis Batch: 830522

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829978

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorotridecanoic acid (PFTrDA)	4.00	4.79		ng/L		120	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	4.00	4.51		ng/L		113	60 - 140
Perfluorobutanesulfonic acid (PFBS)	3.55	4.58		ng/L		129	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.76	4.78		ng/L		127	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	3.65	4.48		ng/L		123	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.82	4.14		ng/L		108	70 - 150
Perfluorooctanesulfonic acid (PFOS)	3.72	4.68		ng/L		126	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.85	4.21		ng/L		109	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.86	4.69		ng/L		122	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.88	3.95		ng/L		102	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	7.50	8.30		ng/L		111	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.62	8.98		ng/L		118	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.68	8.87		ng/L		115	60 - 150
Perfluorooctanesulfonamide (PFOSA)	4.00	4.41		ng/L		110	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	4.00	4.79		ng/L		120	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	4.00	4.70		ng/L		117	65 - 145
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.00	5.06		ng/L		127	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	20.0	22.0		ng/L		110	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	20.0	22.8		ng/L		114	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.00	3.51		ng/L		117	70 - 140
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.00	5.01		ng/L		125	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.00	5.06		ng/L		127	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.00	4.80		ng/L		120	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	3.74	4.52		ng/L		121	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	3.78	4.81		ng/L		127	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	3.57	4.88		ng/L		137	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	8.00	9.83		ng/L		123	65 - 130

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-829978/2-A
Matrix: Water
Analysis Batch: 830522

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829978

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
3-Perfluoropentylpropanoic acid (5:3 FTCA)	20.0	22.2		ng/L		111	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	20.0	21.2		ng/L		106	50 - 145

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*95.4*		*5 - 130*
13C5 PFPeA	*105*		*40 - 130*
13C5 PFHxA	*97.7*		*40 - 130*
13C4 PFHpA	*111*		*40 - 130*
13C8 PFOA	*91.2*		*40 - 130*
13C9 PFNA	*79.5*		*40 - 130*
13C6 PFDA	*74.9*		*40 - 130*
13C7 PFUnA	*77.6*		*30 - 130*
13C2 PFDoA	*81.8*		*10 - 130*
13C2 PFTeDA	*79.0*		*10 - 130*
13C3 PFBS	*89.9*		*40 - 135*
13C3 PFHxS	*92.1*		*40 - 130*
13C8 PFOS	*104*		*40 - 130*
13C8 FOSA	*97.7*		*40 - 130*
d5-NEtFOSAA	*94.5*		*25 - 135*
13C2 4:2 FTS	*86.8*		*40 - 200*
13C2 6:2 FTS	*104*		*40 - 200*
13C2 8:2 FTS	*96.6*		*40 - 300*
13C3 HFPO-DA	*90.2*		*40 - 130*
d7-N-MeFOSE-M	*84.6*		*10 - 130*
d9-N-EtFOSE-M	*76.2*		*10 - 130*
d5-NEtPFOSA	*81.5*		*10 - 130*
d3-NMePFOSA	*81.0*		*10 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Lab Sample ID: MB 320-829978/1-A
Matrix: Water
Analysis Batch: 830779

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 829978

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA	ND		2.0	0.50	ng/L		01/28/25 12:06	01/31/25 18:08	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA - RA	*88.6*		*40 - 130*	*01/28/25 12:06*	*01/31/25 18:08*	*1*

Lab Sample ID: LCS 320-829978/3-A
Matrix: Water
Analysis Batch: 830779

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829978

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA	37.8	36.3		ng/L		96	65 - 145

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C3 HFPO-DA - RA	93.7		40 - 130

Lab Sample ID: LCSD 320-829978/4-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 830779 — **Prep Batch: 829978**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA			37.8	37.3		ng/L		98	65 - 145	3	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C3 HFPO-DA - RA	92.4		40 - 130

Lab Sample ID: LLCS 320-829978/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 830779 — **Prep Batch: 829978**

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanoic acid (PFPeA) - RA			4.00	4.60		ng/L		115	65 - 135
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) - RA			4.00	5.00		ng/L		125	50 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA			3.78	4.89		ng/L		129	65 - 145

Isotope Dilution	LLCS %Recovery	LLCS Qualifier	Limits
13C5 PFPeA - RA	112		40 - 130
d3-NMeFOSAA - RA	85.5		40 - 170
13C3 HFPO-DA - RA	94.6		40 - 130

QC Association Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118554-1

LCMS

Prep Batch: 829978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118554-1	EB-01232025	Total/NA	Water	1633	
320-118554-1 - RA	EB-01232025	Total/NA	Water	1633	
320-118554-2	FB-01232025	Total/NA	Water	1633	
320-118554-2 - RA	FB-01232025	Total/NA	Water	1633	
320-118554-3	DW-01232025	Total/NA	Water	1633	
320-118554-3 - RA	DW-01232025	Total/NA	Water	1633	
MB 320-829978/1-A	Method Blank	Total/NA	Water	1633	
MB 320-829978/1-A - RA	Method Blank	Total/NA	Water	1633	
LCS 320-829978/3-A	Lab Control Sample	Total/NA	Water	1633	
LCS 320-829978/3-A - RA	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-829978/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LCSD 320-829978/4-A - RA	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-829978/2-A	Lab Control Sample	Total/NA	Water	1633	
LLCS 320-829978/2-A - RA	Lab Control Sample	Total/NA	Water	1633	

Analysis Batch: 830522

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118554-1	EB-01232025	Total/NA	Water	1633	829978
320-118554-2	FB-01232025	Total/NA	Water	1633	829978
320-118554-3	DW-01232025	Total/NA	Water	1633	829978
MB 320-829978/1-A	Method Blank	Total/NA	Water	1633	829978
LCS 320-829978/3-A	Lab Control Sample	Total/NA	Water	1633	829978
LCSD 320-829978/4-A	Lab Control Sample Dup	Total/NA	Water	1633	829978
LLCS 320-829978/2-A	Lab Control Sample	Total/NA	Water	1633	829978

Analysis Batch: 830779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118554-1 - RA	EB-01232025	Total/NA	Water	1633	829978
320-118554-2 - RA	FB-01232025	Total/NA	Water	1633	829978
320-118554-3 - RA	DW-01232025	Total/NA	Water	1633	829978
MB 320-829978/1-A - RA	Method Blank	Total/NA	Water	1633	829978
LCS 320-829978/3-A - RA	Lab Control Sample	Total/NA	Water	1633	829978
LCSD 320-829978/4-A - RA	Lab Control Sample Dup	Total/NA	Water	1633	829978
LLCS 320-829978/2-A - RA	Lab Control Sample	Total/NA	Water	1633	829978

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118554-1

Client Sample ID: EB-01232025
Date Collected: 01/23/25 07:15
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118554-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			157.7 mL	5.0 mL	829978	01/28/25 12:06	WVD	EET SAC
Total/NA	Analysis	1633		1			830522	01/30/25 02:51	K1D	EET SAC
Total/NA	Prep	1633	RA		157.7 mL	5.0 mL	829978	01/28/25 12:06	WVD	EET SAC
Total/NA	Analysis	1633	RA	1			830779	01/31/25 23:04	SS	EET SAC

Client Sample ID: FB-01232025
Date Collected: 01/23/25 00:00
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118554-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			165.5 mL	5.0 mL	829978	01/28/25 12:06	WVD	EET SAC
Total/NA	Analysis	1633		1			830522	01/30/25 03:40	K1D	EET SAC
Total/NA	Prep	1633	RA		165.5 mL	5.0 mL	829978	01/28/25 12:06	WVD	EET SAC
Total/NA	Analysis	1633	RA	1			830779	01/31/25 23:20	SS	EET SAC

Client Sample ID: DW-01232025
Date Collected: 01/23/25 15:00
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118554-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			160.9 mL	5.0 mL	829978	01/28/25 12:07	WVD	EET SAC
Total/NA	Analysis	1633		1			830522	01/30/25 03:56	K1D	EET SAC
Total/NA	Prep	1633	RA		160.9 mL	5.0 mL	829978	01/28/25 12:07	WVD	EET SAC
Total/NA	Analysis	1633	RA	1			830779	01/31/25 23:37	SS	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118554-1
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118554-1

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Solid-Phase Extraction (SPE)	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118554-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118554-1	EB-01232025	Water	01/23/25 07:15	01/25/25 08:45
320-118554-2	FB-01232025	Water	01/23/25 00:00	01/25/25 08:45
320-118554-3	DW-01232025	Water	01/23/25 15:00	01/25/25 08:45

HALEY ALDRICH

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

Page 1 of 1

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
		DELIVERY DATE	
		TURNAROUND TIME	
		PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633	Number of Containers
EB-01232025	1/23/2025	0715	H20	X	3
FB-01232025	1/23/2025	All Day	H20	X	2
DW-01232025	1/23/2025	0:00	H20	X	3

320-118554 Chain of Custody

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print
Firm H A	Firm H A
Date 1/23/25 Time 1700	Date 1/23/25
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm H A	Firm
Date 1/24/25 Time 1100	Date 1/24/25
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date 1/24/25 Time 1200	Date 1/24/25

1110
5.4, 5.8
1806

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments: EB taken from fresh nitrile gloves

DW taken directly from source water on site

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Form 3003

Page 29 of 114
Sage Log
CSI
1/23/25
1700

2/3/2025

2 of 3

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Tracking # 420356930644

Loc: 320
118554

Job: _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID: L-11 Corr Factor: (+ / -) _____ °C

Ice 1 Wet 1 Gel _____ Other _____

Cooler Custody Seal _____

Cooler ID: 2 of 2

Temp Observed: 2.1 °C Corrected 2.1 °C

From Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials. _____ Date 1.05.25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☐	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials _____ Date 1.05.25

Notes:
3 containers time 1020 coc time 0000.
1 container time 0900. coc time 0715

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s). _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials _____ Date 1.05.25

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

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JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118553-4

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

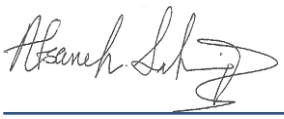
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118553-4
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
*3	ISTD response or retention time outside acceptable limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118553-4 — Eurofins Sacramento

Job Narrative
320-118553-4

Receipt
The samples were received on 1/25/2025 8:45 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.1º C.

LCMS
Method 1633: Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: (CCB 320-843420/1). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 1633: The transition mass ratio was outside of the established ratio limit for Perfluoropentanoic acid (PFPeA) and Perfluorooctanesulfonamide (PFOSA) in (CCVL 320-843420/2) associated to this data set. This is indicated by the "R" flag in the raw data. As the flagged data is in control in the low level continuing calibration verification (CCVL), there is no adverse impact to the data.

Method 1633: Results for sample HFH-002-N-S012-01232025 (320-118553-27) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 28 days. The following samples in analytical batch 320-841906 were prepared and analyzed outside this time period because the request for the analysis came after 28 days had passed : HFH-002-N-S012-01232025 (320-118553-27).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-4

Client Sample ID: HFH-002-N-S012-01232025

Lab Sample ID: 320-118553-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.22		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.75		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.072	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.27		0.20	0.063	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.097	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.22		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.34		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.40		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.27		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.37		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	3.6		0.41	0.10	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	8.3		0.41	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	2.6		0.20	0.064	ug/Kg	1	☼	1633	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.23		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	47		1.0	0.25	ug/Kg	5	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-4

Client Sample ID: HFH-002-N-S012-01232025
Date Collected: 01/23/25 13:35
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-27
Matrix: Solid
Percent Solids: 93.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.41	0.10	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
Perfluoropentanoic acid (PFPeA)	**0.22**		0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
Perfluorohexanoic acid (PFHxA)	**0.75**		0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
Perfluoroheptanoic acid (PFHpA)	**0.072**	**J**	0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
Perfluorooctanoic acid (PFOA)	**0.27**		0.20	0.063	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
Perfluorononanoic acid (PFNA)	**0.097**	**J**	0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
Perfluorodecanoic acid (PFDA)	**0.22**		0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
Perfluoroundecanoic acid (PFUnA)	**0.34**		0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
Perfluorohexanesulfonic acid (PFHxS)	**0.40**		0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
Perfluorononanesulfonic acid (PFNS)	**0.27**		0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
Perfluorodecanesulfonic acid (PFDS)	**0.37**		0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.41	0.10	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**3.6**		0.41	0.10	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**8.3**		0.41	0.10	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
Perfluorooctanesulfonamide (PFOSA)	**2.6**		0.20	0.064	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**0.23**		0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1

Client Sample ID: HFH-002-N-S012-01232025
Date Collected: 01/23/25 13:35
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-27
Matrix: Solid
Percent Solids: 93.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.41	0.10	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	03/31/25 07:16	04/02/25 14:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*95.4*		*8 - 130*	*03/31/25 07:16*	*04/02/25 14:49*	*1*
13C5 PFPeA	*79.4*		*35 - 130*	*03/31/25 07:16*	*04/02/25 14:49*	*1*
13C5 PFHxA	*96.8*		*40 - 130*	*03/31/25 07:16*	*04/02/25 14:49*	*1*
13C4 PFHpA	*89.1*		*40 - 130*	*03/31/25 07:16*	*04/02/25 14:49*	*1*
13C8 PFOA	*93.0*		*40 - 130*	*03/31/25 07:16*	*04/02/25 14:49*	*1*
13C9 PFNA	*93.2*		*40 - 130*	*03/31/25 07:16*	*04/02/25 14:49*	*1*
13C6 PFDA	*81.8*		*40 - 130*	*03/31/25 07:16*	*04/02/25 14:49*	*1*
13C7 PFUnA	*67.8*		*40 - 130*	*03/31/25 07:16*	*04/02/25 14:49*	*1*
13C2 PFDoA	*60.0*		*40 - 130*	*03/31/25 07:16*	*04/02/25 14:49*	*1*
13C2 PFTeDA	*57.0*		*20 - 130*	*03/31/25 07:16*	*04/02/25 14:49*	*1*
13C3 PFBS	*71.5*		*40 - 135*	*03/31/25 07:16*	*04/02/25 14:49*	*1*
13C3 PFHxS	*76.4*		*40 - 130*	*03/31/25 07:16*	*04/02/25 14:49*	*1*
13C8 PFOS	*75.4*		*40 - 130*	*03/31/25 07:16*	*04/02/25 14:49*	*1*
13C8 FOSA	*81.7*		*40 - 130*	*03/31/25 07:16*	*04/02/25 14:49*	*1*
d3-NMeFOSAA	*89.7*		*40 - 135*	*03/31/25 07:16*	*04/02/25 14:49*	*1*
d5-NEtFOSAA	*82.2*		*40 - 150*	*03/31/25 07:16*	*04/02/25 14:49*	*1*
13C2 4:2 FTS	*68.7*		*40 - 165*	*03/31/25 07:16*	*04/02/25 14:49*	*1*
13C2 6:2 FTS	*75.1*		*40 - 215*	*03/31/25 07:16*	*04/02/25 14:49*	*1*
13C2 8:2 FTS	*75.3*		*40 - 275*	*03/31/25 07:16*	*04/02/25 14:49*	*1*
13C3 HFPO-DA	*95.1*		*40 - 130*	*03/31/25 07:16*	*04/02/25 14:49*	*1*
d7-N-MeFOSE-M	*70.8*		*20 - 130*	*03/31/25 07:16*	*04/02/25 14:49*	*1*
d9-N-EtFOSE-M	*58.2*		*15 - 130*	*03/31/25 07:16*	*04/02/25 14:49*	*1*
d5-NEtPFOSA	*62.6*		*10 - 130*	*03/31/25 07:16*	*04/02/25 14:49*	*1*
d3-NMePFOSA	*59.3*		*10 - 130*	*03/31/25 07:16*	*04/02/25 14:49*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**47**		1.0	0.25	ug/Kg	☼	03/31/25 07:16	04/03/25 10:00	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*77.9*	**3*	*40 - 130*	*03/31/25 07:16*	*04/03/25 10:00*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**6.4**	**H**	0.10	0.10	%			03/24/25 13:12	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-4

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (8-130)	PFPeA (35-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (40-130)
320-118553-27	HFH-002-N-S012-01232025	95.4	79.4	96.8	89.1	93.0	93.2	81.8	67.8
320-118553-27 - DL	HFH-002-N-S012-01232025								
LCS 320-843241/3-A	Lab Control Sample	94.9	76.7	95.7	99.1	98.9	95.6	92.6	83.3
LCSD 320-843241/4-A	Lab Control Sample Dup	93.8	75.6	94.6	96.3	93.0	91.9	92.5	85.1
LLCS 320-843241/2-A	Lab Control Sample	97.8	76.3	96.9	99.5	92.7	95.3	89.7	81.2
MB 320-843241/1-A	Method Blank	97.4	75.7	94.0	103	97.1	94.2	89.8	75.6

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (40-130)	PFTDA (20-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-135)	d5NEFOS (40-150)
320-118553-27	HFH-002-N-S012-01232025	60.0	57.0	71.5	76.4	75.4	81.7	89.7	82.2
320-118553-27 - DL	HFH-002-N-S012-01232025					77.9 *3			
LCS 320-843241/3-A	Lab Control Sample	75.0	62.2	87.1	87.5	84.3	78.1	78.6	72.3
LCSD 320-843241/4-A	Lab Control Sample Dup	82.1	68.0	92.5	83.6	82.1	87.9	81.2	77.1
LLCS 320-843241/2-A	Lab Control Sample	85.1	70.9	83.3	83.5	84.3	87.7	82.6	79.5
MB 320-843241/1-A	Method Blank	66.7	60.5	83.8	86.1	85.6	75.2	75.1	68.9

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118553-27	HFH-002-N-S012-01232025	68.7	75.1	75.3	95.1	70.8	58.2	62.6	59.3
320-118553-27 - DL	HFH-002-N-S012-01232025								
LCS 320-843241/3-A	Lab Control Sample	74.0	68.7	70.9	105	63.7	60.2	56.5	55.6
LCSD 320-843241/4-A	Lab Control Sample Dup	70.8	70.1	76.1	104	69.2	71.3	63.4	57.4
LLCS 320-843241/2-A	Lab Control Sample	70.9	65.6	76.9	102	80.0	76.4	58.6	58.0
MB 320-843241/1-A	Method Blank	67.7	68.5	72.0	105	58.4	60.5	54.6	52.0

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118553-4
Project/Site: Spokane International Airport

d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-843241/1-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 843241

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-843241/1-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 843241

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 02:32	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*97.4*		*8 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C5 PFPeA	*75.7*		*35 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C5 PFHxA	*94.0*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C4 PFHpA	*103*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C8 PFOA	*97.1*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C9 PFNA	*94.2*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C6 PFDA	*89.8*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C7 PFUnA	*75.6*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 PFDoA	*66.7*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 PFTeDA	*60.5*		*20 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C3 PFBS	*83.8*		*40 - 135*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C3 PFHxS	*86.1*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C8 PFOS	*85.6*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C8 FOSA	*75.2*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d3-NMeFOSAA	*75.1*		*40 - 135*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d5-NEtFOSAA	*68.9*		*40 - 150*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 4:2 FTS	*67.7*		*40 - 165*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 6:2 FTS	*68.5*		*40 - 215*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 8:2 FTS	*72.0*		*40 - 275*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C3 HFPO-DA	*105*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d7-N-MeFOSE-M	*58.4*		*20 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d9-N-EtFOSE-M	*60.5*		*15 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d5-NEtPFOSA	*54.6*		*10 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d3-NMePFOSA	*52.0*		*10 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*

Lab Sample ID: LCS 320-843241/3-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.68		ug/Kg		94	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.96		ug/Kg		118	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.31		ug/Kg		92	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.48		ug/Kg		99	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.42		ug/Kg		97	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.51		ug/Kg		101	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.51		ug/Kg		101	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-843241/3-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.63		ug/Kg		105	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.51		ug/Kg		100	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.70		ug/Kg		108	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	3.03		ug/Kg		121	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.07		ug/Kg		93	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.17		ug/Kg		92	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.03		ug/Kg		89	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.53		ug/Kg		106	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.17		ug/Kg		93	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.38		ug/Kg		99	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.09		ug/Kg		87	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	1.91		ug/Kg		79	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.09		ug/Kg		87	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.54		ug/Kg		95	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.57		ug/Kg		95	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.39		ug/Kg		96	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.45		ug/Kg		98	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.26		ug/Kg		90	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.19		ug/Kg		88	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.21		ug/Kg		88	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.1		ug/Kg		97	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.5		ug/Kg		100	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.66		ug/Kg		89	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	1.87		ug/Kg		79	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.57		ug/Kg		103	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.96		ug/Kg		118	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.17		ug/Kg		87	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-843241/3-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.07		ug/Kg		89	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.70		ug/Kg		72	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.99		ug/Kg		89	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.25		ug/Kg		105	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.8		ug/Kg		86	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.4		ug/Kg		91	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*94.9*		*8 - 130*
13C5 PFPeA	*76.7*		*35 - 130*
13C5 PFHxA	*95.7*		*40 - 130*
13C4 PFHpA	*99.1*		*40 - 130*
13C8 PFOA	*98.9*		*40 - 130*
13C9 PFNA	*95.6*		*40 - 130*
13C6 PFDA	*92.6*		*40 - 130*
13C7 PFUnA	*83.3*		*40 - 130*
13C2 PFDoA	*75.0*		*40 - 130*
13C2 PFTeDA	*62.2*		*20 - 130*
13C3 PFBS	*87.1*		*40 - 135*
13C3 PFHxS	*87.5*		*40 - 130*
13C8 PFOS	*84.3*		*40 - 130*
13C8 FOSA	*78.1*		*40 - 130*
d3-NMeFOSAA	*78.6*		*40 - 135*
d5-NEtFOSAA	*72.3*		*40 - 150*
13C2 4:2 FTS	*74.0*		*40 - 165*
13C2 6:2 FTS	*68.7*		*40 - 215*
13C2 8:2 FTS	*70.9*		*40 - 275*
13C3 HFPO-DA	*105*		*40 - 130*
d7-N-MeFOSE-M	*63.7*		*20 - 130*
d9-N-EtFOSE-M	*60.2*		*15 - 130*
d5-NEtPFOSA	*56.5*		*10 - 130*
d3-NMePFOSA	*55.6*		*10 - 130*

Lab Sample ID: LCSD 320-843241/4-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.58		ug/Kg		92	70 - 140	2	30
Perfluoropentanoic acid (PFPeA)			2.50	2.90		ug/Kg		116	60 - 150	2	30
Perfluorohexanoic acid (PFHxA)			2.50	2.30		ug/Kg		92	65 - 140	0	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.49		ug/Kg		100	65 - 145	0	30
Perfluorooctanoic acid (PFOA)			2.50	2.49		ug/Kg		99	70 - 150	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-843241/4-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.57		ug/Kg		103	70 - 155	2	30
Perfluorodecanoic acid (PFDA)	2.50	2.67		ug/Kg		107	70 - 155	6	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.64		ug/Kg		105	70 - 155	0	30
Perfluorododecanoic acid (PFDoA)	2.50	2.49		ug/Kg		100	70 - 150	1	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.57		ug/Kg		103	65 - 150	5	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.95		ug/Kg		118	65 - 150	3	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.01		ug/Kg		90	65 - 145	3	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.20		ug/Kg		94	55 - 160	1	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.11		ug/Kg		93	60 - 150	4	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.62		ug/Kg		110	65 - 155	4	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.29		ug/Kg		98	65 - 160	6	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.48		ug/Kg		103	55 - 140	4	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.24		ug/Kg		93	40 - 155	7	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.09		ug/Kg		86	25 - 160	9	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.52		ug/Kg		96	60 - 150	10	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.39		ug/Kg		92	55 - 200	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.48		ug/Kg		93	70 - 150	2	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.45		ug/Kg		98	70 - 140	2	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.54		ug/Kg		101	70 - 155	3	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.18		ug/Kg		87	70 - 140	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.28		ug/Kg		91	65 - 155	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.22		ug/Kg		89	65 - 165	0	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.6		ug/Kg		101	70 - 140	4	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	11.5		ug/Kg		92	70 - 135	8	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.63		ug/Kg		87	70 - 145	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	1.84		ug/Kg		78	70 - 160	1	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.44		ug/Kg		98	30 - 140	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.77		ug/Kg		111	60 - 150	6	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-843241/4-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.22		ug/Kg		89	60 - 155	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	1.94		ug/Kg		83	70 - 150	7	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.61		ug/Kg		68	45 - 160	5	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.97		ug/Kg		88	70 - 140	1	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.17		ug/Kg		103	45 - 130	2	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.8		ug/Kg		87	60 - 130	0	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 150	1	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*93.8*		*8 - 130*
13C5 PFPeA	*75.6*		*35 - 130*
13C5 PFHxA	*94.6*		*40 - 130*
13C4 PFHpA	*96.3*		*40 - 130*
13C8 PFOA	*93.0*		*40 - 130*
13C9 PFNA	*91.9*		*40 - 130*
13C6 PFDA	*92.5*		*40 - 130*
13C7 PFUnA	*85.1*		*40 - 130*
13C2 PFDoA	*82.1*		*40 - 130*
13C2 PFTeDA	*68.0*		*20 - 130*
13C3 PFBS	*92.5*		*40 - 135*
13C3 PFHxS	*83.6*		*40 - 130*
13C8 PFOS	*82.1*		*40 - 130*
13C8 FOSA	*87.9*		*40 - 130*
d3-NMeFOSAA	*81.2*		*40 - 135*
d5-NEtFOSAA	*77.1*		*40 - 150*
13C2 4:2 FTS	*70.8*		*40 - 165*
13C2 6:2 FTS	*70.1*		*40 - 215*
13C2 8:2 FTS	*76.1*		*40 - 275*
13C3 HFPO-DA	*104*		*40 - 130*
d7-N-MeFOSE-M	*69.2*		*20 - 130*
d9-N-EtFOSE-M	*71.3*		*15 - 130*
d5-NEtPFOSA	*63.4*		*10 - 130*
d3-NMePFOSA	*57.4*		*10 - 130*

Lab Sample ID: LLCS 320-843241/2-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluorobutanoic acid (PFBA)			0.800	0.807		ug/Kg		101	70 - 140		
Perfluoropentanoic acid (PFPeA)			0.400	0.501		ug/Kg		125	60 - 150		
Perfluorohexanoic acid (PFHxA)			0.400	0.408		ug/Kg		102	65 - 140		

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-843241/2-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.419		ug/Kg		105	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.447		ug/Kg		112	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.441		ug/Kg		110	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.438		ug/Kg		110	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.437		ug/Kg		109	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.423		ug/Kg		106	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.473		ug/Kg		118	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.545		ug/Kg		136	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.336		ug/Kg		94	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.372		ug/Kg		99	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.349		ug/Kg		96	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.438		ug/Kg		115	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.373		ug/Kg		100	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.414		ug/Kg		107	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.379		ug/Kg		98	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.409		ug/Kg		105	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.754		ug/Kg		101	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.726		ug/Kg		95	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.738		ug/Kg		96	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.404		ug/Kg		101	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.403		ug/Kg		101	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.394		ug/Kg		98	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.399		ug/Kg		100	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.357		ug/Kg		89	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	2.01		ug/Kg		100	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.15		ug/Kg		107	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.291		ug/Kg		97	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.334		ug/Kg		88	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.436		ug/Kg		109	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-843241/2-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.484		ug/Kg		121	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.350		ug/Kg		87	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.364		ug/Kg		97	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.338		ug/Kg		90	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.319		ug/Kg		89	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.848		ug/Kg		106	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	1.81		ug/Kg		91	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	1.99		ug/Kg		100	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*97.8*		*8 - 130*
13C5 PFPeA	*76.3*		*35 - 130*
13C5 PFHxA	*96.9*		*40 - 130*
13C4 PFHpA	*99.5*		*40 - 130*
13C8 PFOA	*92.7*		*40 - 130*
13C9 PFNA	*95.3*		*40 - 130*
13C6 PFDA	*89.7*		*40 - 130*
13C7 PFUnA	*81.2*		*40 - 130*
13C2 PFDoA	*85.1*		*40 - 130*
13C2 PFTeDA	*70.9*		*20 - 130*
13C3 PFBS	*83.3*		*40 - 135*
13C3 PFHxS	*83.5*		*40 - 130*
13C8 PFOS	*84.3*		*40 - 130*
13C8 FOSA	*87.7*		*40 - 130*
d3-NMeFOSAA	*82.6*		*40 - 135*
d5-NEtFOSAA	*79.5*		*40 - 150*
13C2 4:2 FTS	*70.9*		*40 - 165*
13C2 6:2 FTS	*65.6*		*40 - 215*
13C2 8:2 FTS	*76.9*		*40 - 275*
13C3 HFPO-DA	*102*		*40 - 130*
d7-N-MeFOSE-M	*80.0*		*20 - 130*
d9-N-EtFOSE-M	*76.4*		*15 - 130*
d5-NEtPFOSA	*58.6*		*10 - 130*
d3-NMePFOSA	*58.0*		*10 - 130*

QC Association Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-4

LCMS

Prep Batch: 843241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-27	HFH-002-N-S012-01232025	Total/NA	Solid	1633 Shake	
320-118553-27 - DL	HFH-002-N-S012-01232025	Total/NA	Solid	1633 Shake	
MB 320-843241/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-843241/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-843241/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-843241/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 843420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-843241/1-A	Method Blank	Total/NA	Solid	1633	843241
LCS 320-843241/3-A	Lab Control Sample	Total/NA	Solid	1633	843241
LCSD 320-843241/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	843241
LLCS 320-843241/2-A	Lab Control Sample	Total/NA	Solid	1633	843241

Analysis Batch: 843806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-27	HFH-002-N-S012-01232025	Total/NA	Solid	1633	843241

Analysis Batch: 844031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-27 - DL	HFH-002-N-S012-01232025	Total/NA	Solid	1633	843241

General Chemistry

Analysis Batch: 841906

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-27	HFH-002-N-S012-01232025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118553-4
Project/Site: Spokane International Airport

Client Sample ID: HFH-002-N-S012-01232025
Lab Sample ID: 320-118553-27

Date Collected: 01/23/25 13:35
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			841906	03/24/25 13:12	JCB	EET SAC

Client Sample ID: HFH-002-N-S012-01232025
Lab Sample ID: 320-118553-27

Date Collected: 01/23/25 13:35
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 93.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.10 g	5.0 mL	843241	03/31/25 07:16	CGL	EET SAC
Total/NA	Analysis	1633		1			843806	04/02/25 14:49	RS1	EET SAC
Total/NA	Prep	1633 Shake	DL		2.10 g	5.0 mL	843241	03/31/25 07:16	CGL	EET SAC
Total/NA	Analysis	1633	DL	5			844031	04/03/25 10:00	EMF	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118553-4
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-4

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-4

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118553-27	HFH-002-N-S012-01232025	Solid	01/23/25 13:35	01/25/25 08:45

HALEY ALDRICH

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

Page 1 of 4

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633										HOLD	Number of Containers
HFH-004-N-S0005-01232025	1/23/2025	1020	Soil											X	1
HFH-004-N-S001-01232025	1/23/2025	1025	Soil	X											1
HFH-004-N-S003-01232025	1/23/2025	1030	Soil	X											1
HFH-004-FD-S003-01232025	1/23/2025	1100	Soil	X											1
HFH-004-N-S006-01232025	1/23/2025	1035	Soil											X	1
HFH-004-N-S010-01232025	1/23/2025	1040	Soil	X											1
HFH-004-FD-S010-01232025	1/23/2025	1110	Soil	X											1
HFH-005-N-S0005-01232025	1/23/2025	1115	Soil											X	1
HFH-005-N-S001-01232025	1/23/2025	1120	Soil	X											1
HFH-005-FD-S001-01232025	1/23/2025	1150	Soil	X											1

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118553 Chain of Custody

Sampled and Relinquished by	Received by
Sign	Sign
Print Cuy K Castillo de Sta	Print Carbon Des mena
Firm H A	Firm H A
Date 1/23/25 Time 1700	Date 23 24 1710
Relinquished by	**Received by**
Sign Carbon Deamena	Sign
Print Carbon Des mena	Print
Firm H A	Firm
Date 1/24/25 Time 11:10	Date 1/24/25 1110
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date 1/24/25 Time 1200	Date 1.25.25

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

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November 2024

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Sarge Clay GSI 1/23/25 1700

4/3/2025

HALEY ALDRICH

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633										HOLD	Number of Containers
HFH-005-N-S003-01232025	1/23/2025	1125	Soil	X											1
HFH-005-N-S006-01232025	1/23/2025	1130	Soil											X	1
HFH-005-N-S010-01232025	1/23/2025	1135	Soil											X	1
HFH-003-N-S0005-01232025	1/23/2025	1220	Soil											X	1
HFH-003-N-S001-01232025	1/23/2025	1225	Soil	X											1
HFH-003-N-S003-01232025	1/23/2025	1230	Soil	X											1
HFH-003-N-S006-01232025	1/23/2025	1235	Soil	X											1
HFH-003-FD-S006-01232025	1/23/2025	1305	Soil	X											1
HFH-003-N-S010-01232025	1/23/2025	1240	Soil											X	1
HFH-003-N-S012-01232025	1/23/2025	1245	Soil											X	1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Carlson	Print Carson Desmore
Firm H A	Firm H A
Date 1/23/25 Time 1700	Date 1/23/25 1700
Relinquished by	**Received by**
Sign	Sign
Print Carson Desmore	Print
Firm H A	Firm
Date 1/24/25 Time 11:10	Date 1/24/25 1110
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date 1/24/25 Time 1200	Date 1/24/25 1200

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
1 Cooler	Volume

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

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Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

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4/3/2025

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633										HOLD	Number of Containers
HFH-002-N-S0005-01232025	1/23/2025	1310	Soil											X	1
HFH-002-N-S001-01232025	1/23/2025	1315	Soil	X											1
HFH-002-FD-S001-01232025	1/23/2025	1345	Soil	X											1
HFH-002-N-S003-01232025	1/23/2025	1320	Soil	X											1
HFH-002-N-S006-01232025	1/23/2025	1325	Soil											X	1
HFH-002-N-S010-01232025	1/23/2025	1330	Soil											X	1
HFH-002-N-S012-01232025	1/23/2025	1335	Soil											X	1
FMB-004-N-S0005-01232025	1/23/2025	1550	Soil											X	1
FMB-004-N-S001-01232025	1/23/2025	1555	Soil	X											1
FMB-004-N-S003-01232025	1/23/2025	1600	Soil	X											1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print
Firm	Firm
Date Time 1700	Date 1/23/25 1700
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date 1/10 1/24/25
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
5458	Preservative
	Volume
SOLID	
18006	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

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Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

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November 2024

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4/3/2025

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447
Page 4 of 4

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633										HOLD	Number of Containers
FMB-004-S006-01232025	1/23/2025	1605	Soil											X	1
FMB-004-N-S010-01232025	1/23/2025	1610	Soil	X											1
FMB-004-FD-S010-01232025	1/23/2025	1640	Soil	X											1
FMB-004-FD-S003-01232025	1/23/2025	1630	Soil	X											1
															1
															1
															1
															1
															1
															1
															1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print Carson Desmond
Firm	Firm
Date Time 1700	Date 1/23 25 Time 1700
Relinquished by	**Received by**
Sign	Sign
Print Carson Desmond	Print McVay
Firm	Firm
Date 1/24/25 Time 11:10	Date 1110 1/24/25
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date 1/24/25 Time 1200	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

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Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

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Form 3003

November 2024

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Sage Chas GGI 1/23/25 1700

4/3/2025

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Tracking # 420356930644

Loc: 320
118553

Job _____ _____

SO / PO / FO (SAT) / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID: Lab Corr Factor: (+ / -) _____ °C

Ice 1 Wet 1 Gel _____ Other _____

Cooler Custody Seal _____

Cooler ID 2 of 2

Temp Observed: 2.1 °C Corrected 2.1 °C

From Temp Blank ☐ Sandwich ☒ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☒	☐
Cooler Temperature is acceptable?	☒	☐	☐
Frozen samples show signs of thaw?	☐	☐	☒

Initials: _____ Date 1.05.25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☒	☐	☐
Samples compromised/tampered with?	☐	☒	☐
COC is complete w/o discrepancies	☒	☐	☐
Sample custody seal?	☐	☐	☒
Sample containers have legible labels?	☒	☐	☐
Sample date/times are provided?	☒	☐	☐
Appropriate containers are used?	☒	☐	☐
Sample bottles are completely filled?	☒	☐	☐
Sample preservatives verified?	☐	☐	☒
Is the Field Sampler's name on COC?	☐	☐	☒
Samples w/o discrepancies?	☒	☒	☐
Zero headspace?*	☐	☐	☒
Alkalinity has no headspace?	☐	☐	☒
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☒
Multiphasic samples are not present?	☒	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials _____ Date 1.05.25

Notes:
5 containers Time 1040. COC time 1035.

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☒	☐	☐
NCM Filed?	☐	☐	☒
Samples received within hold time?	☒	☐	☐
Log Release checked in TALS?	☒	☐	☐

Initials _____ Date 1.05.25

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 3/14/2025 10:56:02 AM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118553-3

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

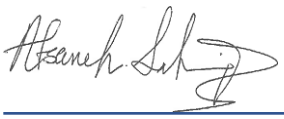
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118553-3
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
*3	ISTD response or retention time outside acceptable limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118553-3 — Eurofins Sacramento

Job Narrative
320-118553-3

Receipt
The samples were received on 1/25/2025 8:45 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.1º C.

LCMS
Method 1633: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-839026 and analytical batch 320-839186 recovered outside control limits for the following analyte: 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS).

Method 1633: Results for samples HFH-002-N-S010-01232025 (320-118553-26) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 28 days. The request for the analysis of the following samples in analytical batch 320-838822 occurred outside of this time period : HFH-005-N-S010-01232025 (320-118553-13), HFH-003-N-S012-01232025 (320-118553-20) and HFH-002-N-S010-01232025 (320-118553-26).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-3

Client Sample ID: HFH-005-N-S010-01232025 — Lab Sample ID: 320-118553-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.098	J	0.39	0.097	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.14	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.34		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.25		0.19	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.055	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.090	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.065	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.67		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.96		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.0		0.39	0.097	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: HFH-003-N-S012-01232025 — Lab Sample ID: 320-118553-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.19	J	0.39	0.096	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.29		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.84		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.10	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.28		0.19	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.074	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.14	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.47		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.078	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.064	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.61		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	17		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.067	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.15	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.3		0.39	0.096	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.8		0.39	0.096	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	1.2		0.19	0.061	ug/Kg	1	☼	1633	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.10	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: HFH-002-N-S010-01232025 — Lab Sample ID: 320-118553-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.10	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.20		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.48		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.16	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.39		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.29		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.76		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.059	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.050	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.3		0.20	0.050	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Client Sample ID: HFH-002-N-S010-01232025 (Continued)
Lab Sample ID: 320-118553-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanesulfonic acid (PFHpS)	0.077	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.063	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	6.6		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.6		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.24		0.20	0.063	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	64		2.0	0.50	ug/Kg	10	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-3

Client Sample ID: HFH-005-N-S010-01232025
Date Collected: 01/23/25 11:35
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-13
Matrix: Solid
Percent Solids: 94.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.098**	**J**	0.39	0.097	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
Perfluoropentanoic acid (PFPeA)	**0.14**	**J**	0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
Perfluorohexanoic acid (PFHxA)	**0.34**		0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
Perfluorooctanoic acid (PFOA)	**0.25**		0.19	0.060	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
Perfluorodecanoic acid (PFDA)	**0.055**	**J**	0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
Perfluorobutanesulfonic acid (PFBS)	**0.090**	**J**	0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
Perfluoropentanesulfonic acid (PFPeS)	**0.065**	**J**	0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
Perfluorohexanesulfonic acid (PFHxS)	**0.67**		0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
Perfluorooctanesulfonic acid (PFOS)	**0.96**		0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**2.0**		0.39	0.097	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.097	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1

Client Sample ID: HFH-005-N-S010-01232025

Lab Sample ID: 320-118553-13
Date Collected: 01/23/25 11:35
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 94.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	*1	0.19	0.073	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.049	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	03/11/25 11:45	03/12/25 12:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*73.4*		*8 - 130*	*03/11/25 11:45*	*03/12/25 12:11*	*1*
13C5 PFPeA	*97.0*		*35 - 130*	*03/11/25 11:45*	*03/12/25 12:11*	*1*
13C5 PFHxA	*88.0*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:11*	*1*
13C4 PFHpA	*95.4*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:11*	*1*
13C8 PFOA	*87.2*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:11*	*1*
13C9 PFNA	*79.7*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:11*	*1*
13C6 PFDA	*94.0*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:11*	*1*
13C7 PFUnA	*92.6*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:11*	*1*
13C2 PFDoA	*93.0*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:11*	*1*
13C2 PFTeDA	*76.9*		*20 - 130*	*03/11/25 11:45*	*03/12/25 12:11*	*1*
13C3 PFBS	*72.2*		*40 - 135*	*03/11/25 11:45*	*03/12/25 12:11*	*1*
13C3 PFHxS	*81.2*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:11*	*1*
13C8 PFOS	*85.6*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:11*	*1*
13C8 FOSA	*85.5*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:11*	*1*
d3-NMeFOSAA	*80.4*		*40 - 135*	*03/11/25 11:45*	*03/12/25 12:11*	*1*
d5-NEtFOSAA	*78.7*		*40 - 150*	*03/11/25 11:45*	*03/12/25 12:11*	*1*
13C2 4:2 FTS	*75.3*		*40 - 165*	*03/11/25 11:45*	*03/12/25 12:11*	*1*
13C2 6:2 FTS	*89.7*		*40 - 215*	*03/11/25 11:45*	*03/12/25 12:11*	*1*
13C2 8:2 FTS	*98.1*		*40 - 275*	*03/11/25 11:45*	*03/12/25 12:11*	*1*
13C3 HFPO-DA	*109*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:11*	*1*
d7-N-MeFOSE-M	*59.1*		*20 - 130*	*03/11/25 11:45*	*03/12/25 12:11*	*1*
d9-N-EtFOSE-M	*54.6*		*15 - 130*	*03/11/25 11:45*	*03/12/25 12:11*	*1*
d5-NEtPFOSA	*76.0*		*10 - 130*	*03/11/25 11:45*	*03/12/25 12:11*	*1*
d3-NMePFOSA	*76.5*		*10 - 130*	*03/11/25 11:45*	*03/12/25 12:11*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**5.3**	**H**	0.10	0.10	%			03/10/25 15:22	1

Client Sample ID: HFH-003-N-S012-01232025

Lab Sample ID: 320-118553-20
Date Collected: 01/23/25 12:45
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 78.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.19**	**J**	0.39	0.096	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
Perfluoropentanoic acid (PFPeA)	**0.29**		0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
Perfluorohexanoic acid (PFHxA)	**0.84**		0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-3

Client Sample ID: HFH-003-N-S012-01232025
Date Collected: 01/23/25 12:45
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-20
Matrix: Solid
Percent Solids: 78.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	**0.10**	**J**	0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
Perfluorooctanoic acid (PFOA)	**0.28**		0.19	0.060	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
Perfluorononanoic acid (PFNA)	**0.074**	**J**	0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
Perfluorodecanoic acid (PFDA)	**0.14**	**J**	0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
Perfluoroundecanoic acid (PFUnA)	**0.47**		0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
Perfluorobutanesulfonic acid (PFBS)	**0.078**	**J**	0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
Perfluoropentanesulfonic acid (PFPeS)	**0.064**	**J**	0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
Perfluorohexanesulfonic acid (PFHxS)	**0.61**		0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
Perfluorooctanesulfonic acid (PFOS)	**17**		0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
Perfluorononanesulfonic acid (PFNS)	**0.067**	**J**	0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
Perfluorodecanesulfonic acid (PFDS)	**0.15**	**J**	0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.096	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**2.3**		0.39	0.096	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**2.8**		0.39	0.096	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
Perfluorooctanesulfonamide (PFOSA)	**1.2**		0.19	0.061	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**0.10**	**J**	0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.96	0.24	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.96	0.24	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1

Client Sample ID: HFH-003-N-S012-01232025

Lab Sample ID: 320-118553-20
Date Collected: 01/23/25 12:45
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 78.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	*1	0.19	0.072	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.096	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	03/11/25 11:45	03/12/25 12:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*84.9*		*8 - 130*	*03/11/25 11:45*	*03/12/25 12:27*	*1*
13C5 PFPeA	*97.4*		*35 - 130*	*03/11/25 11:45*	*03/12/25 12:27*	*1*
13C5 PFHxA	*90.5*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:27*	*1*
13C4 PFHpA	*103*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:27*	*1*
13C8 PFOA	*82.3*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:27*	*1*
13C9 PFNA	*78.4*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:27*	*1*
13C6 PFDA	*86.1*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:27*	*1*
13C7 PFUnA	*77.4*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:27*	*1*
13C2 PFDoA	*64.4*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:27*	*1*
13C2 PFTeDA	*58.6*		*20 - 130*	*03/11/25 11:45*	*03/12/25 12:27*	*1*
13C3 PFBS	*70.4*		*40 - 135*	*03/11/25 11:45*	*03/12/25 12:27*	*1*
13C3 PFHxS	*80.6*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:27*	*1*
13C8 PFOS	*82.2*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:27*	*1*
13C8 FOSA	*61.9*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:27*	*1*
d3-NMeFOSAA	*56.3*		*40 - 135*	*03/11/25 11:45*	*03/12/25 12:27*	*1*
d5-NEtFOSAA	*55.5*		*40 - 150*	*03/11/25 11:45*	*03/12/25 12:27*	*1*
13C2 4:2 FTS	*80.0*		*40 - 165*	*03/11/25 11:45*	*03/12/25 12:27*	*1*
13C2 6:2 FTS	*88.5*		*40 - 215*	*03/11/25 11:45*	*03/12/25 12:27*	*1*
13C2 8:2 FTS	*85.2*		*40 - 275*	*03/11/25 11:45*	*03/12/25 12:27*	*1*
13C3 HFPO-DA	*109*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:27*	*1*
d7-N-MeFOSE-M	*49.8*		*20 - 130*	*03/11/25 11:45*	*03/12/25 12:27*	*1*
d9-N-EtFOSE-M	*44.0*		*15 - 130*	*03/11/25 11:45*	*03/12/25 12:27*	*1*
d5-NEtPFOSA	*36.6*		*10 - 130*	*03/11/25 11:45*	*03/12/25 12:27*	*1*
d3-NMePFOSA	*37.8*		*10 - 130*	*03/11/25 11:45*	*03/12/25 12:27*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**22**	**H**	0.10	0.10	%			03/10/25 15:22	1

Client Sample ID: HFH-002-N-S010-01232025

Lab Sample ID: 320-118553-26
Date Collected: 01/23/25 13:30
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 93.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.10**	**J**	0.40	0.10	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
Perfluoropentanoic acid (PFPeA)	**0.20**		0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
Perfluorohexanoic acid (PFHxA)	**0.48**		0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-3

Client Sample ID: HFH-002-N-S010-01232025
Date Collected: 01/23/25 13:30
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-26
Matrix: Solid
Percent Solids: 93.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	**0.16**	**J**	0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
Perfluorooctanoic acid (PFOA)	**0.39**		0.20	0.062	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
Perfluorononanoic acid (PFNA)	**0.29**		0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
Perfluorodecanoic acid (PFDA)	**0.76**		0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
Perfluoroundecanoic acid (PFUnA)	**0.059**	**J**	0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
Perfluoropentanesulfonic acid (PFPeS)	**0.050**	**J**	0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
Perfluorohexanesulfonic acid (PFHxS)	**1.3**		0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.077**	**J**	0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
Perfluorononanesulfonic acid (PFNS)	**0.063**	**J**	0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**6.6**		0.40	0.10	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**7.6**		0.40	0.10	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
Perfluorooctanesulfonamide (PFOSA)	**0.24**		0.20	0.063	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	*1	0.20	0.075	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1

Client Sample ID: HFH-002-N-S010-01232025

Date Collected: 01/23/25 13:30
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-26

Matrix: Solid
Percent Solids: 93.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	03/11/25 11:45	03/12/25 12:44	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*88.1*		*8 - 130*	*03/11/25 11:45*	*03/12/25 12:44*	*1*
13C5 PFPeA	*98.9*		*35 - 130*	*03/11/25 11:45*	*03/12/25 12:44*	*1*
13C5 PFHxA	*103*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:44*	*1*
13C4 PFHpA	*113*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:44*	*1*
13C8 PFOA	*94.9*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:44*	*1*
13C9 PFNA	*86.1*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:44*	*1*
13C6 PFDA	*89.5*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:44*	*1*
13C7 PFUnA	*82.6*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:44*	*1*
13C2 PFDoA	*67.5*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:44*	*1*
13C2 PFTeDA	*62.7*		*20 - 130*	*03/11/25 11:45*	*03/12/25 12:44*	*1*
13C3 PFBS	*74.5*		*40 - 135*	*03/11/25 11:45*	*03/12/25 12:44*	*1*
13C3 PFHxS	*79.5*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:44*	*1*
13C8 PFOS	*90.1*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:44*	*1*
13C8 FOSA	*79.5*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:44*	*1*
d3-NMeFOSAA	*80.3*		*40 - 135*	*03/11/25 11:45*	*03/12/25 12:44*	*1*
d5-NEtFOSAA	*77.0*		*40 - 150*	*03/11/25 11:45*	*03/12/25 12:44*	*1*
13C2 4:2 FTS	*80.4*		*40 - 165*	*03/11/25 11:45*	*03/12/25 12:44*	*1*
13C2 6:2 FTS	*83.3*		*40 - 215*	*03/11/25 11:45*	*03/12/25 12:44*	*1*
13C2 8:2 FTS	*82.0*		*40 - 275*	*03/11/25 11:45*	*03/12/25 12:44*	*1*
13C3 HFPO-DA	*112*		*40 - 130*	*03/11/25 11:45*	*03/12/25 12:44*	*1*
d7-N-MeFOSE-M	*58.6*		*20 - 130*	*03/11/25 11:45*	*03/12/25 12:44*	*1*
d9-N-EtFOSE-M	*51.8*		*15 - 130*	*03/11/25 11:45*	*03/12/25 12:44*	*1*
d5-NEtPFOSA	*47.9*		*10 - 130*	*03/11/25 11:45*	*03/12/25 12:44*	*1*
d3-NMePFOSA	*51.8*		*10 - 130*	*03/11/25 11:45*	*03/12/25 12:44*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**64**		2.0	0.50	ug/Kg	☼	03/11/25 11:45	03/13/25 12:30	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*77.5*	**3*	*40 - 130*	*03/11/25 11:45*	*03/13/25 12:30*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**6.3**	**H**	0.10	0.10	%			03/10/25 15:22	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118553-3
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (8-130)	PFPeA (35-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (40-130)
320-118553-13	HFH-005-N-S010-01232025	73.4	97.0	88.0	95.4	87.2	79.7	94.0	92.6
320-118553-20	HFH-003-N-S012-01232025	84.9	97.4	90.5	103	82.3	78.4	86.1	77.4
320-118553-26	HFH-002-N-S010-01232025	88.1	98.9	103	113	94.9	86.1	89.5	82.6
320-118553-26 - DL	HFH-002-N-S010-01232025								
LCS 320-839026/3-A	Lab Control Sample	87.7	97.7	92.6	97.6	82.8	76.6	85.4	68.6
LCSD 320-839026/4-A	Lab Control Sample Dup	85.8	100	96.6	101	87.3	79.3	91.5	90.3
LLCS 320-839026/2-A	Lab Control Sample	90.5	92.1	94.6	106	92.7	82.1	93.9	84.5
MB 320-839026/1-A	Method Blank	90.0	99.6	92.4	107	87.8	83.6	97.2	90.2

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (40-130)	PFTDA (20-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-135)	d5NEFOS (40-150)
320-118553-13	HFH-005-N-S010-01232025	93.0	76.9	72.2	81.2	85.6	85.5	80.4	78.7
320-118553-20	HFH-003-N-S012-01232025	64.4	58.6	70.4	80.6	82.2	61.9	56.3	55.5
320-118553-26	HFH-002-N-S010-01232025	67.5	62.7	74.5	79.5	90.1	79.5	80.3	77.0
320-118553-26 - DL	HFH-002-N-S010-01232025					77.5 *3			
LCS 320-839026/3-A	Lab Control Sample	59.1	58.3	81.1	80.5	79.1	53.3	63.8	55.1
LCSD 320-839026/4-A	Lab Control Sample Dup	81.2	80.5	83.4	87.7	83.6	70.0	82.3	81.3
LLCS 320-839026/2-A	Lab Control Sample	80.5	78.6	77.4	82.6	85.9	67.7	85.9	79.2
MB 320-839026/1-A	Method Blank	87.0	79.5	87.0	88.1	90.9	72.6	84.5	81.2

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118553-13	HFH-005-N-S010-01232025	75.3	89.7	98.1	109	59.1	54.6	76.0	76.5
320-118553-20	HFH-003-N-S012-01232025	80.0	88.5	85.2	109	49.8	44.0	36.6	37.8
320-118553-26	HFH-002-N-S010-01232025	80.4	83.3	82.0	112	58.6	51.8	47.9	51.8
320-118553-26 - DL	HFH-002-N-S010-01232025								
LCS 320-839026/3-A	Lab Control Sample	89.2	89.4	73.1	97.7	45.7	41.1	35.6	39.0
LCSD 320-839026/4-A	Lab Control Sample Dup	99.9	92.4	89.4	99.9	65.1	60.5	43.0	45.6
LLCS 320-839026/2-A	Lab Control Sample	86.6	91.0	84.4	99.9	62.4	55.7	39.2	40.7
MB 320-839026/1-A	Method Blank	95.4	97.6	81.8	103	65.9	61.4	41.5	43.4

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118553-3
Project/Site: Spokane International Airport

M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-839026/1-A
Matrix: Solid
Analysis Batch: 839186

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 839026

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-839026/1-A
Matrix: Solid
Analysis Batch: 839186

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 839026

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		03/11/25 11:45	03/12/25 08:21	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		03/11/25 11:45	03/12/25 08:21	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*90.0*		*8 - 130*	*03/11/25 11:45*	*03/12/25 08:21*	*1*
13C5 PFPeA	*99.6*		*35 - 130*	*03/11/25 11:45*	*03/12/25 08:21*	*1*
13C5 PFHxA	*92.4*		*40 - 130*	*03/11/25 11:45*	*03/12/25 08:21*	*1*
13C4 PFHpA	*107*		*40 - 130*	*03/11/25 11:45*	*03/12/25 08:21*	*1*
13C8 PFOA	*87.8*		*40 - 130*	*03/11/25 11:45*	*03/12/25 08:21*	*1*
13C9 PFNA	*83.6*		*40 - 130*	*03/11/25 11:45*	*03/12/25 08:21*	*1*
13C6 PFDA	*97.2*		*40 - 130*	*03/11/25 11:45*	*03/12/25 08:21*	*1*
13C7 PFUnA	*90.2*		*40 - 130*	*03/11/25 11:45*	*03/12/25 08:21*	*1*
13C2 PFDoA	*87.0*		*40 - 130*	*03/11/25 11:45*	*03/12/25 08:21*	*1*
13C2 PFTeDA	*79.5*		*20 - 130*	*03/11/25 11:45*	*03/12/25 08:21*	*1*
13C3 PFBS	*87.0*		*40 - 135*	*03/11/25 11:45*	*03/12/25 08:21*	*1*
13C3 PFHxS	*88.1*		*40 - 130*	*03/11/25 11:45*	*03/12/25 08:21*	*1*
13C8 PFOS	*90.9*		*40 - 130*	*03/11/25 11:45*	*03/12/25 08:21*	*1*
13C8 FOSA	*72.6*		*40 - 130*	*03/11/25 11:45*	*03/12/25 08:21*	*1*
d3-NMeFOSAA	*84.5*		*40 - 135*	*03/11/25 11:45*	*03/12/25 08:21*	*1*
d5-NEtFOSAA	*81.2*		*40 - 150*	*03/11/25 11:45*	*03/12/25 08:21*	*1*
13C2 4:2 FTS	*95.4*		*40 - 165*	*03/11/25 11:45*	*03/12/25 08:21*	*1*
13C2 6:2 FTS	*97.6*		*40 - 215*	*03/11/25 11:45*	*03/12/25 08:21*	*1*
13C2 8:2 FTS	*81.8*		*40 - 275*	*03/11/25 11:45*	*03/12/25 08:21*	*1*
13C3 HFPO-DA	*103*		*40 - 130*	*03/11/25 11:45*	*03/12/25 08:21*	*1*
d7-N-MeFOSE-M	*65.9*		*20 - 130*	*03/11/25 11:45*	*03/12/25 08:21*	*1*
d9-N-EtFOSE-M	*61.4*		*15 - 130*	*03/11/25 11:45*	*03/12/25 08:21*	*1*
d5-NEtPFOSA	*41.5*		*10 - 130*	*03/11/25 11:45*	*03/12/25 08:21*	*1*
d3-NMePFOSA	*43.4*		*10 - 130*	*03/11/25 11:45*	*03/12/25 08:21*	*1*

Lab Sample ID: LCS 320-839026/3-A
Matrix: Solid
Analysis Batch: 839186

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839026

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.88		ug/Kg		98	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.21		ug/Kg		89	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.44		ug/Kg		98	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.35		ug/Kg		94	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.37		ug/Kg		95	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.44		ug/Kg		98	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.18		ug/Kg		87	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-839026/3-A
Matrix: Solid
Analysis Batch: 839186

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839026

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.53		ug/Kg		101	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.39		ug/Kg		96	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.17		ug/Kg		87	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.32		ug/Kg		93	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	1.70		ug/Kg		77	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.00		ug/Kg		85	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.93		ug/Kg		85	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.29		ug/Kg		96	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.14		ug/Kg		92	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	1.93		ug/Kg		80	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	1.63		ug/Kg		68	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	1.36		ug/Kg		56	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.44		ug/Kg		95	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.82		ug/Kg		101	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.83		ug/Kg		101	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.52		ug/Kg		101	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.45		ug/Kg		98	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.47		ug/Kg		99	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.26		ug/Kg		91	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.45		ug/Kg		98	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.0		ug/Kg		96	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	11.7		ug/Kg		94	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.87		ug/Kg		100	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.11		ug/Kg		89	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.23		ug/Kg		89	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.29		ug/Kg		92	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.92		ug/Kg		117	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-839026/3-A
Matrix: Solid
Analysis Batch: 839186

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839026

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	1.85		ug/Kg		79	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.28		ug/Kg		54	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.05		ug/Kg		92	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.20		ug/Kg		84	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.2		ug/Kg		90	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	8.58		ug/Kg		69	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*87.7*		*8 - 130*
13C5 PFPeA	*97.7*		*35 - 130*
13C5 PFHxA	*92.6*		*40 - 130*
13C4 PFHpA	*97.6*		*40 - 130*
13C8 PFOA	*82.8*		*40 - 130*
13C9 PFNA	*76.6*		*40 - 130*
13C6 PFDA	*85.4*		*40 - 130*
13C7 PFUnA	*68.6*		*40 - 130*
13C2 PFDoA	*59.1*		*40 - 130*
13C2 PFTeDA	*58.3*		*20 - 130*
13C3 PFBS	*81.1*		*40 - 135*
13C3 PFHxS	*80.5*		*40 - 130*
13C8 PFOS	*79.1*		*40 - 130*
13C8 FOSA	*53.3*		*40 - 130*
d3-NMeFOSAA	*63.8*		*40 - 135*
d5-NEtFOSAA	*55.1*		*40 - 150*
13C2 4:2 FTS	*89.2*		*40 - 165*
13C2 6:2 FTS	*89.4*		*40 - 215*
13C2 8:2 FTS	*73.1*		*40 - 275*
13C3 HFPO-DA	*97.7*		*40 - 130*
d7-N-MeFOSE-M	*45.7*		*20 - 130*
d9-N-EtFOSE-M	*41.1*		*15 - 130*
d5-NEtPFOSA	*35.6*		*10 - 130*
d3-NMePFOSA	*39.0*		*10 - 130*

Lab Sample ID: LCSD 320-839026/4-A
Matrix: Solid
Analysis Batch: 839186

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 839026

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	5.08		ug/Kg		102	70 - 140	4	30
Perfluoropentanoic acid (PFPeA)			2.50	2.26		ug/Kg		91	60 - 150	2	30
Perfluorohexanoic acid (PFHxA)			2.50	2.23		ug/Kg		89	65 - 140	9	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.25		ug/Kg		90	65 - 145	4	30
Perfluorooctanoic acid (PFOA)			2.50	2.38		ug/Kg		95	70 - 150	0	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-839026/4-A
Matrix: Solid
Analysis Batch: 839186

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 839026

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.34		ug/Kg		94	70 - 155	4	30
Perfluorodecanoic acid (PFDA)	2.50	2.39		ug/Kg		95	70 - 155	9	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.39		ug/Kg		96	70 - 155	6	30
Perfluorododecanoic acid (PFDoA)	2.50	2.44		ug/Kg		98	70 - 150	2	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.35		ug/Kg		94	65 - 150	8	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.26		ug/Kg		91	65 - 150	2	30
Perfluorobutanesulfonic acid (PFBS)	2.22	1.73		ug/Kg		78	65 - 145	2	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.03		ug/Kg		87	55 - 160	2	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.90		ug/Kg		83	60 - 150	2	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.17		ug/Kg		91	65 - 155	6	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.10		ug/Kg		90	65 - 160	2	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.12		ug/Kg		88	55 - 140	9	30
Perfluorodecanesulfonic acid (PFDS)	2.41	1.96		ug/Kg		82	40 - 155	18	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	1.79		ug/Kg		74	25 - 160	27	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.40		ug/Kg		94	60 - 150	1	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.56		ug/Kg		96	55 - 200	6	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.49		ug/Kg		94	70 - 150	7	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.50		ug/Kg		100	70 - 140	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.39		ug/Kg		96	70 - 155	2	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.49		ug/Kg		100	70 - 140	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.35		ug/Kg		94	65 - 155	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.20		ug/Kg		88	65 - 165	11	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.9		ug/Kg		95	70 - 140	1	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	11.7		ug/Kg		94	70 - 135	0	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.73		ug/Kg		92	70 - 145	8	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	1.86		ug/Kg		79	70 - 160	13	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.04		ug/Kg		82	30 - 140	9	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.16		ug/Kg		86	60 - 150	6	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-839026/4-A
Matrix: Solid
Analysis Batch: 839186

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 839026

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.17		ug/Kg		87	60 - 155	30	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	1.95		ug/Kg		83	70 - 150	5	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.75	*1	ug/Kg		74	45 - 160	31	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.96		ug/Kg		88	70 - 140	4	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.09		ug/Kg		82	45 - 130	3	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.0		ug/Kg		88	60 - 130	2	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	10.1		ug/Kg		81	60 - 150	16	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*85.8*		*8 - 130*
13C5 PFPeA	*100*		*35 - 130*
13C5 PFHxA	*96.6*		*40 - 130*
13C4 PFHpA	*101*		*40 - 130*
13C8 PFOA	*87.3*		*40 - 130*
13C9 PFNA	*79.3*		*40 - 130*
13C6 PFDA	*91.5*		*40 - 130*
13C7 PFUnA	*90.3*		*40 - 130*
13C2 PFDoA	*81.2*		*40 - 130*
13C2 PFTeDA	*80.5*		*20 - 130*
13C3 PFBS	*83.4*		*40 - 135*
13C3 PFHxS	*87.7*		*40 - 130*
13C8 PFOS	*83.6*		*40 - 130*
13C8 FOSA	*70.0*		*40 - 130*
d3-NMeFOSAA	*82.3*		*40 - 135*
d5-NEtFOSAA	*81.3*		*40 - 150*
13C2 4:2 FTS	*99.9*		*40 - 165*
13C2 6:2 FTS	*92.4*		*40 - 215*
13C2 8:2 FTS	*89.4*		*40 - 275*
13C3 HFPO-DA	*99.9*		*40 - 130*
d7-N-MeFOSE-M	*65.1*		*20 - 130*
d9-N-EtFOSE-M	*60.5*		*15 - 130*
d5-NEtPFOSA	*43.0*		*10 - 130*
d3-NMePFOSA	*45.6*		*10 - 130*

Lab Sample ID: LLCS 320-839026/2-A
Matrix: Solid
Analysis Batch: 839186

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839026

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.773		ug/Kg		97	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.373		ug/Kg		93	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.349		ug/Kg		87	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-839026/2-A
Matrix: Solid
Analysis Batch: 839186

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839026

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.366		ug/Kg		92	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.400		ug/Kg		100	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.416		ug/Kg		104	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.355		ug/Kg		89	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.384		ug/Kg		96	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.368		ug/Kg		92	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.386		ug/Kg		97	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.374		ug/Kg		93	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.287		ug/Kg		81	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.329		ug/Kg		88	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.323		ug/Kg		88	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.357		ug/Kg		93	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.346		ug/Kg		93	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.330		ug/Kg		86	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.323		ug/Kg		84	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.296		ug/Kg		76	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.801		ug/Kg		107	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.796		ug/Kg		104	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.748		ug/Kg		97	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.421		ug/Kg		105	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.408		ug/Kg		102	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.429		ug/Kg		107	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.379		ug/Kg		95	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.401		ug/Kg		100	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.95		ug/Kg		98	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	1.99		ug/Kg		99	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.288		ug/Kg		96	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.327		ug/Kg		86	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.371		ug/Kg		93	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-839026/2-A
Matrix: Solid
Analysis Batch: 839186

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839026

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.373		ug/Kg		93	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.383		ug/Kg		96	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.321		ug/Kg		86	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.273		ug/Kg		72	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.313		ug/Kg		88	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.783		ug/Kg		98	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	1.77		ug/Kg		88	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	1.55		ug/Kg		77	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*90.5*		*8 - 130*
13C5 PFPeA	*92.1*		*35 - 130*
13C5 PFHxA	*94.6*		*40 - 130*
13C4 PFHpA	*106*		*40 - 130*
13C8 PFOA	*92.7*		*40 - 130*
13C9 PFNA	*82.1*		*40 - 130*
13C6 PFDA	*93.9*		*40 - 130*
13C7 PFUnA	*84.5*		*40 - 130*
13C2 PFDoA	*80.5*		*40 - 130*
13C2 PFTeDA	*78.6*		*20 - 130*
13C3 PFBS	*77.4*		*40 - 135*
13C3 PFHxS	*82.6*		*40 - 130*
13C8 PFOS	*85.9*		*40 - 130*
13C8 FOSA	*67.7*		*40 - 130*
d3-NMeFOSAA	*85.9*		*40 - 135*
d5-NEtFOSAA	*79.2*		*40 - 150*
13C2 4:2 FTS	*86.6*		*40 - 165*
13C2 6:2 FTS	*91.0*		*40 - 215*
13C2 8:2 FTS	*84.4*		*40 - 275*
13C3 HFPO-DA	*99.9*		*40 - 130*
d7-N-MeFOSE-M	*62.4*		*20 - 130*
d9-N-EtFOSE-M	*55.7*		*15 - 130*
d5-NEtPFOSA	*39.2*		*10 - 130*
d3-NMePFOSA	*40.7*		*10 - 130*

QC Association Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-3

LCMS

Prep Batch: 839026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-13	HFH-005-N-S010-01232025	Total/NA	Solid	1633 Shake	
320-118553-20	HFH-003-N-S012-01232025	Total/NA	Solid	1633 Shake	
320-118553-26	HFH-002-N-S010-01232025	Total/NA	Solid	1633 Shake	
320-118553-26 - DL	HFH-002-N-S010-01232025	Total/NA	Solid	1633 Shake	
MB 320-839026/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-839026/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-839026/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-839026/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 839186

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-13	HFH-005-N-S010-01232025	Total/NA	Solid	1633	839026
320-118553-20	HFH-003-N-S012-01232025	Total/NA	Solid	1633	839026
320-118553-26	HFH-002-N-S010-01232025	Total/NA	Solid	1633	839026
MB 320-839026/1-A	Method Blank	Total/NA	Solid	1633	839026
LCS 320-839026/3-A	Lab Control Sample	Total/NA	Solid	1633	839026
LCSD 320-839026/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	839026
LLCS 320-839026/2-A	Lab Control Sample	Total/NA	Solid	1633	839026

Analysis Batch: 839573

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-26 - DL	HFH-002-N-S010-01232025	Total/NA	Solid	1633	839026

General Chemistry

Analysis Batch: 838822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-13	HFH-005-N-S010-01232025	Total/NA	Solid	1633	
320-118553-20	HFH-003-N-S012-01232025	Total/NA	Solid	1633	
320-118553-26	HFH-002-N-S010-01232025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118553-3
Project/Site: Spokane International Airport

Client Sample ID: HFH-005-N-S010-01232025
Lab Sample ID: 320-118553-13
Date Collected: 01/23/25 11:35
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			838822	03/10/25 15:22	CFR	EET SAC

Client Sample ID: HFH-005-N-S010-01232025
Lab Sample ID: 320-118553-13
Date Collected: 01/23/25 11:35
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 94.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.17 g	5.00 mL	839026	03/11/25 11:45	K1D	EET SAC
Total/NA	Analysis	1633		1			839186	03/12/25 12:11	N1K	EET SAC

Client Sample ID: HFH-003-N-S012-01232025
Lab Sample ID: 320-118553-20
Date Collected: 01/23/25 12:45
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			838822	03/10/25 15:22	CFR	EET SAC

Client Sample ID: HFH-003-N-S012-01232025
Lab Sample ID: 320-118553-20
Date Collected: 01/23/25 12:45
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 78.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.66 g	5.00 mL	839026	03/11/25 11:45	K1D	EET SAC
Total/NA	Analysis	1633		1			839186	03/12/25 12:27	N1K	EET SAC

Client Sample ID: HFH-002-N-S010-01232025
Lab Sample ID: 320-118553-26
Date Collected: 01/23/25 13:30
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			838822	03/10/25 15:22	CFR	EET SAC

Client Sample ID: HFH-002-N-S010-01232025
Lab Sample ID: 320-118553-26
Date Collected: 01/23/25 13:30
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 93.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.12 g	5.00 mL	839026	03/11/25 11:45	K1D	EET SAC
Total/NA	Analysis	1633		1			839186	03/12/25 12:44	N1K	EET SAC
Total/NA	Prep	1633 Shake	DL		2.12 g	5.00 mL	839026	03/11/25 11:45	K1D	EET SAC
Total/NA	Analysis	1633	DL	10			839573	03/13/25 12:30	C1P	EET SAC

Laboratory References:
EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118553-3
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-3

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118553-13	HFH-005-N-S010-01232025	Solid	01/23/25 11:35	01/25/25 08:45
320-118553-20	HFH-003-N-S012-01232025	Solid	01/23/25 12:45	01/25/25 08:45
320-118553-26	HFH-002-N-S010-01232025	Solid	01/23/25 13:30	01/25/25 08:45

HALEY ALDRICH

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633										HOLD	Number of Containers
HFH-004-N-S0005-01232025	1/23/2025	1020	Soil											X	1
HFH-004-N-S001-01232025	1/23/2025	1025	Soil	X											1
HFH-004-N-S003-01232025	1/23/2025	1030	Soil	X											1
HFH-004-FD-S003-01232025	1/23/2025	1100	Soil	X											1
HFH-004-N-S006-01232025	1/23/2025	1035	Soil											X	1
HFH-004-N-S010-01232025	1/23/2025	1040	Soil	X											1
HFH-004-FD-S010-01232025	1/23/2025	1110	Soil	X											1
HFH-005-N-S0005-01232025	1/23/2025	1115	Soil											X	1
HFH-005-N-S001-01232025	1/23/2025	1120	Soil	X											1
HFH-005-FD-S001-01232025	1/23/2025	1150	Soil	X											1

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118553 Chain of Custody

Sampled and Relinquished by	Received by
Sign	Sign
Print Cuy K Castillo de Sta	Print Carbon Des mena
Firm H A	Firm H A
Date 1/23/25 Time 1700	Date 23 25 1710
Relinquished by	**Received by**
Sign Carbon Deamena	Sign
Print Carbon Des mena	Print
Firm H A	Firm
Date 1/24/25 Time 11:10	Date 1/24/25 1110
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date 1/24/25 Time 1200	Date 1.25.25

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

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November 2024

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Sage Dev
GFI
1/23/25
1700

3/14/2025

HALEY ALDRICH	Haley & Aldrich, Inc. 505 W Riverside Ave., STE 450, Spokane, WA 99201-0513	Phone Fax	(509) 960-7447 (509) 960-7447
		Page	2 of 4

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633										HOLD	Number of Containers
HFH-005-N-S003-01232025	1/23/2025	1125	Soil	X											1
HFH-005-N-S006-01232025	1/23/2025	1130	Soil											X	1
HFH-005-N-S010-01232025	1/23/2025	1135	Soil											X	1
HFH-003-N-S0005-01232025	1/23/2025	1220	Soil											X	1
HFH-003-N-S001-01232025	1/23/2025	1225	Soil	X											1
HFH-003-N-S003-01232025	1/23/2025	1230	Soil	X											1
HFH-003-N-S006-01232025	1/23/2025	1235	Soil	X											1
HFH-003-FD-S006-01232025	1/23/2025	1305	Soil	X											1
HFH-003-N-S010-01232025	1/23/2025	1240	Soil											X	1
HFH-003-N-S012-01232025	1/23/2025	1245	Soil											X	1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Custenson	Print Carson Deshazer
Firm H+A	Firm H+A
Date 1/23/25 Time 1700	Date 1/23/25 1700
Relinquished by	**Received by**
Sign Carson Deshazer	Sign
Print Carson Deshazer	Print
Firm H+A	Firm
Date 1/24/25 Time 11:10	Date 1/24/25 1110
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date 1/24/25 Time 1200	Date 1/24/25 1200

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
1 Cool	Volume

PRESERVATION KEY			
A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

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_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

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November 2024

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HALEY ALDRICH

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633										HOLD	Number of Containers
HFH-002-N-S0005-01232025	1/23/2025	1310	Soil											X	1
HFH-002-N-S001-01232025	1/23/2025	1315	Soil	X											1
HFH-002-FD-S001-01232025	1/23/2025	1345	Soil	X											1
HFH-002-N-S003-01232025	1/23/2025	1320	Soil	X											1
HFH-002-N-S006-01232025	1/23/2025	1325	Soil											X	1
HFH-002-N-S010-01232025	1/23/2025	1330	Soil											X	1
HFH-002-N-S012-01232025	1/23/2025	1335	Soil											X	1
FMB-004-N-S0005-01232025	1/23/2025	1550	Soil											X	1
FMB-004-N-S001-01232025	1/23/2025	1555	Soil	X											1
FMB-004-N-S003-01232025	1/23/2025	1600	Soil	X											1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print
Firm	Firm
Date Time 1700	Date 1/23/25 1700
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date 1/10 1/24/25
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date 1/24/25 Time 1700	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
5458	Preservative
	Volume
SOLID	
18006	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

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Required Reporting Limits and Data Quality Objectives

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☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

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November 2024

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3/14/2025

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447
Page 4 of 4

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633										HOLD	Number of Containers
FMB-004-S006-01232025	1/23/2025	1605	Soil											X	1
FMB-004-N-S010-01232025	1/23/2025	1610	Soil	X											1
FMB-004-FD-S010-01232025	1/23/2025	1640	Soil	X											1
FMB-004-FD-S003-01232025	1/23/2025	1630	Soil	X											1
															1
															1
															1
															1
															1
															1
															1

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print Carson Desmond
Firm	Firm
Date Time 1700	Date 1/23/25 Time 1700
Relinquished by	**Received by**
Sign	Sign
Print Carson Desmond	Print McVay
Firm	Firm
Date 1/24/25 Time 11:10	Date 1110 1/24/25
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date 1/24/25 Time 1200	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

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Required Reporting Limits and Data Quality Objectives

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☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

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Form 3003

November 2024

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Sage Chas GGI 1/23/25 1700

3/14/2025

2.1°C

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Sacramento Sample Receiving Notes (SSRN)

Tracking # 420356930644

Loc: 320
118553

Job _____ _____

SO / PO / FO (SAT) / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID: Lab Corr Factor: (+ / -) _____ °C

Ice 1 Wet 1 Gel _____ Other _____

Cooler Custody Seal _____

Cooler ID 2 of 2

Temp Observed: 2.1 °C Corrected 2.1 °C

From Temp Blank ☐ Sandwich ☒ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☒	☐
Cooler Temperature is acceptable?	☒	☐	☐
Frozen samples show signs of thaw?	☐	☐	☒

Initials: _____ Date 1.05.25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☒	☐	☐
Samples compromised/tampered with?	☐	☒	☐
COC is complete w/o discrepancies	☒	☐	☐
Sample custody seal?	☐	☐	☒
Sample containers have legible labels?	☒	☐	☐
Sample date/times are provided?	☒	☐	☐
Appropriate containers are used?	☒	☐	☐
Sample bottles are completely filled?	☒	☐	☐
Sample preservatives verified?	☐	☐	☒
Is the Field Sampler's name on COC?	☐	☐	☒
Samples w/o discrepancies?	☒	☒	☐
Zero headspace?*	☐	☐	☒
Alkalinity has no headspace?	☐	☐	☒
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☒
Multiphasic samples are not present?	☒	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials _____ Date 1.05.25

Notes:
5 containers Time 1040. COC time 1035.

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☒	☐	☐
NCM Filed?	☐	☐	☒
Samples received within hold time?	☒	☐	☐
Log Release checked in TALS?	☒	☐	☐

Initials _____ Date 1.05.25

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

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JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118553-2

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

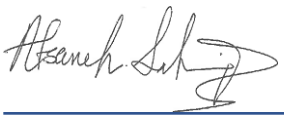
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118553-2
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
*3	ISTD response or retention time outside acceptable limits.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118553-2 — Eurofins Sacramento

Job Narrative
320-118553-2

Receipt
The samples were received on 1/25/2025 8:45 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.1º C.

Receipt Exceptions

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): HFH-004-N-S006-01232025 (320-118553-5).
Container time 1040. COC time 1035.

LCMS
Method 1633: Results for samples HFH-004-N-S0005-01232025 (320-118553-1), HFH-003-N-S010-01232025 (320-118553-19) and HFH-002-N-S006-01232025 (320-118553-25) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

Method 1633: The continuing calibration verifications (CCV) associated with batch 320-836644 recovered above the upper control limit for the isotope dilution analytes (IDA) 13C2 4:2 FTS, 13C2 6:2 FTS and 13C2 8:2 FTS. The associated target analytes, 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS), 1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) and 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) were within control limits in the CCVs, therefore the data is reported: HFH-005-N-S006-01232025 (320-118553-12), HFH-002-N-S0005-01232025 (320-118553-21), HFH-002-N-S006-01232025 (320-118553-25), FMB-004-N-S0005-01232025 (320-118553-28), FMB-004-N-S006-01232025 (320-118553-31) and (CCV 320-836644/13).

Method 1633: The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. The associated analytes have been flagged: HFH-005-N-S006-01232025 (320-118553-12).

Method 1633: The low level continuing calibration verification (CCVL) associated with batch 320-836600 recovered above the upper control limit for isotope dilution analytes (IDA) 13C2 6:2 FTS, 13C2 8:2 FTS and d3-NMeFOSAA, The associated target analytes, 1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS), 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) and N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA), were within control limits in the CCV, therefore the data is reported: (CCVL 320-836600/2).

Method 1633: The continuing calibration verification (CCV) associated with batch 320-837059 recovered above the upper control limit for Nonafluoro-3,6-dioxaheptanoic acid (NFDHA). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 1633: The continuing calibration verification (CCV) associated with batch 320-837059 recovered above the upper control limit for the IDA compound 13C2 4:2 FTS. The target analyte associated with this IDA, 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS), was in control in the CCV; therefore, the data have been reported. HFH-003-N-S0005-01232025 (320-118553-14), HFH-003-N-S010-01232025 (320-118553-19) and (CCV 320-837059/13)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method Moisture: The following samples were prepared and analyzed outside the hold time : HFH-002-N-S0005-01232025 (320-118553-21), FMB-004-N-S0005-01232025 (320-118553-28) and FMB-004-N-S006-01232025 (320-118553-31).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-2

Client Sample ID: HFH-004-N-S0005-01232025 — Lab Sample ID: 320-118553-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.17	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.39		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.20		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.43		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.65		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.32		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	3.2		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.072	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.33		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.17	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.38		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	7.4		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.47		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.12	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.15	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.32	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.34	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.70		0.20	0.063	ug/Kg	1	☼	1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	0.28	J	1.0	0.25	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	38		2.0	0.50	ug/Kg	10	☼	1633	Total/NA

Client Sample ID: HFH-004-N-S006-01232025 — Lab Sample ID: 320-118553-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.19	J	0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.13	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.81		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.056	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.4		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.38	J	0.39	0.098	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: HFH-005-N-S0005-01232025 — Lab Sample ID: 320-118553-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.064	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: HFH-005-N-S006-01232025 — Lab Sample ID: 320-118553-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.24		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.70		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.1		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.77		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.39	I	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA	5.8		0.40	0.10	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-2

Client Sample ID: HFH-003-N-S0005-01232025 — Lab Sample ID: 320-118553-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.13	J	0.39	0.099	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.27		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.51		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.094	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.20		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.089	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.063	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.73		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.64		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.12	J	0.20	0.057	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.10	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.13	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.0		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.067	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	7.8		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.28		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanesulfonic acid (PFDoS)	1.5		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.3		0.39	0.099	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	3.6		0.39	0.099	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	1.9		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.15	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.058	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	0.42	J	0.99	0.25	ug/Kg	1	☼	1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	0.50	J	0.99	0.25	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: HFH-003-N-S010-01232025 — Lab Sample ID: 320-118553-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.35	J	0.41	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	1.1		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	1.7		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.32		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.65		0.21	0.064	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.15	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.13	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.16	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.22		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.26		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.5		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.11	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	5.6		0.41	0.10	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.9		0.41	0.10	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Client Sample ID: HFH-003-N-S010-01232025 (Continued) — Lab Sample ID: 320-118553-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonamide (PFOSA)	0.65		0.21	0.065	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	27		2.1	0.52	ug/Kg	10	☼	1633	Total/NA

Client Sample ID: HFH-002-N-S0005-01232025 — Lab Sample ID: 320-118553-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	1.2		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.42		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.54		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.31		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.078	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.24		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.40		0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: HFH-002-N-S006-01232025 — Lab Sample ID: 320-118553-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.37		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	1.2		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.098	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.49		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.42		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.94		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.39		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.30		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.059	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.69		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.15	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.67		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	4.1		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.12	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.30		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	0.25	J	0.98	0.24	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	150		2.0	0.49	ug/Kg	10	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA	4.2		0.39	0.098	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA	20		0.39	0.098	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FMB-004-N-S0005-01232025 — Lab Sample ID: 320-118553-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorodecanoic acid (PFDA)	0.10	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.41		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.18	J	0.20	0.058	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-2

Client Sample ID: FMB-004-N-S006-01232025

Lab Sample ID: 320-118553-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.19	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.20		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.11	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.74		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.095	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.077	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.082	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.0		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.19	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.4		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA	1.9		0.40	0.10	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-2

Client Sample ID: HFH-004-N-S0005-01232025
Date Collected: 01/23/25 10:20
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-1
Matrix: Solid
Percent Solids: 86.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
Perfluoropentanoic acid (PFPeA)	**0.17**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
Perfluorohexanoic acid (PFHxA)	**0.39**		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
Perfluoroheptanoic acid (PFHpA)	**0.20**		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
Perfluorooctanoic acid (PFOA)	**0.43**		0.20	0.062	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
Perfluorononanoic acid (PFNA)	**0.65**		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
Perfluorodecanoic acid (PFDA)	**0.32**		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
Perfluoroundecanoic acid (PFUnA)	**3.2**		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
Perfluorododecanoic acid (PFDoA)	**0.072**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
Perfluorotridecanoic acid (PFTrDA)	**0.33**		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
Perfluorobutanesulfonic acid (PFBS)	**0.17**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
Perfluoropentanesulfonic acid (PFPeS)	**0.38**		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
Perfluorohexanesulfonic acid (PFHxS)	**7.4**		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.47**		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
Perfluorononanesulfonic acid (PFNS)	**0.12**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
Perfluorodecanesulfonic acid (PFDS)	**0.15**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.32**	**J**	0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**0.34**	**J**	0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
Perfluorooctanesulfonamide (PFOSA)	**0.70**		0.20	0.063	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-2

Client Sample ID: HFH-004-N-S0005-01232025
Date Collected: 01/23/25 10:20
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-1
Matrix: Solid
Percent Solids: 86.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	**0.28**	**J**	1.0	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 22:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*100*		*8 - 130*	*02/27/25 04:51*	*02/27/25 22:09*	*1*
13C5 PFPeA	*96.1*		*35 - 130*	*02/27/25 04:51*	*02/27/25 22:09*	*1*
13C5 PFHxA	*88.5*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:09*	*1*
13C4 PFHpA	*94.8*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:09*	*1*
13C8 PFOA	*95.5*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:09*	*1*
13C9 PFNA	*91.9*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:09*	*1*
13C6 PFDA	*85.9*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:09*	*1*
13C7 PFUnA	*87.5*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:09*	*1*
13C2 PFDoA	*82.3*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:09*	*1*
13C2 PFTeDA	*82.9*		*20 - 130*	*02/27/25 04:51*	*02/27/25 22:09*	*1*
13C3 PFBS	*89.5*		*40 - 135*	*02/27/25 04:51*	*02/27/25 22:09*	*1*
13C3 PFHxS	*88.1*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:09*	*1*
13C8 PFOS	*100*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:09*	*1*
13C8 FOSA	*93.7*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:09*	*1*
d3-NMeFOSAA	*106*		*40 - 135*	*02/27/25 04:51*	*02/27/25 22:09*	*1*
d5-NEtFOSAA	*109*		*40 - 150*	*02/27/25 04:51*	*02/27/25 22:09*	*1*
13C2 4:2 FTS	*108*		*40 - 165*	*02/27/25 04:51*	*02/27/25 22:09*	*1*
13C2 6:2 FTS	*107*		*40 - 215*	*02/27/25 04:51*	*02/27/25 22:09*	*1*
13C2 8:2 FTS	*99.3*		*40 - 275*	*02/27/25 04:51*	*02/27/25 22:09*	*1*
13C3 HFPO-DA	*88.5*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:09*	*1*
d7-N-MeFOSE-M	*99.3*		*20 - 130*	*02/27/25 04:51*	*02/27/25 22:09*	*1*
d9-N-EtFOSE-M	*63.8*		*15 - 130*	*02/27/25 04:51*	*02/27/25 22:09*	*1*
d5-NEtPFOSA	*60.2*		*10 - 130*	*02/27/25 04:51*	*02/27/25 22:09*	*1*
d3-NMePFOSA	*77.7*		*10 - 130*	*02/27/25 04:51*	*02/27/25 22:09*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**38**		2.0	0.50	ug/Kg	☼	02/27/25 04:51	02/28/25 16:51	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*94.9*	**3*	*40 - 130*	*02/27/25 04:51*	*02/28/25 16:51*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**14**		0.10	0.10	%			02/20/25 14:31	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-2

Client Sample ID: HFH-004-N-S006-01232025
Date Collected: 01/23/25 10:35
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-5
Matrix: Solid
Percent Solids: 95.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
Perfluorooctanoic acid (PFOA)	**0.19**	**J**	0.20	0.061	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
Perfluorononanoic acid (PFNA)	**0.13**	**J**	0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
Perfluorohexanesulfonic acid (PFHxS)	**0.81**		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.056**	**J**	0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
Perfluorooctanesulfonic acid (PFOS)	**2.4**		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.38**	**J**	0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1

Client Sample ID: HFH-004-N-S006-01232025

Lab Sample ID: 320-118553-5
Date Collected: 01/23/25 10:35
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 95.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.073	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 22:25	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91.1*		*8 - 130*	*02/27/25 04:51*	*02/27/25 22:25*	*1*
13C5 PFPeA	*86.8*		*35 - 130*	*02/27/25 04:51*	*02/27/25 22:25*	*1*
13C5 PFHxA	*90.0*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:25*	*1*
13C4 PFHpA	*83.4*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:25*	*1*
13C8 PFOA	*83.4*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:25*	*1*
13C9 PFNA	*86.9*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:25*	*1*
13C6 PFDA	*84.9*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:25*	*1*
13C7 PFUnA	*83.7*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:25*	*1*
13C2 PFDoA	*85.3*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:25*	*1*
13C2 PFTeDA	*91.6*		*20 - 130*	*02/27/25 04:51*	*02/27/25 22:25*	*1*
13C3 PFBS	*83.2*		*40 - 135*	*02/27/25 04:51*	*02/27/25 22:25*	*1*
13C3 PFHxS	*82.1*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:25*	*1*
13C8 PFOS	*86.5*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:25*	*1*
13C8 FOSA	*74.0*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:25*	*1*
d3-NMeFOSAA	*86.9*		*40 - 135*	*02/27/25 04:51*	*02/27/25 22:25*	*1*
d5-NEtFOSAA	*95.1*		*40 - 150*	*02/27/25 04:51*	*02/27/25 22:25*	*1*
13C2 4:2 FTS	*102*		*40 - 165*	*02/27/25 04:51*	*02/27/25 22:25*	*1*
13C2 6:2 FTS	*86.3*		*40 - 215*	*02/27/25 04:51*	*02/27/25 22:25*	*1*
13C2 8:2 FTS	*91.6*		*40 - 275*	*02/27/25 04:51*	*02/27/25 22:25*	*1*
13C3 HFPO-DA	*81.2*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:25*	*1*
d7-N-MeFOSE-M	*83.0*		*20 - 130*	*02/27/25 04:51*	*02/27/25 22:25*	*1*
d9-N-EtFOSE-M	*54.2*		*15 - 130*	*02/27/25 04:51*	*02/27/25 22:25*	*1*
d5-NEtPFOSA	*63.8*		*10 - 130*	*02/27/25 04:51*	*02/27/25 22:25*	*1*
d3-NMePFOSA	*62.2*		*10 - 130*	*02/27/25 04:51*	*02/27/25 22:25*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**4.9**		0.10	0.10	%			02/20/25 14:31	1

Client Sample ID: HFH-005-N-S0005-01232025

Lab Sample ID: 320-118553-8
Date Collected: 01/23/25 11:15
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 94.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.099	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-2

Client Sample ID: HFH-005-N-S0005-01232025
Date Collected: 01/23/25 11:15
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-8
Matrix: Solid
Percent Solids: 94.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
Perfluorooctanesulfonic acid (PFOS)	**0.064**	**J**	0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.099	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.099	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.099	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1

Client Sample ID: HFH-005-N-S0005-01232025

Lab Sample ID: 320-118553-8
Date Collected: 01/23/25 11:15
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 94.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.099	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 22:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*94.7*		*8 - 130*	*02/27/25 04:51*	*02/27/25 22:42*	*1*
13C5 PFPeA	*90.0*		*35 - 130*	*02/27/25 04:51*	*02/27/25 22:42*	*1*
13C5 PFHxA	*80.7*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:42*	*1*
13C4 PFHpA	*92.2*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:42*	*1*
13C8 PFOA	*90.8*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:42*	*1*
13C9 PFNA	*87.9*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:42*	*1*
13C6 PFDA	*81.6*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:42*	*1*
13C7 PFUnA	*80.7*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:42*	*1*
13C2 PFDoA	*86.9*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:42*	*1*
13C2 PFTeDA	*92.4*		*20 - 130*	*02/27/25 04:51*	*02/27/25 22:42*	*1*
13C3 PFBS	*92.1*		*40 - 135*	*02/27/25 04:51*	*02/27/25 22:42*	*1*
13C3 PFHxS	*88.7*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:42*	*1*
13C8 PFOS	*79.7*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:42*	*1*
13C8 FOSA	*67.4*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:42*	*1*
d3-NMeFOSAA	*79.7*		*40 - 135*	*02/27/25 04:51*	*02/27/25 22:42*	*1*
d5-NEtFOSAA	*87.8*		*40 - 150*	*02/27/25 04:51*	*02/27/25 22:42*	*1*
13C2 4:2 FTS	*85.3*		*40 - 165*	*02/27/25 04:51*	*02/27/25 22:42*	*1*
13C2 6:2 FTS	*96.5*		*40 - 215*	*02/27/25 04:51*	*02/27/25 22:42*	*1*
13C2 8:2 FTS	*94.3*		*40 - 275*	*02/27/25 04:51*	*02/27/25 22:42*	*1*
13C3 HFPO-DA	*82.7*		*40 - 130*	*02/27/25 04:51*	*02/27/25 22:42*	*1*
d7-N-MeFOSE-M	*81.5*		*20 - 130*	*02/27/25 04:51*	*02/27/25 22:42*	*1*
d9-N-EtFOSE-M	*61.4*		*15 - 130*	*02/27/25 04:51*	*02/27/25 22:42*	*1*
d5-NEtPFOSA	*69.9*		*10 - 130*	*02/27/25 04:51*	*02/27/25 22:42*	*1*
d3-NMePFOSA	*69.4*		*10 - 130*	*02/27/25 04:51*	*02/27/25 22:42*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**5.2**		0.10	0.10	%			02/20/25 14:31	1

Client Sample ID: HFH-005-N-S006-01232025

Lab Sample ID: 320-118553-12
Date Collected: 01/23/25 11:30
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 91.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
Perfluorohexanoic acid (PFHxA)	**0.24**		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
Perfluorooctanoic acid (PFOA)	**0.70**		0.20	0.062	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1

Client Sample ID: HFH-005-N-S006-01232025
Date Collected: 01/23/25 11:30
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-12
Matrix: Solid
Percent Solids: 91.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
Perfluorohexanesulfonic acid (PFHxS)	**1.1**		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.77**		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
Perfluorooctanesulfonic acid (PFOS)	**0.39**	I	0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 19:26	1

Client Sample ID: HFH-005-N-S006-01232025

Lab Sample ID: 320-118553-12

Date Collected: 01/23/25 11:30
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 91.1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91.9*		*8 - 130*	*02/27/25 09:28*	*02/28/25 19:26*	*1*
13C5 PFPeA	*77.6*		*35 - 130*	*02/27/25 09:28*	*02/28/25 19:26*	*1*
13C5 PFHxA	*77.5*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:26*	*1*
13C4 PFHpA	*87.1*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:26*	*1*
13C8 PFOA	*84.1*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:26*	*1*
13C9 PFNA	*84.7*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:26*	*1*
13C6 PFDA	*83.5*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:26*	*1*
13C7 PFUnA	*84.7*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:26*	*1*
13C2 PFDoA	*84.1*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:26*	*1*
13C2 PFTeDA	*74.2*		*20 - 130*	*02/27/25 09:28*	*02/28/25 19:26*	*1*
13C3 PFBS	*61.6*		*40 - 135*	*02/27/25 09:28*	*02/28/25 19:26*	*1*
13C3 PFHxS	*64.4*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:26*	*1*
13C8 PFOS	*75.9*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:26*	*1*
13C8 FOSA	*65.6*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:26*	*1*
d3-NMeFOSAA	*106*		*40 - 135*	*02/27/25 09:28*	*02/28/25 19:26*	*1*
d5-NEtFOSAA	*104*		*40 - 150*	*02/27/25 09:28*	*02/28/25 19:26*	*1*
13C2 4:2 FTS	*121*		*40 - 165*	*02/27/25 09:28*	*02/28/25 19:26*	*1*
13C2 8:2 FTS	*122*		*40 - 275*	*02/27/25 09:28*	*02/28/25 19:26*	*1*
13C3 HFPO-DA	*97.4*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:26*	*1*
d7-N-MeFOSE-M	*65.4*		*20 - 130*	*02/27/25 09:28*	*02/28/25 19:26*	*1*
d9-N-EtFOSE-M	*51.8*		*15 - 130*	*02/27/25 09:28*	*02/28/25 19:26*	*1*
d5-NEtPFOSA	*31.5*		*10 - 130*	*02/27/25 09:28*	*02/28/25 19:26*	*1*
d3-NMePFOSA	*31.1*		*10 - 130*	*02/27/25 09:28*	*02/28/25 19:26*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**5.8**		0.40	0.10	ug/Kg	☼	02/27/25 09:28	03/03/25 21:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 6:2 FTS	*88.9*		*40 - 215*	*02/27/25 09:28*	*03/03/25 21:31*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**8.9**		0.10	0.10	%			02/20/25 14:31	1

Client Sample ID: HFH-003-N-S0005-01232025

Lab Sample ID: 320-118553-14

Date Collected: 01/23/25 12:20
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 87.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.13**	**J**	0.39	0.099	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
Perfluoropentanoic acid (PFPeA)	**0.27**		0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
Perfluorohexanoic acid (PFHxA)	**0.51**		0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
Perfluoroheptanoic acid (PFHpA)	**0.094**	**J**	0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
Perfluorooctanoic acid (PFOA)	**0.20**		0.20	0.061	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
Perfluorodecanoic acid (PFDA)	**0.089**	**J**	0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
Perfluoroundecanoic acid (PFUnA)	**0.063**	**J**	0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
Perfluorododecanoic acid (PFDoA)	**0.73**		0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1

Client Sample ID: HFH-003-N-S0005-01232025
Date Collected: 01/23/25 12:20
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-14
Matrix: Solid
Percent Solids: 87.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTrDA)	**0.64**		0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
Perfluorotetradecanoic acid (PFTeDA)	**0.12**	**J**	0.20	0.057	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
Perfluorobutanesulfonic acid (PFBS)	**0.10**	**J**	0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
Perfluoropentanesulfonic acid (PFPeS)	**0.13**	**J**	0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
Perfluorohexanesulfonic acid (PFHxS)	**1.0**		0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.067**	**J**	0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
Perfluorooctanesulfonic acid (PFOS)	**7.8**		0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
Perfluorodecanesulfonic acid (PFDS)	**0.28**		0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
Perfluorododecanesulfonic acid (PFDoS)	**1.5**		0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.099	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**2.3**		0.39	0.099	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**3.6**		0.39	0.099	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
Perfluorooctanesulfonamide (PFOSA)	**1.9**		0.20	0.062	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	**0.15**	**J**	0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**0.058**	**J**	0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1

Client Sample ID: HFH-003-N-S0005-01232025

Lab Sample ID: 320-118553-14
Date Collected: 01/23/25 12:20
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 87.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.099	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**0.42**	**J**	0.99	0.25	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	**0.50**	**J**	0.99	0.25	ug/Kg	☼	03/03/25 04:02	03/04/25 02:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*72.7*		*8 - 130*	*03/03/25 04:02*	*03/04/25 02:27*	*1*
13C5 PFPeA	*93.9*		*35 - 130*	*03/03/25 04:02*	*03/04/25 02:27*	*1*
13C5 PFHxA	*92.6*		*40 - 130*	*03/03/25 04:02*	*03/04/25 02:27*	*1*
13C4 PFHpA	*92.7*		*40 - 130*	*03/03/25 04:02*	*03/04/25 02:27*	*1*
13C8 PFOA	*99.9*		*40 - 130*	*03/03/25 04:02*	*03/04/25 02:27*	*1*
13C9 PFNA	*96.8*		*40 - 130*	*03/03/25 04:02*	*03/04/25 02:27*	*1*
13C6 PFDA	*81.7*		*40 - 130*	*03/03/25 04:02*	*03/04/25 02:27*	*1*
13C7 PFUnA	*86.8*		*40 - 130*	*03/03/25 04:02*	*03/04/25 02:27*	*1*
13C2 PFDoA	*92.4*		*40 - 130*	*03/03/25 04:02*	*03/04/25 02:27*	*1*
13C2 PFTeDA	*99.3*		*20 - 130*	*03/03/25 04:02*	*03/04/25 02:27*	*1*
13C3 PFBS	*84.5*		*40 - 135*	*03/03/25 04:02*	*03/04/25 02:27*	*1*
13C3 PFHxS	*86.0*		*40 - 130*	*03/03/25 04:02*	*03/04/25 02:27*	*1*
13C8 PFOS	*94.1*		*40 - 130*	*03/03/25 04:02*	*03/04/25 02:27*	*1*
13C8 FOSA	*82.7*		*40 - 130*	*03/03/25 04:02*	*03/04/25 02:27*	*1*
d3-NMeFOSAA	*99.0*		*40 - 135*	*03/03/25 04:02*	*03/04/25 02:27*	*1*
d5-NEtFOSAA	*108*		*40 - 150*	*03/03/25 04:02*	*03/04/25 02:27*	*1*
13C2 4:2 FTS	*135*		*40 - 165*	*03/03/25 04:02*	*03/04/25 02:27*	*1*
13C2 6:2 FTS	*95.4*		*40 - 215*	*03/03/25 04:02*	*03/04/25 02:27*	*1*
13C2 8:2 FTS	*119*		*40 - 275*	*03/03/25 04:02*	*03/04/25 02:27*	*1*
13C3 HFPO-DA	*85.6*		*40 - 130*	*03/03/25 04:02*	*03/04/25 02:27*	*1*
d7-N-MeFOSE-M	*104*		*20 - 130*	*03/03/25 04:02*	*03/04/25 02:27*	*1*
d9-N-EtFOSE-M	*93.4*		*15 - 130*	*03/03/25 04:02*	*03/04/25 02:27*	*1*
d5-NEtPFOSA	*87.0*		*10 - 130*	*03/03/25 04:02*	*03/04/25 02:27*	*1*
d3-NMePFOSA	*91.9*		*10 - 130*	*03/03/25 04:02*	*03/04/25 02:27*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**12**		0.10	0.10	%			02/20/25 14:31	1

Client Sample ID: HFH-003-N-S010-01232025

Lab Sample ID: 320-118553-19
Date Collected: 01/23/25 12:40
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 69.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.35**	**J**	0.41	0.10	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
Perfluoropentanoic acid (PFPeA)	**1.1**		0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
Perfluorohexanoic acid (PFHxA)	**1.7**		0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
Perfluoroheptanoic acid (PFHpA)	**0.32**		0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
Perfluorooctanoic acid (PFOA)	**0.65**		0.21	0.064	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
Perfluorononanoic acid (PFNA)	**0.15**	**J**	0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
Perfluorodecanoic acid (PFDA)	**0.13**	**J**	0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
Perfluoroundecanoic acid (PFUnA)	**0.16**	**J**	0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-2

Client Sample ID: HFH-003-N-S010-01232025
Date Collected: 01/23/25 12:40
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-19
Matrix: Solid
Percent Solids: 69.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.21	0.060	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
Perfluorobutanesulfonic acid (PFBS)	**0.22**		0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
Perfluoropentanesulfonic acid (PFPeS)	**0.26**		0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
Perfluorohexanesulfonic acid (PFHxS)	**2.5**		0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.11**	**J**	0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.41	0.10	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**5.6**		0.41	0.10	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**2.9**		0.41	0.10	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
Perfluorooctanesulfonamide (PFOSA)	**0.65**		0.21	0.065	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.26	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.26	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.21	0.064	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.21	0.078	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.21	0.052	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.41	0.10	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1

Client Sample ID: HFH-003-N-S010-01232025

Lab Sample ID: 320-118553-19
Date Collected: 01/23/25 12:40
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 69.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	03/03/25 04:02	03/04/25 02:44	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*94.6*		*8 - 130*	*03/03/25 04:02*	*03/04/25 02:44*	*1*
13C5 PFPeA	*86.3*		*35 - 130*	*03/03/25 04:02*	*03/04/25 02:44*	*1*
13C5 PFHxA	*81.6*		*40 - 130*	*03/03/25 04:02*	*03/04/25 02:44*	*1*
13C4 PFHpA	*84.2*		*40 - 130*	*03/03/25 04:02*	*03/04/25 02:44*	*1*
13C8 PFOA	*82.7*		*40 - 130*	*03/03/25 04:02*	*03/04/25 02:44*	*1*
13C9 PFNA	*81.6*		*40 - 130*	*03/03/25 04:02*	*03/04/25 02:44*	*1*
13C6 PFDA	*84.3*		*40 - 130*	*03/03/25 04:02*	*03/04/25 02:44*	*1*
13C7 PFUnA	*88.4*		*40 - 130*	*03/03/25 04:02*	*03/04/25 02:44*	*1*
13C2 PFDoA	*81.2*		*40 - 130*	*03/03/25 04:02*	*03/04/25 02:44*	*1*
13C2 PFTeDA	*77.0*		*20 - 130*	*03/03/25 04:02*	*03/04/25 02:44*	*1*
13C3 PFBS	*82.2*		*40 - 135*	*03/03/25 04:02*	*03/04/25 02:44*	*1*
13C3 PFHxS	*83.0*		*40 - 130*	*03/03/25 04:02*	*03/04/25 02:44*	*1*
13C8 PFOS	*96.0*		*40 - 130*	*03/03/25 04:02*	*03/04/25 02:44*	*1*
13C8 FOSA	*80.1*		*40 - 130*	*03/03/25 04:02*	*03/04/25 02:44*	*1*
d3-NMeFOSAA	*81.8*		*40 - 135*	*03/03/25 04:02*	*03/04/25 02:44*	*1*
d5-NEtFOSAA	*94.3*		*40 - 150*	*03/03/25 04:02*	*03/04/25 02:44*	*1*
13C2 4:2 FTS	*97.2*		*40 - 165*	*03/03/25 04:02*	*03/04/25 02:44*	*1*
13C2 6:2 FTS	*91.0*		*40 - 215*	*03/03/25 04:02*	*03/04/25 02:44*	*1*
13C2 8:2 FTS	*93.1*		*40 - 275*	*03/03/25 04:02*	*03/04/25 02:44*	*1*
13C3 HFPO-DA	*81.3*		*40 - 130*	*03/03/25 04:02*	*03/04/25 02:44*	*1*
d7-N-MeFOSE-M	*96.3*		*20 - 130*	*03/03/25 04:02*	*03/04/25 02:44*	*1*
d9-N-EtFOSE-M	*83.4*		*15 - 130*	*03/03/25 04:02*	*03/04/25 02:44*	*1*
d5-NEtPFOSA	*64.1*		*10 - 130*	*03/03/25 04:02*	*03/04/25 02:44*	*1*
d3-NMePFOSA	*66.8*		*10 - 130*	*03/03/25 04:02*	*03/04/25 02:44*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**27**		2.1	0.52	ug/Kg	☼	03/03/25 04:02	03/04/25 19:11	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*81.7*	*3	*40 - 130*	*03/03/25 04:02*	*03/04/25 19:11*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**30**		0.10	0.10	%			02/20/25 14:31	1

Client Sample ID: HFH-002-N-S0005-01232025

Lab Sample ID: 320-118553-21
Date Collected: 01/23/25 13:10
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 95.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
Perfluoropentanoic acid (PFPeA)	**1.2**		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
Perfluorohexanoic acid (PFHxA)	**0.42**		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
Perfluoroheptanoic acid (PFHpA)	**0.54**		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
Perfluorooctanoic acid (PFOA)	**0.31**		0.20	0.061	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-2

Client Sample ID: HFH-002-N-S0005-01232025
Date Collected: 01/23/25 13:10
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-21
Matrix: Solid
Percent Solids: 95.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	**0.078**	**J**	0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
Perfluorohexanesulfonic acid (PFHxS)	**0.24**		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
Perfluorooctanesulfonic acid (PFOS)	**0.40**		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1

Client Sample ID: HFH-002-N-S0005-01232025

Lab Sample ID: 320-118553-21
Date Collected: 01/23/25 13:10
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 95.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 19:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*77.4*		*8 - 130*	*02/27/25 09:28*	*02/28/25 19:42*	*1*
13C5 PFPeA	*76.3*		*35 - 130*	*02/27/25 09:28*	*02/28/25 19:42*	*1*
13C5 PFHxA	*84.8*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:42*	*1*
13C4 PFHpA	*84.3*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:42*	*1*
13C8 PFOA	*87.4*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:42*	*1*
13C9 PFNA	*87.1*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:42*	*1*
13C6 PFDA	*81.7*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:42*	*1*
13C7 PFUnA	*82.3*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:42*	*1*
13C2 PFDoA	*86.3*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:42*	*1*
13C2 PFTeDA	*80.0*		*20 - 130*	*02/27/25 09:28*	*02/28/25 19:42*	*1*
13C3 PFBS	*67.3*		*40 - 135*	*02/27/25 09:28*	*02/28/25 19:42*	*1*
13C3 PFHxS	*71.2*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:42*	*1*
13C8 PFOS	*75.5*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:42*	*1*
13C8 FOSA	*75.6*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:42*	*1*
d3-NMeFOSAA	*113*		*40 - 135*	*02/27/25 09:28*	*02/28/25 19:42*	*1*
d5-NEtFOSAA	*111*		*40 - 150*	*02/27/25 09:28*	*02/28/25 19:42*	*1*
13C2 4:2 FTS	*123*		*40 - 165*	*02/27/25 09:28*	*02/28/25 19:42*	*1*
13C2 6:2 FTS	*131*		*40 - 215*	*02/27/25 09:28*	*02/28/25 19:42*	*1*
13C2 8:2 FTS	*131*		*40 - 275*	*02/27/25 09:28*	*02/28/25 19:42*	*1*
13C3 HFPO-DA	*92.8*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:42*	*1*
d7-N-MeFOSE-M	*78.8*		*20 - 130*	*02/27/25 09:28*	*02/28/25 19:42*	*1*
d9-N-EtFOSE-M	*65.3*		*15 - 130*	*02/27/25 09:28*	*02/28/25 19:42*	*1*
d5-NEtPFOSA	*73.0*		*10 - 130*	*02/27/25 09:28*	*02/28/25 19:42*	*1*
d3-NMePFOSA	*70.9*		*10 - 130*	*02/27/25 09:28*	*02/28/25 19:42*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**4.1**	**H**	0.10	0.10	%			02/21/25 13:16	1

Client Sample ID: HFH-002-N-S006-01232025

Lab Sample ID: 320-118553-25
Date Collected: 01/23/25 13:25
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 77.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
Perfluoropentanoic acid (PFPeA)	**0.37**		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
Perfluorohexanoic acid (PFHxA)	**1.2**		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
Perfluoroheptanoic acid (PFHpA)	**0.098**	**J**	0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
Perfluorooctanoic acid (PFOA)	**0.49**		0.20	0.061	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
Perfluorononanoic acid (PFNA)	**0.42**		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
Perfluorodecanoic acid (PFDA)	**0.94**		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
Perfluoroundecanoic acid (PFUnA)	**0.39**		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-2

Client Sample ID: HFH-002-N-S006-01232025
Date Collected: 01/23/25 13:25
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-25
Matrix: Solid
Percent Solids: 77.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
Perfluorobutanesulfonic acid (PFBS)	**0.30**		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
Perfluoropentanesulfonic acid (PFPeS)	**0.059**	**J**	0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
Perfluorohexanesulfonic acid (PFHxS)	**0.69**		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.15**	**J**	0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
Perfluorononanesulfonic acid (PFNS)	**0.67**		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
Perfluorooctanesulfonamide (PFOSA)	**4.1**		0.20	0.062	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	**0.12**	**J**	0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**0.30**		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.24	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.24	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.073	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**0.25**	**J**	0.98	0.24	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	02/27/25 09:28	02/28/25 19:59	1

Client Sample ID: HFH-002-N-S006-01232025

Lab Sample ID: 320-118553-25
Date Collected: 01/23/25 13:25
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 77.9

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*87.6*		*8 - 130*	*02/27/25 09:28*	*02/28/25 19:59*	*1*
13C5 PFPeA	*84.8*		*35 - 130*	*02/27/25 09:28*	*02/28/25 19:59*	*1*
13C5 PFHxA	*84.9*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:59*	*1*
13C4 PFHpA	*89.5*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:59*	*1*
13C8 PFOA	*83.6*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:59*	*1*
13C9 PFNA	*81.0*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:59*	*1*
13C6 PFDA	*76.7*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:59*	*1*
13C7 PFUnA	*72.4*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:59*	*1*
13C2 PFDoA	*73.7*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:59*	*1*
13C2 PFTeDA	*64.7*		*20 - 130*	*02/27/25 09:28*	*02/28/25 19:59*	*1*
13C3 PFBS	*65.3*		*40 - 135*	*02/27/25 09:28*	*02/28/25 19:59*	*1*
13C3 PFHxS	*74.1*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:59*	*1*
13C8 PFOS	*79.2*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:59*	*1*
13C8 FOSA	*96.0*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:59*	*1*
d3-NMeFOSAA	*109*		*40 - 135*	*02/27/25 09:28*	*02/28/25 19:59*	*1*
d5-NEtFOSAA	*147*		*40 - 150*	*02/27/25 09:28*	*02/28/25 19:59*	*1*
13C2 4:2 FTS	*110*		*40 - 165*	*02/27/25 09:28*	*02/28/25 19:59*	*1*
13C3 HFPO-DA	*101*		*40 - 130*	*02/27/25 09:28*	*02/28/25 19:59*	*1*
d7-N-MeFOSE-M	*89.9*		*20 - 130*	*02/27/25 09:28*	*02/28/25 19:59*	*1*
d9-N-EtFOSE-M	*69.1*		*15 - 130*	*02/27/25 09:28*	*02/28/25 19:59*	*1*
d5-NEtPFOSA	*55.2*		*10 - 130*	*02/27/25 09:28*	*02/28/25 19:59*	*1*
d3-NMePFOSA	*54.3*		*10 - 130*	*02/27/25 09:28*	*02/28/25 19:59*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**150**		2.0	0.49	ug/Kg	☼	02/27/25 09:28	03/03/25 23:10	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*89.4*	**3*	*40 - 130*	*02/27/25 09:28*	*03/03/25 23:10*	*10*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**4.2**		0.39	0.098	ug/Kg	☼	02/27/25 09:28	03/03/25 23:43	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**20**		0.39	0.098	ug/Kg	☼	02/27/25 09:28	03/03/25 23:43	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 6:2 FTS	*93.8*		*40 - 215*	*02/27/25 09:28*	*03/03/25 23:43*	*1*
13C2 8:2 FTS	*92.7*		*40 - 275*	*02/27/25 09:28*	*03/03/25 23:43*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**22**		0.10	0.10	%			02/20/25 14:31	1

Client Sample ID: FMB-004-N-S0005-01232025

Lab Sample ID: 320-118553-28
Date Collected: 01/23/25 15:50
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 86.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-2

Client Sample ID: FMB-004-N-S0005-01232025
Date Collected: 01/23/25 15:50
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-28
Matrix: Solid
Percent Solids: 86.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
Perfluorodecanoic acid (PFDA)	**0.10**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
Perfluorododecanoic acid (PFDoA)	**0.41**		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
Perfluorotetradecanoic acid (PFTeDA)	**0.18**	**J**	0.20	0.058	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1

Client Sample ID: FMB-004-N-S0005-01232025

Lab Sample ID: 320-118553-28

Date Collected: 01/23/25 15:50
Date Received: 01/25/25 08:45

Matrix: Solid
Percent Solids: 86.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 20:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*65.3*		*8 - 130*	*02/27/25 09:28*	*02/28/25 20:15*	*1*
13C5 PFPeA	*70.4*		*35 - 130*	*02/27/25 09:28*	*02/28/25 20:15*	*1*
13C5 PFHxA	*79.0*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:15*	*1*
13C4 PFHpA	*73.4*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:15*	*1*
13C8 PFOA	*81.2*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:15*	*1*
13C9 PFNA	*77.5*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:15*	*1*
13C6 PFDA	*80.4*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:15*	*1*
13C7 PFUnA	*82.9*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:15*	*1*
13C2 PFDoA	*83.9*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:15*	*1*
13C2 PFTeDA	*67.1*		*20 - 130*	*02/27/25 09:28*	*02/28/25 20:15*	*1*
13C3 PFBS	*68.6*		*40 - 135*	*02/27/25 09:28*	*02/28/25 20:15*	*1*
13C3 PFHxS	*72.7*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:15*	*1*
13C8 PFOS	*72.7*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:15*	*1*
13C8 FOSA	*70.0*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:15*	*1*
d3-NMeFOSAA	*96.7*		*40 - 135*	*02/27/25 09:28*	*02/28/25 20:15*	*1*
d5-NEtFOSAA	*103*		*40 - 150*	*02/27/25 09:28*	*02/28/25 20:15*	*1*
13C2 4:2 FTS	*112*		*40 - 165*	*02/27/25 09:28*	*02/28/25 20:15*	*1*
13C2 6:2 FTS	*128*		*40 - 215*	*02/27/25 09:28*	*02/28/25 20:15*	*1*
13C2 8:2 FTS	*130*		*40 - 275*	*02/27/25 09:28*	*02/28/25 20:15*	*1*
13C3 HFPO-DA	*87.4*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:15*	*1*
d7-N-MeFOSE-M	*64.8*		*20 - 130*	*02/27/25 09:28*	*02/28/25 20:15*	*1*
d9-N-EtFOSE-M	*52.6*		*15 - 130*	*02/27/25 09:28*	*02/28/25 20:15*	*1*
d5-NEtPFOSA	*65.8*		*10 - 130*	*02/27/25 09:28*	*02/28/25 20:15*	*1*
d3-NMePFOSA	*63.4*		*10 - 130*	*02/27/25 09:28*	*02/28/25 20:15*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**14**	**H**	0.10	0.10	%			02/21/25 13:36	1

Client Sample ID: FMB-004-N-S006-01232025

Lab Sample ID: 320-118553-31

Date Collected: 01/23/25 16:05
Date Received: 01/25/25 08:45

Matrix: Solid
Percent Solids: 79.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
Perfluoropentanoic acid (PFPeA)	**0.19**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
Perfluorohexanoic acid (PFHxA)	**0.20**		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
Perfluoroheptanoic acid (PFHpA)	**0.11**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
Perfluorooctanoic acid (PFOA)	**0.74**		0.20	0.062	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
Perfluorononanoic acid (PFNA)	**0.095**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-2

Client Sample ID: FMB-004-N-S006-01232025
Date Collected: 01/23/25 16:05
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-31
Matrix: Solid
Percent Solids: 79.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
Perfluorobutanesulfonic acid (PFBS)	**0.077**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
Perfluoropentanesulfonic acid (PFPeS)	**0.082**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
Perfluorohexanesulfonic acid (PFHxS)	**2.0**		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.19**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
Perfluorooctanesulfonic acid (PFOS)	**3.4**		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-2

Client Sample ID: FMB-004-N-S006-01232025

Date Collected: 01/23/25 16:05
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-31

Matrix: Solid
Percent Solids: 79.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/27/25 09:28	02/28/25 20:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*73.7*		*8 - 130*	*02/27/25 09:28*	*02/28/25 20:31*	*1*
13C5 PFPeA	*68.3*		*35 - 130*	*02/27/25 09:28*	*02/28/25 20:31*	*1*
13C5 PFHxA	*69.8*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:31*	*1*
13C4 PFHpA	*78.0*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:31*	*1*
13C8 PFOA	*74.4*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:31*	*1*
13C9 PFNA	*78.6*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:31*	*1*
13C6 PFDA	*77.1*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:31*	*1*
13C7 PFUnA	*75.9*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:31*	*1*
13C2 PFDoA	*82.1*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:31*	*1*
13C2 PFTeDA	*70.0*		*20 - 130*	*02/27/25 09:28*	*02/28/25 20:31*	*1*
13C3 PFBS	*59.6*		*40 - 135*	*02/27/25 09:28*	*02/28/25 20:31*	*1*
13C3 PFHxS	*64.8*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:31*	*1*
13C8 PFOS	*67.4*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:31*	*1*
13C8 FOSA	*64.4*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:31*	*1*
d3-NMeFOSAA	*91.4*		*40 - 135*	*02/27/25 09:28*	*02/28/25 20:31*	*1*
d5-NEtFOSAA	*106*		*40 - 150*	*02/27/25 09:28*	*02/28/25 20:31*	*1*
13C2 4:2 FTS	*94.2*		*40 - 165*	*02/27/25 09:28*	*02/28/25 20:31*	*1*
13C2 8:2 FTS	*134*		*40 - 275*	*02/27/25 09:28*	*02/28/25 20:31*	*1*
13C3 HFPO-DA	*81.2*		*40 - 130*	*02/27/25 09:28*	*02/28/25 20:31*	*1*
d7-N-MeFOSE-M	*65.1*		*20 - 130*	*02/27/25 09:28*	*02/28/25 20:31*	*1*
d9-N-EtFOSE-M	*53.7*		*15 - 130*	*02/27/25 09:28*	*02/28/25 20:31*	*1*
d5-NEtPFOSA	*54.6*		*10 - 130*	*02/27/25 09:28*	*02/28/25 20:31*	*1*
d3-NMePFOSA	*53.3*		*10 - 130*	*02/27/25 09:28*	*02/28/25 20:31*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**1.9**		0.40	0.10	ug/Kg	☼	02/27/25 09:28	03/03/25 21:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 6:2 FTS	*70.9*		*40 - 215*	*02/27/25 09:28*	*03/03/25 21:48*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**21**	**H**	0.10	0.10	%			02/21/25 13:36	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118553-2
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (8-130)	PFPeA (35-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (40-130)
320-118553-1	HFH-004-N-S0005-01232025	100	96.1	88.5	94.8	95.5	91.9	85.9	87.5
320-118553-1 - DL	HFH-004-N-S0005-01232025								
320-118553-5	HFH-004-N-S006-01232025	91.1	86.8	90.0	83.4	83.4	86.9	84.9	83.7
320-118553-8	HFH-005-N-S0005-01232025	94.7	90.0	80.7	92.2	90.8	87.9	81.6	80.7
320-118553-12	HFH-005-N-S006-01232025	91.9	77.6	77.5	87.1	84.1	84.7	83.5	84.7
320-118553-12 - RA	HFH-005-N-S006-01232025								
320-118553-14	HFH-003-N-S0005-01232025	72.7	93.9	92.6	92.7	99.9	96.8	81.7	86.8
320-118553-19	HFH-003-N-S010-01232025	94.6	86.3	81.6	84.2	82.7	81.6	84.3	88.4
320-118553-19 - DL	HFH-003-N-S010-01232025								
320-118553-21	HFH-002-N-S0005-01232025	77.4	76.3	84.8	84.3	87.4	87.1	81.7	82.3
320-118553-25	HFH-002-N-S006-01232025	87.6	84.8	84.9	89.5	83.6	81.0	76.7	72.4
320-118553-25 - RA	HFH-002-N-S006-01232025								
320-118553-25 - DL	HFH-002-N-S006-01232025								
320-118553-28	FMB-004-N-S0005-01232025	65.3	70.4	79.0	73.4	81.2	77.5	80.4	82.9
320-118553-31	FMB-004-N-S006-01232025	73.7	68.3	69.8	78.0	74.4	78.6	77.1	75.9
320-118553-31 - RA	FMB-004-N-S006-01232025								
LCS 320-836121/3-A	Lab Control Sample	102	85.3	89.8	94.7	91.0	93.2	80.5	90.0
LCS 320-836188/3-A	Lab Control Sample	91.8	85.9	93.1	91.5	84.2	84.5	84.2	83.6
LCS 320-836802/3-A	Lab Control Sample	93.3	91.1	86.4	96.1	91.0	91.8	80.3	93.8
LCSD 320-836121/4-A	Lab Control Sample Dup	98.8	99.6	94.1	97.4	92.0	91.3	83.9	88.5
LCSD 320-836188/4-A	Lab Control Sample Dup	93.7	85.8	93.1	92.2	87.4	86.1	79.0	70.2
LCSD 320-836802/4-A	Lab Control Sample Dup	108	106	100	105	98.8	98.2	92.2	103
LLCS 320-836121/2-A	Lab Control Sample	73.9	96.8	86.1	91.9	87.8	93.5	88.2	102
LLCS 320-836188/2-A	Lab Control Sample	90.5	84.3	87.5	91.1	82.3	86.3	79.4	77.6
LLCS 320-836802/2-A	Lab Control Sample	106	89.5	84.9	87.4	94.0	91.3	91.9	95.8
MB 320-836121/1-A	Method Blank	99.9	96.6	93.2	89.5	91.2	91.5	87.4	90.4
MB 320-836188/1-A	Method Blank	94.3	84.8	77.1	87.3	88.5	83.3	83.6	77.0
MB 320-836802/1-A	Method Blank	99.7	93.1	90.8	106	101	99.2	94.1	106

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (40-130)	PFTDA (20-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-135)	d5NEFOS (40-150)
320-118553-1	HFH-004-N-S0005-01232025	82.3	82.9	89.5	88.1	100	93.7	106	109
320-118553-1 - DL	HFH-004-N-S0005-01232025					94.9 *3			
320-118553-5	HFH-004-N-S006-01232025	85.3	91.6	83.2	82.1	86.5	74.0	86.9	95.1
320-118553-8	HFH-005-N-S0005-01232025	86.9	92.4	92.1	88.7	79.7	67.4	79.7	87.8
320-118553-12	HFH-005-N-S006-01232025	84.1	74.2	61.6	64.4	75.9	65.6	106	104
320-118553-12 - RA	HFH-005-N-S006-01232025								
320-118553-14	HFH-003-N-S0005-01232025	92.4	99.3	84.5	86.0	94.1	82.7	99.0	108
320-118553-19	HFH-003-N-S010-01232025	81.2	77.0	82.2	83.0	96.0	80.1	81.8	94.3
320-118553-19 - DL	HFH-003-N-S010-01232025					81.7 *3			
320-118553-21	HFH-002-N-S0005-01232025	86.3	80.0	67.3	71.2	75.5	75.6	113	111
320-118553-25	HFH-002-N-S006-01232025	73.7	64.7	65.3	74.1	79.2	96.0	109	147
320-118553-25 - RA	HFH-002-N-S006-01232025								
320-118553-25 - DL	HFH-002-N-S006-01232025					89.4 *3			
320-118553-28	FMB-004-N-S0005-01232025	83.9	67.1	68.6	72.7	72.7	70.0	96.7	103
320-118553-31	FMB-004-N-S006-01232025	82.1	70.0	59.6	64.8	67.4	64.4	91.4	106
320-118553-31 - RA	FMB-004-N-S006-01232025								
LCS 320-836121/3-A	Lab Control Sample	92.2	92.3	93.3	93.4	92.7	77.9	87.3	99.3
LCS 320-836188/3-A	Lab Control Sample	80.8	69.8	71.1	73.1	81.9	72.5	114	109

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118553-2
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Solid
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (40-130)	PFTDA (20-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-135)	d5NEFOS (40-150)
LCS 320-836802/3-A	Lab Control Sample	95.2	88.9	85.6	89.7	87.3	72.9	86.7	96.3
LCSD 320-836121/4-A	Lab Control Sample Dup	93.1	88.9	81.3	90.4	87.7	80.8	94.4	95.4
LCSD 320-836188/4-A	Lab Control Sample Dup	63.3	52.6	75.7	82.4	77.2	59.5	95.8	95.8
LCSD 320-836802/4-A	Lab Control Sample Dup	106	97.0	95.1	90.3	99.8	87.9	103	116
LLCS 320-836121/2-A	Lab Control Sample	98.1	99.3	87.5	93.6	94.9	81.3	92.6	97.8
LLCS 320-836188/2-A	Lab Control Sample	72.5	65.3	63.5	71.2	73.7	65.5	104	104
LLCS 320-836802/2-A	Lab Control Sample	97.7	93.0	91.9	90.4	92.3	75.2	94.3	96.5
MB 320-836121/1-A	Method Blank	90.9	94.4	79.0	91.1	100	78.8	98.8	102
MB 320-836188/1-A	Method Blank	76.7	65.0	77.4	80.4	80.8	67.5	110	110
MB 320-836802/1-A	Method Blank	115	106	95.1	90.0	89.3	78.8	92.7	108

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118553-1	HFH-004-N-S0005-01232025	108	107	99.3	88.5	99.3	63.8	60.2	77.7
320-118553-1 - DL	HFH-004-N-S0005-01232025								
320-118553-5	HFH-004-N-S006-01232025	102	86.3	91.6	81.2	83.0	54.2	63.8	62.2
320-118553-8	HFH-005-N-S0005-01232025	85.3	96.5	94.3	82.7	81.5	61.4	69.9	69.4
320-118553-12	HFH-005-N-S006-01232025	121		122	97.4	65.4	51.8	31.5	31.1
320-118553-12 - RA	HFH-005-N-S006-01232025		88.9						
320-118553-14	HFH-003-N-S0005-01232025	135	95.4	119	85.6	104	93.4	87.0	91.9
320-118553-19	HFH-003-N-S010-01232025	97.2	91.0	93.1	81.3	96.3	83.4	64.1	66.8
320-118553-19 - DL	HFH-003-N-S010-01232025								
320-118553-21	HFH-002-N-S0005-01232025	123	131	131	92.8	78.8	65.3	73.0	70.9
320-118553-25	HFH-002-N-S006-01232025	110			101	89.9	69.1	55.2	54.3
320-118553-25 - RA	HFH-002-N-S006-01232025		93.8	92.7					
320-118553-25 - DL	HFH-002-N-S006-01232025								
320-118553-28	FMB-004-N-S0005-01232025	112	128	130	87.4	64.8	52.6	65.8	63.4
320-118553-31	FMB-004-N-S006-01232025	94.2		134	81.2	65.1	53.7	54.6	53.3
320-118553-31 - RA	FMB-004-N-S006-01232025		70.9						
LCS 320-836121/3-A	Lab Control Sample	113	95.1	110	89.1	87.0	59.5	58.8	60.5
LCS 320-836188/3-A	Lab Control Sample	127	137	142	102	66.1	54.5	50.3	49.8
LCS 320-836802/3-A	Lab Control Sample	125	105	104	83.2	89.6	77.3	77.7	81.4
LCSD 320-836121/4-A	Lab Control Sample Dup	95.6	99.7	96.7	93.8	77.7	54.6	58.1	59.0
LCSD 320-836188/4-A	Lab Control Sample Dup	133	142	145	103	46.3	37.3	37.5	37.7
LCSD 320-836802/4-A	Lab Control Sample Dup	117	107	120	94.2	107	90.1	93.9	98.7
LLCS 320-836121/2-A	Lab Control Sample	113	100	101	85.5	89.4	62.8	81.7	82.9
LLCS 320-836188/2-A	Lab Control Sample	127	136	138	95.9	63.2	51.4	45.3	42.9
LLCS 320-836802/2-A	Lab Control Sample	140	108	109	82.2	86.0	75.5	64.9	67.0
MB 320-836121/1-A	Method Blank	112	91.5	101	88.4	85.3	60.8	55.7	56.2
MB 320-836188/1-A	Method Blank	140	143	147	101	56.7	46.5	40.7	39.6
MB 320-836802/1-A	Method Blank	121	111	109	92.2	88.7	84.6	64.7	67.6

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118553-2
Project/Site: Spokane International Airport

13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-836121/1-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 836121

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-836121/1-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 836121

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		02/27/25 04:51	02/27/25 15:50	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99.9*		*8 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C5 PFPeA	*96.6*		*35 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C5 PFHxA	*93.2*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C4 PFHpA	*89.5*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C8 PFOA	*91.2*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C9 PFNA	*91.5*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C6 PFDA	*87.4*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C7 PFUnA	*90.4*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C2 PFDoA	*90.9*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C2 PFTeDA	*94.4*		*20 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C3 PFBS	*79.0*		*40 - 135*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C3 PFHxS	*91.1*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C8 PFOS	*100*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C8 FOSA	*78.8*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
d3-NMeFOSAA	*98.8*		*40 - 135*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
d5-NEtFOSAA	*102*		*40 - 150*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C2 4:2 FTS	*112*		*40 - 165*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C2 6:2 FTS	*91.5*		*40 - 215*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C2 8:2 FTS	*101*		*40 - 275*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C3 HFPO-DA	*88.4*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
d7-N-MeFOSE-M	*85.3*		*20 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
d9-N-EtFOSE-M	*60.8*		*15 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
d5-NEtPFOSA	*55.7*		*10 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
d3-NMePFOSA	*56.2*		*10 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*

Lab Sample ID: LCS 320-836121/3-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836121

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	5.18		ug/Kg		104	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.78		ug/Kg		111	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.78		ug/Kg		111	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.82		ug/Kg		113	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.70		ug/Kg		108	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.61		ug/Kg		104	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	3.06		ug/Kg		122	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-836121/3-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836121

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.75		ug/Kg		110	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.67		ug/Kg		107	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.57		ug/Kg		103	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.56		ug/Kg		102	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.10		ug/Kg		95	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.61		ug/Kg		111	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.52		ug/Kg		110	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.25		ug/Kg		94	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.26		ug/Kg		97	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.27		ug/Kg		94	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.38		ug/Kg		99	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.29		ug/Kg		95	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.00		ug/Kg		85	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	5.09		ug/Kg		107	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.65		ug/Kg		97	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.61		ug/Kg		104	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.85		ug/Kg		114	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.71		ug/Kg		108	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.88		ug/Kg		115	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.58		ug/Kg		103	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.2		ug/Kg		90	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	14.3		ug/Kg		114	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.91		ug/Kg		102	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.63		ug/Kg		111	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.72		ug/Kg		109	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.91		ug/Kg		116	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.38		ug/Kg		95	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-836121/3-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836121

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.56		ug/Kg		110	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.46		ug/Kg		104	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.20		ug/Kg		99	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.21		ug/Kg		104	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.7		ug/Kg		93	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*102*		*8 - 130*
13C5 PFPeA	*85.3*		*35 - 130*
13C5 PFHxA	*89.8*		*40 - 130*
13C4 PFHpA	*94.7*		*40 - 130*
13C8 PFOA	*91.0*		*40 - 130*
13C9 PFNA	*93.2*		*40 - 130*
13C6 PFDA	*80.5*		*40 - 130*
13C7 PFUnA	*90.0*		*40 - 130*
13C2 PFDoA	*92.2*		*40 - 130*
13C2 PFTeDA	*92.3*		*20 - 130*
13C3 PFBS	*93.3*		*40 - 135*
13C3 PFHxS	*93.4*		*40 - 130*
13C8 PFOS	*92.7*		*40 - 130*
13C8 FOSA	*77.9*		*40 - 130*
d3-NMeFOSAA	*87.3*		*40 - 135*
d5-NEtFOSAA	*99.3*		*40 - 150*
13C2 4:2 FTS	*113*		*40 - 165*
13C2 6:2 FTS	*95.1*		*40 - 215*
13C2 8:2 FTS	*110*		*40 - 275*
13C3 HFPO-DA	*89.1*		*40 - 130*
d7-N-MeFOSE-M	*87.0*		*20 - 130*
d9-N-EtFOSE-M	*59.5*		*15 - 130*
d5-NEtPFOSA	*58.8*		*10 - 130*
d3-NMePFOSA	*60.5*		*10 - 130*

Lab Sample ID: LCSD 320-836121/4-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 836121

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	5.25		ug/Kg		105	70 - 140	1	30
Perfluoropentanoic acid (PFPeA)			2.50	2.86		ug/Kg		115	60 - 150	3	30
Perfluorohexanoic acid (PFHxA)			2.50	2.93		ug/Kg		117	65 - 140	5	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.87		ug/Kg		115	65 - 145	2	30
Perfluorooctanoic acid (PFOA)			2.50	2.57		ug/Kg		103	70 - 150	5	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-836121/4-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 836121

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.62		ug/Kg		105	70 - 155	0	30
Perfluorodecanoic acid (PFDA)	2.50	2.86		ug/Kg		115	70 - 155	7	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.74		ug/Kg		110	70 - 155	0	30
Perfluorododecanoic acid (PFDoA)	2.50	2.55		ug/Kg		102	70 - 150	4	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.59		ug/Kg		103	65 - 150	1	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.70		ug/Kg		108	65 - 150	5	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.36		ug/Kg		107	65 - 145	12	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.56		ug/Kg		109	55 - 160	2	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.38		ug/Kg		104	60 - 150	6	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.35		ug/Kg		99	65 - 155	5	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.35		ug/Kg		101	65 - 160	4	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.25		ug/Kg		94	55 - 140	0	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.49		ug/Kg		103	40 - 155	5	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.44		ug/Kg		101	25 - 160	6	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	5.21		ug/Kg		111	60 - 150	26	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.91		ug/Kg		103	55 - 200	4	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.64		ug/Kg		97	70 - 150	0	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.45		ug/Kg		98	70 - 140	6	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.72		ug/Kg		109	70 - 155	5	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.59		ug/Kg		104	70 - 140	5	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.69		ug/Kg		108	65 - 155	7	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.55		ug/Kg		102	65 - 165	1	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.6		ug/Kg		93	70 - 140	3	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	14.8		ug/Kg		119	70 - 135	4	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	2.04		ug/Kg		109	70 - 145	7	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.46		ug/Kg		104	70 - 160	7	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.59		ug/Kg		103	30 - 140	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.64		ug/Kg		105	60 - 150	10	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-836121/4-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 836121

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.94		ug/Kg		117	60 - 155	21	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.51		ug/Kg		108	70 - 150	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.40		ug/Kg		102	45 - 160	3	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.06		ug/Kg		92	70 - 140	7	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.62		ug/Kg		92	45 - 130	12	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	12.0		ug/Kg		96	60 - 130	3	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 150	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*98.8*		*8 - 130*
13C5 PFPeA	*99.6*		*35 - 130*
13C5 PFHxA	*94.1*		*40 - 130*
13C4 PFHpA	*97.4*		*40 - 130*
13C8 PFOA	*92.0*		*40 - 130*
13C9 PFNA	*91.3*		*40 - 130*
13C6 PFDA	*83.9*		*40 - 130*
13C7 PFUnA	*88.5*		*40 - 130*
13C2 PFDoA	*93.1*		*40 - 130*
13C2 PFTeDA	*88.9*		*20 - 130*
13C3 PFBS	*81.3*		*40 - 135*
13C3 PFHxS	*90.4*		*40 - 130*
13C8 PFOS	*87.7*		*40 - 130*
13C8 FOSA	*80.8*		*40 - 130*
d3-NMeFOSAA	*94.4*		*40 - 135*
d5-NEtFOSAA	*95.4*		*40 - 150*
13C2 4:2 FTS	*95.6*		*40 - 165*
13C2 6:2 FTS	*99.7*		*40 - 215*
13C2 8:2 FTS	*96.7*		*40 - 275*
13C3 HFPO-DA	*93.8*		*40 - 130*
d7-N-MeFOSE-M	*77.7*		*20 - 130*
d9-N-EtFOSE-M	*54.6*		*15 - 130*
d5-NEtPFOSA	*58.1*		*10 - 130*
d3-NMePFOSA	*59.0*		*10 - 130*

Lab Sample ID: LLCS 320-836121/2-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836121

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.882		ug/Kg		110	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.390		ug/Kg		97	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.486		ug/Kg		121	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-836121/2-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836121

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.426		ug/Kg		107	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.445		ug/Kg		111	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.390		ug/Kg		97	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.514		ug/Kg		128	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.455		ug/Kg		114	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.470		ug/Kg		117	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.460		ug/Kg		115	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.446		ug/Kg		112	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.336		ug/Kg		95	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.388		ug/Kg		103	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.399		ug/Kg		109	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.367		ug/Kg		96	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.384		ug/Kg		103	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.373		ug/Kg		97	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.376		ug/Kg		97	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.356		ug/Kg		92	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.580		ug/Kg		77	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.907		ug/Kg		119	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.801		ug/Kg		104	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.423		ug/Kg		106	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.442		ug/Kg		111	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.420		ug/Kg		105	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.438		ug/Kg		110	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.422		ug/Kg		106	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.78		ug/Kg		89	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.33		ug/Kg		116	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.343		ug/Kg		114	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.416		ug/Kg		110	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.356		ug/Kg		89	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-836121/2-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836121

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.376		ug/Kg		94	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.436		ug/Kg		109	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.413		ug/Kg		111	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.430		ug/Kg		114	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.382		ug/Kg		107	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.504		ug/Kg		63	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	2.01		ug/Kg		101	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	1.97		ug/Kg		98	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*73.9*		*8 - 130*
13C5 PFPeA	*96.8*		*35 - 130*
13C5 PFHxA	*86.1*		*40 - 130*
13C4 PFHpA	*91.9*		*40 - 130*
13C8 PFOA	*87.8*		*40 - 130*
13C9 PFNA	*93.5*		*40 - 130*
13C6 PFDA	*88.2*		*40 - 130*
13C7 PFUnA	*102*		*40 - 130*
13C2 PFDoA	*98.1*		*40 - 130*
13C2 PFTeDA	*99.3*		*20 - 130*
13C3 PFBS	*87.5*		*40 - 135*
13C3 PFHxS	*93.6*		*40 - 130*
13C8 PFOS	*94.9*		*40 - 130*
13C8 FOSA	*81.3*		*40 - 130*
d3-NMeFOSAA	*92.6*		*40 - 135*
d5-NEtFOSAA	*97.8*		*40 - 150*
13C2 4:2 FTS	*113*		*40 - 165*
13C2 6:2 FTS	*100*		*40 - 215*
13C2 8:2 FTS	*101*		*40 - 275*
13C3 HFPO-DA	*85.5*		*40 - 130*
d7-N-MeFOSE-M	*89.4*		*20 - 130*
d9-N-EtFOSE-M	*62.8*		*15 - 130*
d5-NEtPFOSA	*81.7*		*10 - 130*
d3-NMePFOSA	*82.9*		*10 - 130*

Lab Sample ID: MB 320-836188/1-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 836188

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		02/27/25 09:28	02/28/25 18:20	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-836188/1-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 836188

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-836188/1-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 836188

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		02/27/25 09:28	02/28/25 18:20	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		02/27/25 09:28	02/28/25 18:20	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*94.3*		*8 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C5 PFPeA	*84.8*		*35 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C5 PFHxA	*77.1*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C4 PFHpA	*87.3*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C8 PFOA	*88.5*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C9 PFNA	*83.3*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C6 PFDA	*83.6*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C7 PFUnA	*77.0*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C2 PFDoA	*76.7*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C2 PFTeDA	*65.0*		*20 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C3 PFBS	*77.4*		*40 - 135*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C3 PFHxS	*80.4*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C8 PFOS	*80.8*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C8 FOSA	*67.5*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
d3-NMeFOSAA	*110*		*40 - 135*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
d5-NEtFOSAA	*110*		*40 - 150*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C2 4:2 FTS	*140*		*40 - 165*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C2 6:2 FTS	*143*		*40 - 215*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C2 8:2 FTS	*147*		*40 - 275*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
13C3 HFPO-DA	*101*		*40 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
d7-N-MeFOSE-M	*56.7*		*20 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
d9-N-EtFOSE-M	*46.5*		*15 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
d5-NEtPFOSA	*40.7*		*10 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*
d3-NMePFOSA	*39.6*		*10 - 130*	*02/27/25 09:28*	*02/28/25 18:20*	*1*

Lab Sample ID: LCS 320-836188/3-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836188

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	5.05		ug/Kg		101	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.63		ug/Kg		105	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.45		ug/Kg		98	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.57		ug/Kg		103	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.66		ug/Kg		107	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.65		ug/Kg		106	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	3.00		ug/Kg		120	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-836188/3-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836188

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.71		ug/Kg		108	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.51		ug/Kg		100	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.54		ug/Kg		102	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.84		ug/Kg		114	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.20		ug/Kg		99	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.40		ug/Kg		102	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.15		ug/Kg		94	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.35		ug/Kg		98	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.12		ug/Kg		91	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.48		ug/Kg		103	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	1.96		ug/Kg		81	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	1.88		ug/Kg		78	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.07		ug/Kg		87	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.31		ug/Kg		91	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	5.01		ug/Kg		104	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.70		ug/Kg		108	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	3.18		ug/Kg		127	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.77		ug/Kg		111	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.51		ug/Kg		100	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.43		ug/Kg		97	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.6		ug/Kg		93	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	13.3		ug/Kg		107	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.75		ug/Kg		93	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	1.89		ug/Kg		80	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.38		ug/Kg		95	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.94		ug/Kg		118	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.53		ug/Kg		101	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-836188/3-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836188

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.08		ug/Kg		89	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.74		ug/Kg		74	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.87		ug/Kg		84	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.96		ug/Kg		99	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.7		ug/Kg		86	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.6		ug/Kg		93	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*91.8*		*8 - 130*
13C5 PFPeA	*85.9*		*35 - 130*
13C5 PFHxA	*93.1*		*40 - 130*
13C4 PFHpA	*91.5*		*40 - 130*
13C8 PFOA	*84.2*		*40 - 130*
13C9 PFNA	*84.5*		*40 - 130*
13C6 PFDA	*84.2*		*40 - 130*
13C7 PFUnA	*83.6*		*40 - 130*
13C2 PFDoA	*80.8*		*40 - 130*
13C2 PFTeDA	*69.8*		*20 - 130*
13C3 PFBS	*71.1*		*40 - 135*
13C3 PFHxS	*73.1*		*40 - 130*
13C8 PFOS	*81.9*		*40 - 130*
13C8 FOSA	*72.5*		*40 - 130*
d3-NMeFOSAA	*114*		*40 - 135*
d5-NEtFOSAA	*109*		*40 - 150*
13C2 4:2 FTS	*127*		*40 - 165*
13C2 6:2 FTS	*137*		*40 - 215*
13C2 8:2 FTS	*142*		*40 - 275*
13C3 HFPO-DA	*102*		*40 - 130*
d7-N-MeFOSE-M	*66.1*		*20 - 130*
d9-N-EtFOSE-M	*54.5*		*15 - 130*
d5-NEtPFOSA	*50.3*		*10 - 130*
d3-NMePFOSA	*49.8*		*10 - 130*

Lab Sample ID: LCSD 320-836188/4-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 836188

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	5.15		ug/Kg		103	70 - 140	2	30
Perfluoropentanoic acid (PFPeA)			2.50	2.87		ug/Kg		115	60 - 150	9	30
Perfluorohexanoic acid (PFHxA)			2.50	2.49		ug/Kg		100	65 - 140	2	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.57		ug/Kg		103	65 - 145	0	30
Perfluorooctanoic acid (PFOA)			2.50	2.65		ug/Kg		106	70 - 150	0	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-836188/4-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 836188

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.71		ug/Kg		109	70 - 155	2	30
Perfluorodecanoic acid (PFDA)	2.50	3.18		ug/Kg		127	70 - 155	6	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.84		ug/Kg		113	70 - 155	5	30
Perfluorododecanoic acid (PFDoA)	2.50	2.72		ug/Kg		109	70 - 150	8	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.64		ug/Kg		105	65 - 150	4	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.95		ug/Kg		118	65 - 150	4	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.09		ug/Kg		94	65 - 145	5	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.38		ug/Kg		101	55 - 160	1	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.08		ug/Kg		91	60 - 150	3	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.76		ug/Kg		116	65 - 155	16	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.30		ug/Kg		99	65 - 160	8	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.45		ug/Kg		102	55 - 140	1	30
Perfluorodecanesulfonic acid (PFDS)	2.41	1.86		ug/Kg		77	40 - 155	5	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	1.63		ug/Kg		67	25 - 160	14	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.07		ug/Kg		87	60 - 150	0	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.88		ug/Kg		102	55 - 200	12	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.48		ug/Kg		93	70 - 150	11	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.91		ug/Kg		116	70 - 140	7	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	3.18		ug/Kg		127	70 - 155	0	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.83		ug/Kg		113	70 - 140	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.82		ug/Kg		113	65 - 155	11	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.44		ug/Kg		98	65 - 165	1	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.8		ug/Kg		95	70 - 140	2	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	14.6		ug/Kg		117	70 - 135	9	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.85		ug/Kg		98	70 - 145	6	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.03		ug/Kg		86	70 - 160	7	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.53		ug/Kg		101	30 - 140	6	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.85		ug/Kg		114	60 - 150	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-836188/4-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 836188

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.48		ug/Kg		99	60 - 155	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.14		ug/Kg		92	70 - 150	3	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.53		ug/Kg		65	45 - 160	13	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.01		ug/Kg		90	70 - 140	7	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.56		ug/Kg		111	45 - 130	11	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.4		ug/Kg		91	60 - 130	6	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	12.1		ug/Kg		97	60 - 150	4	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*93.7*		*8 - 130*
13C5 PFPeA	*85.8*		*35 - 130*
13C5 PFHxA	*93.1*		*40 - 130*
13C4 PFHpA	*92.2*		*40 - 130*
13C8 PFOA	*87.4*		*40 - 130*
13C9 PFNA	*86.1*		*40 - 130*
13C6 PFDA	*79.0*		*40 - 130*
13C7 PFUnA	*70.2*		*40 - 130*
13C2 PFDoA	*63.3*		*40 - 130*
13C2 PFTeDA	*52.6*		*20 - 130*
13C3 PFBS	*75.7*		*40 - 135*
13C3 PFHxS	*82.4*		*40 - 130*
13C8 PFOS	*77.2*		*40 - 130*
13C8 FOSA	*59.5*		*40 - 130*
d3-NMeFOSAA	*95.8*		*40 - 135*
d5-NEtFOSAA	*95.8*		*40 - 150*
13C2 4:2 FTS	*133*		*40 - 165*
13C2 6:2 FTS	*142*		*40 - 215*
13C2 8:2 FTS	*145*		*40 - 275*
13C3 HFPO-DA	*103*		*40 - 130*
d7-N-MeFOSE-M	*46.3*		*20 - 130*
d9-N-EtFOSE-M	*37.3*		*15 - 130*
d5-NEtPFOSA	*37.5*		*10 - 130*
d3-NMePFOSA	*37.7*		*10 - 130*

Lab Sample ID: LLCS 320-836188/2-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836188

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.816		ug/Kg		102	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.447		ug/Kg		112	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.446		ug/Kg		111	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-836188/2-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836188

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.426		ug/Kg		107	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.470		ug/Kg		118	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.427		ug/Kg		107	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.536		ug/Kg		134	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.450		ug/Kg		113	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.438		ug/Kg		109	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.458		ug/Kg		114	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.484		ug/Kg		121	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.477		ug/Kg		134	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.392		ug/Kg		104	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.392		ug/Kg		108	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.432		ug/Kg		113	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.415		ug/Kg		112	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.442		ug/Kg		115	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.329		ug/Kg		85	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.357		ug/Kg		92	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.701		ug/Kg		93	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.799		ug/Kg		105	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.727		ug/Kg		95	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.451		ug/Kg		113	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.536		ug/Kg		134	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.453		ug/Kg		113	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.442		ug/Kg		110	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.414		ug/Kg		104	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.91		ug/Kg		95	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.33		ug/Kg		117	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.293		ug/Kg		98	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.327		ug/Kg		86	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.407		ug/Kg		102	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-836188/2-A
Matrix: Solid
Analysis Batch: 836644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836188

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.400	0.449		ug/Kg		112	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.400	0.440		ug/Kg		110	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	0.374	0.354		ug/Kg		95	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	0.378	0.301		ug/Kg		80	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.357	0.307		ug/Kg		86	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.800	0.727		ug/Kg		91	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	2.00	1.79		ug/Kg		90	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	2.00	2.08		ug/Kg		104	60 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*90.5*		*8 - 130*
13C5 PFPeA	*84.3*		*35 - 130*
13C5 PFHxA	*87.5*		*40 - 130*
13C4 PFHpA	*91.1*		*40 - 130*
13C8 PFOA	*82.3*		*40 - 130*
13C9 PFNA	*86.3*		*40 - 130*
13C6 PFDA	*79.4*		*40 - 130*
13C7 PFUnA	*77.6*		*40 - 130*
13C2 PFDoA	*72.5*		*40 - 130*
13C2 PFTeDA	*65.3*		*20 - 130*
13C3 PFBS	*63.5*		*40 - 135*
13C3 PFHxS	*71.2*		*40 - 130*
13C8 PFOS	*73.7*		*40 - 130*
13C8 FOSA	*65.5*		*40 - 130*
d3-NMeFOSAA	*104*		*40 - 135*
d5-NEtFOSAA	*104*		*40 - 150*
13C2 4:2 FTS	*127*		*40 - 165*
13C2 6:2 FTS	*136*		*40 - 215*
13C2 8:2 FTS	*138*		*40 - 275*
13C3 HFPO-DA	*95.9*		*40 - 130*
d7-N-MeFOSE-M	*63.2*		*20 - 130*
d9-N-EtFOSE-M	*51.4*		*15 - 130*
d5-NEtPFOSA	*45.3*		*10 - 130*
d3-NMePFOSA	*42.9*		*10 - 130*

Lab Sample ID: MB 320-836802/1-A
Matrix: Solid
Analysis Batch: 837059

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 836802

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		03/03/25 04:02	03/04/25 01:05	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-836802/1-A
Matrix: Solid
Analysis Batch: 837059

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 836802

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-836802/1-A
Matrix: Solid
Analysis Batch: 837059

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 836802

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		03/03/25 04:02	03/04/25 01:05	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		03/03/25 04:02	03/04/25 01:05	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99.7*		*8 - 130*	*03/03/25 04:02*	*03/04/25 01:05*	*1*
13C5 PFPeA	*93.1*		*35 - 130*	*03/03/25 04:02*	*03/04/25 01:05*	*1*
13C5 PFHxA	*90.8*		*40 - 130*	*03/03/25 04:02*	*03/04/25 01:05*	*1*
13C4 PFHpA	*106*		*40 - 130*	*03/03/25 04:02*	*03/04/25 01:05*	*1*
13C8 PFOA	*101*		*40 - 130*	*03/03/25 04:02*	*03/04/25 01:05*	*1*
13C9 PFNA	*99.2*		*40 - 130*	*03/03/25 04:02*	*03/04/25 01:05*	*1*
13C6 PFDA	*94.1*		*40 - 130*	*03/03/25 04:02*	*03/04/25 01:05*	*1*
13C7 PFUnA	*106*		*40 - 130*	*03/03/25 04:02*	*03/04/25 01:05*	*1*
13C2 PFDoA	*115*		*40 - 130*	*03/03/25 04:02*	*03/04/25 01:05*	*1*
13C2 PFTeDA	*106*		*20 - 130*	*03/03/25 04:02*	*03/04/25 01:05*	*1*
13C3 PFBS	*95.1*		*40 - 135*	*03/03/25 04:02*	*03/04/25 01:05*	*1*
13C3 PFHxS	*90.0*		*40 - 130*	*03/03/25 04:02*	*03/04/25 01:05*	*1*
13C8 PFOS	*89.3*		*40 - 130*	*03/03/25 04:02*	*03/04/25 01:05*	*1*
13C8 FOSA	*78.8*		*40 - 130*	*03/03/25 04:02*	*03/04/25 01:05*	*1*
d3-NMeFOSAA	*92.7*		*40 - 135*	*03/03/25 04:02*	*03/04/25 01:05*	*1*
d5-NEtFOSAA	*108*		*40 - 150*	*03/03/25 04:02*	*03/04/25 01:05*	*1*
13C2 4:2 FTS	*121*		*40 - 165*	*03/03/25 04:02*	*03/04/25 01:05*	*1*
13C2 6:2 FTS	*111*		*40 - 215*	*03/03/25 04:02*	*03/04/25 01:05*	*1*
13C2 8:2 FTS	*109*		*40 - 275*	*03/03/25 04:02*	*03/04/25 01:05*	*1*
13C3 HFPO-DA	*92.2*		*40 - 130*	*03/03/25 04:02*	*03/04/25 01:05*	*1*
d7-N-MeFOSE-M	*88.7*		*20 - 130*	*03/03/25 04:02*	*03/04/25 01:05*	*1*
d9-N-EtFOSE-M	*84.6*		*15 - 130*	*03/03/25 04:02*	*03/04/25 01:05*	*1*
d5-NEtPFOSA	*64.7*		*10 - 130*	*03/03/25 04:02*	*03/04/25 01:05*	*1*
d3-NMePFOSA	*67.6*		*10 - 130*	*03/03/25 04:02*	*03/04/25 01:05*	*1*

Lab Sample ID: LCS 320-836802/3-A
Matrix: Solid
Analysis Batch: 837059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836802

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.74		ug/Kg		95	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.55		ug/Kg		102	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.68		ug/Kg		107	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.58		ug/Kg		103	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.34		ug/Kg		94	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.44		ug/Kg		98	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.90		ug/Kg		116	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-836802/3-A
Matrix: Solid
Analysis Batch: 837059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836802

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.58		ug/Kg		103	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.35		ug/Kg		94	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.49		ug/Kg		100	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.56		ug/Kg		102	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.26		ug/Kg		102	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.19		ug/Kg		93	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.31		ug/Kg		102	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.18		ug/Kg		91	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.24		ug/Kg		96	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.13		ug/Kg		88	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.40		ug/Kg		99	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.04		ug/Kg		84	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.65		ug/Kg		99	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.99		ug/Kg		105	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.88		ug/Kg		102	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.47		ug/Kg		99	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.69		ug/Kg		108	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.62		ug/Kg		105	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.74		ug/Kg		110	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.58		ug/Kg		103	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	10.0		ug/Kg		80	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.1		ug/Kg		97	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.87		ug/Kg		100	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.41		ug/Kg		102	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.40		ug/Kg		96	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.24		ug/Kg		89	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.88		ug/Kg		115	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-836802/3-A
Matrix: Solid
Analysis Batch: 837059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836802

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.48		ug/Kg		106	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.29		ug/Kg		97	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.94		ug/Kg		87	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.06		ug/Kg		81	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.1		ug/Kg		89	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	10.3		ug/Kg		82	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*93.3*		*8 - 130*
13C5 PFPeA	*91.1*		*35 - 130*
13C5 PFHxA	*86.4*		*40 - 130*
13C4 PFHpA	*96.1*		*40 - 130*
13C8 PFOA	*91.0*		*40 - 130*
13C9 PFNA	*91.8*		*40 - 130*
13C6 PFDA	*80.3*		*40 - 130*
13C7 PFUnA	*93.8*		*40 - 130*
13C2 PFDoA	*95.2*		*40 - 130*
13C2 PFTeDA	*88.9*		*20 - 130*
13C3 PFBS	*85.6*		*40 - 135*
13C3 PFHxS	*89.7*		*40 - 130*
13C8 PFOS	*87.3*		*40 - 130*
13C8 FOSA	*72.9*		*40 - 130*
d3-NMeFOSAA	*86.7*		*40 - 135*
d5-NEtFOSAA	*96.3*		*40 - 150*
13C2 4:2 FTS	*125*		*40 - 165*
13C2 6:2 FTS	*105*		*40 - 215*
13C2 8:2 FTS	*104*		*40 - 275*
13C3 HFPO-DA	*83.2*		*40 - 130*
d7-N-MeFOSE-M	*89.6*		*20 - 130*
d9-N-EtFOSE-M	*77.3*		*15 - 130*
d5-NEtPFOSA	*77.7*		*10 - 130*
d3-NMePFOSA	*81.4*		*10 - 130*

Lab Sample ID: LCSD 320-836802/4-A
Matrix: Solid
Analysis Batch: 837059

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 836802

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.43		ug/Kg		89	70 - 140	7	30
Perfluoropentanoic acid (PFPeA)			2.50	2.38		ug/Kg		95	60 - 150	7	30
Perfluorohexanoic acid (PFHxA)			2.50	2.59		ug/Kg		104	65 - 140	3	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.46		ug/Kg		98	65 - 145	5	30
Perfluorooctanoic acid (PFOA)			2.50	2.26		ug/Kg		90	70 - 150	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-836802/4-A
Matrix: Solid
Analysis Batch: 837059

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 836802

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.68		ug/Kg		107	70 - 155	9	30
Perfluorodecanoic acid (PFDA)	2.50	2.70		ug/Kg		108	70 - 155	7	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.50		ug/Kg		100	70 - 155	3	30
Perfluorododecanoic acid (PFDoA)	2.50	2.36		ug/Kg		95	70 - 150	0	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.46		ug/Kg		99	65 - 150	1	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.54		ug/Kg		101	65 - 150	1	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.18		ug/Kg		98	65 - 145	4	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.42		ug/Kg		103	55 - 160	10	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.36		ug/Kg		104	60 - 150	2	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.13		ug/Kg		89	65 - 155	2	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.44		ug/Kg		105	65 - 160	8	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.23		ug/Kg		93	55 - 140	5	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.48		ug/Kg		103	40 - 155	4	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.15		ug/Kg		89	25 - 160	5	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.79		ug/Kg		102	60 - 150	3	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.64		ug/Kg		97	55 - 200	7	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.22		ug/Kg		88	70 - 150	14	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.36		ug/Kg		94	70 - 140	5	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.48		ug/Kg		99	70 - 155	8	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.42		ug/Kg		97	70 - 140	8	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.52		ug/Kg		101	65 - 155	9	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.40		ug/Kg		96	65 - 165	7	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	10.4		ug/Kg		83	70 - 140	4	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.1		ug/Kg		97	70 - 135	0	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.77		ug/Kg		94	70 - 145	6	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.54		ug/Kg		107	70 - 160	5	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.40		ug/Kg		96	30 - 140	0	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.20		ug/Kg		88	60 - 150	2	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-836802/4-A
Matrix: Solid
Analysis Batch: 837059

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 836802

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.41		ug/Kg		96	60 - 155	18	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.54		ug/Kg		109	70 - 150	3	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.32		ug/Kg		98	45 - 160	1	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.05		ug/Kg		92	70 - 140	6	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.09		ug/Kg		82	45 - 130	1	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.9		ug/Kg		87	60 - 130	2	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	9.66		ug/Kg		77	60 - 150	6	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*108*		*8 - 130*
13C5 PFPeA	*106*		*35 - 130*
13C5 PFHxA	*100*		*40 - 130*
13C4 PFHpA	*105*		*40 - 130*
13C8 PFOA	*98.8*		*40 - 130*
13C9 PFNA	*98.2*		*40 - 130*
13C6 PFDA	*92.2*		*40 - 130*
13C7 PFUnA	*103*		*40 - 130*
13C2 PFDoA	*106*		*40 - 130*
13C2 PFTeDA	*97.0*		*20 - 130*
13C3 PFBS	*95.1*		*40 - 135*
13C3 PFHxS	*90.3*		*40 - 130*
13C8 PFOS	*99.8*		*40 - 130*
13C8 FOSA	*87.9*		*40 - 130*
d3-NMeFOSAA	*103*		*40 - 135*
d5-NEtFOSAA	*116*		*40 - 150*
13C2 4:2 FTS	*117*		*40 - 165*
13C2 6:2 FTS	*107*		*40 - 215*
13C2 8:2 FTS	*120*		*40 - 275*
13C3 HFPO-DA	*94.2*		*40 - 130*
d7-N-MeFOSE-M	*107*		*20 - 130*
d9-N-EtFOSE-M	*90.1*		*15 - 130*
d5-NEtPFOSA	*93.9*		*10 - 130*
d3-NMePFOSA	*98.7*		*10 - 130*

Lab Sample ID: LLCS 320-836802/2-A
Matrix: Solid
Analysis Batch: 837059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836802

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.780		ug/Kg		97	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.381		ug/Kg		95	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.435		ug/Kg		109	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-836802/2-A
Matrix: Solid
Analysis Batch: 837059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836802

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.440		ug/Kg		110	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.413		ug/Kg		103	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.395		ug/Kg		99	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.388		ug/Kg		97	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.407		ug/Kg		102	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.374		ug/Kg		94	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.378		ug/Kg		94	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.389		ug/Kg		97	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.338		ug/Kg		95	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.353		ug/Kg		94	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.376		ug/Kg		103	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.354		ug/Kg		93	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.361		ug/Kg		97	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.320		ug/Kg		83	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.341		ug/Kg		89	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.316		ug/Kg		82	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.686		ug/Kg		91	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.774		ug/Kg		102	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.751		ug/Kg		98	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.387		ug/Kg		97	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.399		ug/Kg		100	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.396		ug/Kg		99	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.415		ug/Kg		104	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.406		ug/Kg		101	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.63		ug/Kg		81	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	1.78		ug/Kg		89	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.301		ug/Kg		100	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.398		ug/Kg		105	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.398		ug/Kg		99	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-836802/2-A
Matrix: Solid
Analysis Batch: 837059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836802

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.400	0.323		ug/Kg		81	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.400	0.429		ug/Kg		107	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	0.374	0.380		ug/Kg		102	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	0.378	0.369		ug/Kg		98	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.357	0.341		ug/Kg		96	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.800	0.682		ug/Kg		85	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	2.00	1.86		ug/Kg		93	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	2.00	1.68		ug/Kg		84	60 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*106*		*8 - 130*
13C5 PFPeA	*89.5*		*35 - 130*
13C5 PFHxA	*84.9*		*40 - 130*
13C4 PFHpA	*87.4*		*40 - 130*
13C8 PFOA	*94.0*		*40 - 130*
13C9 PFNA	*91.3*		*40 - 130*
13C6 PFDA	*91.9*		*40 - 130*
13C7 PFUnA	*95.8*		*40 - 130*
13C2 PFDoA	*97.7*		*40 - 130*
13C2 PFTeDA	*93.0*		*20 - 130*
13C3 PFBS	*91.9*		*40 - 135*
13C3 PFHxS	*90.4*		*40 - 130*
13C8 PFOS	*92.3*		*40 - 130*
13C8 FOSA	*75.2*		*40 - 130*
d3-NMeFOSAA	*94.3*		*40 - 135*
d5-NEtFOSAA	*96.5*		*40 - 150*
13C2 4:2 FTS	*140*		*40 - 165*
13C2 6:2 FTS	*108*		*40 - 215*
13C2 8:2 FTS	*109*		*40 - 275*
13C3 HFPO-DA	*82.2*		*40 - 130*
d7-N-MeFOSE-M	*86.0*		*20 - 130*
d9-N-EtFOSE-M	*75.5*		*15 - 130*
d5-NEtPFOSA	*64.9*		*10 - 130*
d3-NMePFOSA	*67.0*		*10 - 130*

Client: GSI Environmental Inc
Job ID: 320-118553-2
Project/Site: Spokane International Airport

Method: 1633 - Percent Moisture

Lab Sample ID: 320-118553-8 DU
Client Sample ID: HFH-005-N-S0005-01232025
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 834661

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	5.2			4.9		%				5	20

LCMS

Prep Batch: 836121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-1	HFH-004-N-S0005-01232025	Total/NA	Solid	1633 Shake	
320-118553-1 - DL	HFH-004-N-S0005-01232025	Total/NA	Solid	1633 Shake	
320-118553-5	HFH-004-N-S006-01232025	Total/NA	Solid	1633 Shake	
320-118553-8	HFH-005-N-S0005-01232025	Total/NA	Solid	1633 Shake	
MB 320-836121/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-836121/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-836121/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-836121/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Prep Batch: 836188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-12	HFH-005-N-S006-01232025	Total/NA	Solid	1633 Shake	
320-118553-12 - RA	HFH-005-N-S006-01232025	Total/NA	Solid	1633 Shake	
320-118553-21	HFH-002-N-S0005-01232025	Total/NA	Solid	1633 Shake	
320-118553-25	HFH-002-N-S006-01232025	Total/NA	Solid	1633 Shake	
320-118553-25 - DL	HFH-002-N-S006-01232025	Total/NA	Solid	1633 Shake	
320-118553-25 - RA	HFH-002-N-S006-01232025	Total/NA	Solid	1633 Shake	
320-118553-28	FMB-004-N-S0005-01232025	Total/NA	Solid	1633 Shake	
320-118553-31	FMB-004-N-S006-01232025	Total/NA	Solid	1633 Shake	
320-118553-31 - RA	FMB-004-N-S006-01232025	Total/NA	Solid	1633 Shake	
MB 320-836188/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-836188/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-836188/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-836188/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 836290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-1	HFH-004-N-S0005-01232025	Total/NA	Solid	1633	836121
320-118553-5	HFH-004-N-S006-01232025	Total/NA	Solid	1633	836121
320-118553-8	HFH-005-N-S0005-01232025	Total/NA	Solid	1633	836121
MB 320-836121/1-A	Method Blank	Total/NA	Solid	1633	836121
LCS 320-836121/3-A	Lab Control Sample	Total/NA	Solid	1633	836121
LCSD 320-836121/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	836121
LLCS 320-836121/2-A	Lab Control Sample	Total/NA	Solid	1633	836121

Analysis Batch: 836607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-1 - DL	HFH-004-N-S0005-01232025	Total/NA	Solid	1633	836121

Analysis Batch: 836644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-12	HFH-005-N-S006-01232025	Total/NA	Solid	1633	836188
320-118553-21	HFH-002-N-S0005-01232025	Total/NA	Solid	1633	836188
320-118553-25	HFH-002-N-S006-01232025	Total/NA	Solid	1633	836188
320-118553-28	FMB-004-N-S0005-01232025	Total/NA	Solid	1633	836188
320-118553-31	FMB-004-N-S006-01232025	Total/NA	Solid	1633	836188
MB 320-836188/1-A	Method Blank	Total/NA	Solid	1633	836188
LCS 320-836188/3-A	Lab Control Sample	Total/NA	Solid	1633	836188
LCSD 320-836188/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	836188
LLCS 320-836188/2-A	Lab Control Sample	Total/NA	Solid	1633	836188

LCMS

Prep Batch: 836802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-14	HFH-003-N-S0005-01232025	Total/NA	Solid	1633 Shake	
320-118553-19	HFH-003-N-S010-01232025	Total/NA	Solid	1633 Shake	
320-118553-19 - DL	HFH-003-N-S010-01232025	Total/NA	Solid	1633 Shake	
MB 320-836802/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-836802/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-836802/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-836802/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 837059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-14	HFH-003-N-S0005-01232025	Total/NA	Solid	1633	836802
320-118553-19	HFH-003-N-S010-01232025	Total/NA	Solid	1633	836802
MB 320-836802/1-A	Method Blank	Total/NA	Solid	1633	836802
LCS 320-836802/3-A	Lab Control Sample	Total/NA	Solid	1633	836802
LCSD 320-836802/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	836802
LLCS 320-836802/2-A	Lab Control Sample	Total/NA	Solid	1633	836802

Analysis Batch: 837090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-12 - RA	HFH-005-N-S006-01232025	Total/NA	Solid	1633	836188
320-118553-25 - DL	HFH-002-N-S006-01232025	Total/NA	Solid	1633	836188
320-118553-25 - RA	HFH-002-N-S006-01232025	Total/NA	Solid	1633	836188
320-118553-31 - RA	FMB-004-N-S006-01232025	Total/NA	Solid	1633	836188

Analysis Batch: 837466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-19 - DL	HFH-003-N-S010-01232025	Total/NA	Solid	1633	836802

General Chemistry

Analysis Batch: 834661

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-1	HFH-004-N-S0005-01232025	Total/NA	Solid	1633	
320-118553-5	HFH-004-N-S006-01232025	Total/NA	Solid	1633	
320-118553-8	HFH-005-N-S0005-01232025	Total/NA	Solid	1633	
320-118553-12	HFH-005-N-S006-01232025	Total/NA	Solid	1633	
320-118553-14	HFH-003-N-S0005-01232025	Total/NA	Solid	1633	
320-118553-19	HFH-003-N-S010-01232025	Total/NA	Solid	1633	
320-118553-25	HFH-002-N-S006-01232025	Total/NA	Solid	1633	
320-118553-8 DU	HFH-005-N-S0005-01232025	Total/NA	Solid	1633	

Analysis Batch: 834905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-21	HFH-002-N-S0005-01232025	Total/NA	Solid	1633	

Analysis Batch: 834909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-28	FMB-004-N-S0005-01232025	Total/NA	Solid	1633	
320-118553-31	FMB-004-N-S006-01232025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118553-2
Project/Site: Spokane International Airport

Client Sample ID: HFH-004-N-S0005-01232025
Lab Sample ID: 320-118553-1
Date Collected: 01/23/25 10:20
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834661	02/20/25 14:31	CFR	EET SAC

Client Sample ID: HFH-004-N-S0005-01232025
Lab Sample ID: 320-118553-1
Date Collected: 01/23/25 10:20
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 86.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.31 g	5.0 mL	836121	02/27/25 04:51	SJ	EET SAC
Total/NA	Analysis	1633		1			836290	02/27/25 22:09	C1P	EET SAC
Total/NA	Prep	1633 Shake	DL		2.31 g	5.0 mL	836121	02/27/25 04:51	SJ	EET SAC
Total/NA	Analysis	1633	DL	10			836607	02/28/25 16:51	K1S	EET SAC

Client Sample ID: HFH-004-N-S006-01232025
Lab Sample ID: 320-118553-5
Date Collected: 01/23/25 10:35
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834661	02/20/25 14:31	CFR	EET SAC

Client Sample ID: HFH-004-N-S006-01232025
Lab Sample ID: 320-118553-5
Date Collected: 01/23/25 10:35
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 95.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.15 g	5.0 mL	836121	02/27/25 04:51	SJ	EET SAC
Total/NA	Analysis	1633		1			836290	02/27/25 22:25	C1P	EET SAC

Client Sample ID: HFH-005-N-S0005-01232025
Lab Sample ID: 320-118553-8
Date Collected: 01/23/25 11:15
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834661	02/20/25 14:31	CFR	EET SAC

Client Sample ID: HFH-005-N-S0005-01232025
Lab Sample ID: 320-118553-8
Date Collected: 01/23/25 11:15
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 94.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.14 g	5.0 mL	836121	02/27/25 04:51	SJ	EET SAC
Total/NA	Analysis	1633		1			836290	02/27/25 22:42	C1P	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118553-2
Project/Site: Spokane International Airport

Client Sample ID: HFH-005-N-S006-01232025
Lab Sample ID: 320-118553-12
Date Collected: 01/23/25 11:30
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834661	02/20/25 14:31	CFR	EET SAC

Client Sample ID: HFH-005-N-S006-01232025
Lab Sample ID: 320-118553-12
Date Collected: 01/23/25 11:30
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 91.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.20 g	5.0 mL	836188	02/27/25 09:28	KTH	EET SAC
Total/NA	Analysis	1633		1			836644	02/28/25 19:26	K1S	EET SAC
Total/NA	Prep	1633 Shake	RA		2.20 g	5.0 mL	836188	02/27/25 09:28	KTH	EET SAC
Total/NA	Analysis	1633	RA	1			837090	03/03/25 21:31	RS1	EET SAC

Client Sample ID: HFH-003-N-S0005-01232025
Lab Sample ID: 320-118553-14
Date Collected: 01/23/25 12:20
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834661	02/20/25 14:31	CFR	EET SAC

Client Sample ID: HFH-003-N-S0005-01232025
Lab Sample ID: 320-118553-14
Date Collected: 01/23/25 12:20
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 87.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.31 g	5.0 mL	836802	03/03/25 04:02	BMS	EET SAC
Total/NA	Analysis	1633		1			837059	03/04/25 02:27	EJR	EET SAC

Client Sample ID: HFH-003-N-S010-01232025
Lab Sample ID: 320-118553-19
Date Collected: 01/23/25 12:40
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834661	02/20/25 14:31	CFR	EET SAC

Client Sample ID: HFH-003-N-S010-01232025
Lab Sample ID: 320-118553-19
Date Collected: 01/23/25 12:40
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 69.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.77 g	5.0 mL	836802	03/03/25 04:02	BMS	EET SAC
Total/NA	Analysis	1633		1			837059	03/04/25 02:44	EJR	EET SAC
Total/NA	Prep	1633 Shake	DL		2.77 g	5.0 mL	836802	03/03/25 04:02	BMS	EET SAC
Total/NA	Analysis	1633	DL	10			837466	03/04/25 19:11	K1D	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-2

Client Sample ID: HFH-002-N-S0005-01232025
Lab Sample ID: 320-118553-21
Date Collected: 01/23/25 13:10
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834905	02/21/25 13:16	JCB	EET SAC

Client Sample ID: HFH-002-N-S0005-01232025
Lab Sample ID: 320-118553-21
Date Collected: 01/23/25 13:10
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 95.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.12 g	5.0 mL	836188	02/27/25 09:28	KTH	EET SAC
Total/NA	Analysis	1633		1			836644	02/28/25 19:42	K1S	EET SAC

Client Sample ID: HFH-002-N-S006-01232025
Lab Sample ID: 320-118553-25
Date Collected: 01/23/25 13:25
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834661	02/20/25 14:31	CFR	EET SAC

Client Sample ID: HFH-002-N-S006-01232025
Lab Sample ID: 320-118553-25
Date Collected: 01/23/25 13:25
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 77.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.62 g	5.0 mL	836188	02/27/25 09:28	KTH	EET SAC
Total/NA	Analysis	1633		1			836644	02/28/25 19:59	K1S	EET SAC
Total/NA	Prep	1633 Shake	DL		2.62 g	5.0 mL	836188	02/27/25 09:28	KTH	EET SAC
Total/NA	Analysis	1633	DL	10			837090	03/03/25 23:10	RS1	EET SAC
Total/NA	Prep	1633 Shake	RA		2.62 g	5.0 mL	836188	02/27/25 09:28	KTH	EET SAC
Total/NA	Analysis	1633	RA	1			837090	03/03/25 23:43	RS1	EET SAC

Client Sample ID: FMB-004-N-S0005-01232025
Lab Sample ID: 320-118553-28
Date Collected: 01/23/25 15:50
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834909	02/21/25 13:36	JCB	EET SAC

Client Sample ID: FMB-004-N-S0005-01232025
Lab Sample ID: 320-118553-28
Date Collected: 01/23/25 15:50
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 86.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.31 g	5.0 mL	836188	02/27/25 09:28	KTH	EET SAC
Total/NA	Analysis	1633		1			836644	02/28/25 20:15	K1S	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118553-2
Project/Site: Spokane International Airport

Client Sample ID: FMB-004-N-S006-01232025
Lab Sample ID: 320-118553-31

Date Collected: 01/23/25 16:05
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834909	02/21/25 13:36	JCB	EET SAC

Client Sample ID: FMB-004-N-S006-01232025
Lab Sample ID: 320-118553-31

Date Collected: 01/23/25 16:05
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 79.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.53 g	5.0 mL	836188	02/27/25 09:28	KTH	EET SAC
Total/NA	Analysis	1633		1			836644	02/28/25 20:31	K1S	EET SAC
Total/NA	Prep	1633 Shake	RA		2.53 g	5.0 mL	836188	02/27/25 09:28	KTH	EET SAC
Total/NA	Analysis	1633	RA	1			837090	03/03/25 21:48	RS1	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118553-2
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-2

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118553-1	HFH-004-N-S0005-01232025	Solid	01/23/25 10:20	01/25/25 08:45
320-118553-5	HFH-004-N-S006-01232025	Solid	01/23/25 10:35	01/25/25 08:45
320-118553-8	HFH-005-N-S0005-01232025	Solid	01/23/25 11:15	01/25/25 08:45
320-118553-12	HFH-005-N-S006-01232025	Solid	01/23/25 11:30	01/25/25 08:45
320-118553-14	HFH-003-N-S0005-01232025	Solid	01/23/25 12:20	01/25/25 08:45
320-118553-19	HFH-003-N-S010-01232025	Solid	01/23/25 12:40	01/25/25 08:45
320-118553-21	HFH-002-N-S0005-01232025	Solid	01/23/25 13:10	01/25/25 08:45
320-118553-25	HFH-002-N-S006-01232025	Solid	01/23/25 13:25	01/25/25 08:45
320-118553-28	FMB-004-N-S0005-01232025	Solid	01/23/25 15:50	01/25/25 08:45
320-118553-31	FMB-004-N-S006-01232025	Solid	01/23/25 16:05	01/25/25 08:45

HALEY ALDRICH

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633										HOLD	Number of Containers
HFH-004-N-S0005-01232025	1/23/2025	1020	Soil											X	1
HFH-004-N-S001-01232025	1/23/2025	1025	Soil	X											1
HFH-004-N-S003-01232025	1/23/2025	1030	Soil	X											1
HFH-004-FD-S003-01232025	1/23/2025	1100	Soil	X											1
HFH-004-N-S006-01232025	1/23/2025	1035	Soil											X	1
HFH-004-N-S010-01232025	1/23/2025	1040	Soil	X											1
HFH-004-FD-S010-01232025	1/23/2025	1110	Soil	X											1
HFH-005-N-S0005-01232025	1/23/2025	1115	Soil											X	1
HFH-005-N-S001-01232025	1/23/2025	1120	Soil	X											1
HFH-005-FD-S001-01232025	1/23/2025	1150	Soil	X											1

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118553 Chain of Custody

Sampled and Relinquished by	Received by
Sign	Sign
Print Cuy K Castillo de Sta	Print Carbon Dec mena
Firm H A	Firm H A
Date 1/23/25 Time 1700	Date 23 25 1710
Relinquished by	**Received by**
Sign Carbon Deamena	Sign
Print Carbon Des mena	Print
Firm H A	Firm
Date 1/24/25 Time 11:10	Date 1/24/25 1110
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date 1/24/25 Time 1200	Date 1.25.25

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

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November 2024

Form 3003

2.10C

HALEY ALDRICH

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633										HOLD	Number of Containers
HFH-005-N-S003-01232025	1/23/2025	1125	Soil	X											1
HFH-005-N-S006-01232025	1/23/2025	1130	Soil											X	1
HFH-005-N-S010-01232025	1/23/2025	1135	Soil											X	1
HFH-003-N-S0005-01232025	1/23/2025	1220	Soil											X	1
HFH-003-N-S001-01232025	1/23/2025	1225	Soil	X											1
HFH-003-N-S003-01232025	1/23/2025	1230	Soil	X											1
HFH-003-N-S006-01232025	1/23/2025	1235	Soil	X											1
HFH-003-FD-S006-01232025	1/23/2025	1305	Soil	X											1
HFH-003-N-S010-01232025	1/23/2025	1240	Soil											X	1
HFH-003-N-S012-01232025	1/23/2025	1245	Soil											X	1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Custenson	Print Carsandes moore
Firm H A	Firm H A
Date 1/23/25 Time 1700	Date 1/23/25 1700
Relinquished by	**Received by**
Sign	Sign
Print carsandes'moore	Print
Firm H A	Firm
Date 1/24/25 Time 11:10	Date 1110 1/24/25
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date 1/24/25 Time 1200	Date 1205

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
1600	Volume

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

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Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

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November 2024

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3/5/2025

HALEY ALDRICH

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633										HOLD	Number of Containers
HFH-002-N-S0005-01232025	1/23/2025	1310	Soil											X	1
HFH-002-N-S001-01232025	1/23/2025	1315	Soil	X											1
HFH-002-FD-S001-01232025	1/23/2025	1345	Soil	X											1
HFH-002-N-S003-01232025	1/23/2025	1320	Soil	X											1
HFH-002-N-S006-01232025	1/23/2025	1325	Soil											X	1
HFH-002-N-S010-01232025	1/23/2025	1330	Soil											X	1
HFH-002-N-S012-01232025	1/23/2025	1335	Soil											X	1
FMB-004-N-S0005-01232025	1/23/2025	1550	Soil											X	1
FMB-004-N-S001-01232025	1/23/2025	1555	Soil	X											1
FMB-004-N-S003-01232025	1/23/2025	1600	Soil	X											1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print
Firm	Firm
Date Time 1700	Date 1/23/25 1700
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date 1/24/25
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date 1/24/25 Time 1700	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
5458	Preservative
	Volume

SOLID	
18006	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

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Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

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November 2024

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3/5/2025

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447
Page 4 of 4

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633										HOLD	Number of Containers
FMB-004-S006-01232025	1/23/2025	1605	Soil											X	1
FMB-004-N-S010-01232025	1/23/2025	1610	Soil	X											1
FMB-004-FD-S010-01232025	1/23/2025	1640	Soil	X											1
FMB-004-FD-S003-01232025	1/23/2025	1630	Soil	X											1
															1
															1
															1
															1
															1
															1

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print Carson Desmond
Firm	Firm
Date Time 1700	Date 1/23 25 Time 1700
Relinquished by	**Received by**
Sign	Sign
Print Carson Desmond	Print McVay
Firm	Firm
Date 1/24/25 Time 11:10	Date 1110 1/24/25
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date 1/24/25 Time 1200	Date

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

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_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

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Form 3003

November 2024

2.1°C

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Sage Chas GGI 1/23/25 1700

3/5/2025

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Sacramento Sample Receiving Notes (SSRN)

Tracking # 420356930644

Loc: 320
118553

Job _____ _____

SO / PO / FO (SAT) / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID: Lab Corr Factor: (+ / -) _____ °C

Ice 1 Wet 1 Gel _____ Other _____

Cooler Custody Seal _____

Cooler ID 2 of 2

Temp Observed: 2.1 °C Corrected 2.1 °C

From Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: _____ Date 1.05.25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☑	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials _____ Date 1.05.25

Notes:
5 containers Time 1040. COC time 1035.

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials _____ Date 1.05.25

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 2/4/2025 9:24:08 AM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118553-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

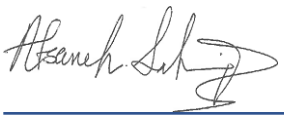
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Qualifiers

LCMS

Qualifier	Qualifier Description
*3	ISTD response or retention time outside acceptable limits.
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118553-1 — Eurofins Sacramento

Job Narrative
320-118553-1

Receipt
The samples were received on 1/25/2025 8:45 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.1º C.

Receipt Exceptions

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): HFH-004-N-S006-01232025 (320-118553-5).
Container time 1040. COC time 1035.

LCMS
Method 1633: The low level continuing calibration verification (CCVL) associated with batch 320-830344 recovered above the upper control limit for 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS), 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) and 4,8-Dioxa-3H-perfluorononanoic acid (ADONA). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. (CCVL 320-830344/2).

Method 1633: The continuing calibration verification low level (CCVL) associated with batch 320-830344 recovered outside the control limits for the IDA compound 13C3 HFPO-DA. The associated target analyte, Hexafluoropropylene Oxide Dimer Acid (HFPO-DA), is in control in the CCV; therefor the data is reported. (CCVL 320-830344/2)

Method 1633: The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. The associated analytes have been flagged: HFH-004-FD-S010-01232025 (320-118553-7) , HFH-005-N-S001-01232025 (320-118553-9), FMB-004-N-S010-01232025 (320-118553-32) and FMB-004-FD-S010-01232025 (320-118553-33).

Method 1633: Results for sample HFH-002-N-S003-01232025 (320-118553-24) was reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

Method 1633: The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: HFH-004-N-S001-01232025 (320-118553-2) and FMB-004-N-S003-01232025 (320-118553-30). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the samples.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Job ID: 320-118553-1
Project/Site: Spokane International Airport

Client Sample ID: HFH-004-N-S001-01232025 — Lab Sample ID: 320-118553-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.075	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.13	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.12	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.69		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.65		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.17	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	2.0		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.13	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.068	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.16	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.9		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.65		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	22		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.12	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.19	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.17	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.93		0.20	0.063	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: HFH-004-N-S003-01232025 — Lab Sample ID: 320-118553-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.075	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.11	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.67		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.099	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.19	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.078	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.8		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.12	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	6.9		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.21	J	0.40	0.099	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.13	J	0.40	0.099	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.12	J	0.20	0.062	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: HFH-004-FD-S003-01232025 — Lab Sample ID: 320-118553-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.11	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.42		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.19	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	1.1		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.093	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.13	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.16	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.18	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: HFH-004-FD-S003-01232025 (Continued)
Lab Sample ID: 320-118553-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	4.1		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.094	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	7.1		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.86		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.13	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.081	J	0.20	0.064	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: HFH-004-N-S010-01232025
Lab Sample ID: 320-118553-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.075	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.26		0.20	0.063	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.11	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.11	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.38		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.7		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.12	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	6.1		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.077	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.17	J	0.41	0.10	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.68		0.41	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.38		0.20	0.064	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: HFH-004-FD-S010-01232025
Lab Sample ID: 320-118553-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.080	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.11	J	0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.075	J I	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.052	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.35		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.39		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.4		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.049	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.10	J	0.40	0.099	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.53		0.40	0.099	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.37		0.20	0.062	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: HFH-005-N-S001-01232025
Lab Sample ID: 320-118553-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.064	J I	0.20	0.051	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: HFH-005-FD-S001-01232025
Lab Sample ID: 320-118553-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.23		0.20	0.051	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-1

Client Sample ID: HFH-005-N-S003-01232025 — Lab Sample ID: 320-118553-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.058	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.39		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.39		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.4		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.087	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.13	J	0.20	0.063	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: HFH-003-N-S001-01232025 — Lab Sample ID: 320-118553-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.16	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.54		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.91		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.29		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	1.5		0.20	0.063	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.22		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.29		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	2.4		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.20		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.23		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.2		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.34		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	19		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.23		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.51		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	1.6		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	22		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	11		0.20	0.064	ug/Kg	1	☼	1633	Total/NA
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.59		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.066	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.3		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	0.29	J	1.0	0.25	ug/Kg	1	☼	1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	0.63	J	1.0	0.25	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: HFH-003-N-S003-01232025 — Lab Sample ID: 320-118553-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.14	J	0.41	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.44		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.78		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.28		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.79		0.20	0.063	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.060	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.56		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.13	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: HFH-003-N-S003-01232025 (Continued) — Lab Sample ID: 320-118553-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanesulfonic acid (PFPeS)	0.18	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.5		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.11	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	17		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.15	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.9		0.41	0.10	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	13		0.41	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.89		0.20	0.064	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: HFH-003-N-S006-01232025 — Lab Sample ID: 320-118553-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.18	J	0.41	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.56		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	1.0		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.28		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.80		0.20	0.063	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.056	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.47		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.056	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.16	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.20		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.3		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.10	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	17		0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.13	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.061	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.5		0.41	0.10	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	11		0.41	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.95		0.20	0.064	ug/Kg	1	☼	1633	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.054	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: HFH-003-FD-S006-01232025 — Lab Sample ID: 320-118553-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.16	J	0.39	0.098	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.50		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.84		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.26		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.75		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.062	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.46		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.14	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.19	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: HFH-003-FD-S006-01232025 (Continued)

Lab Sample ID: 320-118553-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	2.3		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.11	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	20		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.14	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.8		0.39	0.098	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	12		0.39	0.098	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.86		0.20	0.062	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: HFH-002-N-S001-01232025

Lab Sample ID: 320-118553-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.16	J	0.39	0.098	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	1.3		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	1.0		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.59		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.74		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.10	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.11	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.064	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.053	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.068	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.61		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	6.0		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.27	J	0.39	0.098	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.4		0.39	0.098	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.086	J	0.20	0.062	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: HFH-002-FD-S001-01232025

Lab Sample ID: 320-118553-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.15	J	0.39	0.098	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	1.1		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.94		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.55		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.83		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.12	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.19	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.12	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.065	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.72		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	10		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.43		0.39	0.098	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.2		0.39	0.098	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.14	J	0.20	0.062	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-1

Client Sample ID: HFH-002-N-S003-01232025 — Lab Sample ID: 320-118553-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.14	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.40		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.14	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.46		0.21	0.065	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.25		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.85		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.066	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.056	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.5		0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.083	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.080	J	0.21	0.052	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	5.4		0.42	0.10	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	8.3		0.42	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.28		0.21	0.066	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	66		2.1	0.52	ug/Kg	10	☼	1633	Total/NA

Client Sample ID: FMB-004-N-S001-01232025 — Lab Sample ID: 320-118553-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorodecanoic acid (PFDA)	0.12	J	0.22	0.056	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.088	J	0.22	0.056	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.32		0.22	0.056	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.38		0.22	0.056	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FMB-004-N-S003-01232025 — Lab Sample ID: 320-118553-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.85		0.23	0.072	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.77		0.23	0.058	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.57		0.23	0.058	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.70		0.23	0.058	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	22		0.23	0.058	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.23	J	0.46	0.12	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FMB-004-N-S010-01232025 — Lab Sample ID: 320-118553-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.12	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.12	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.065	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.094	J	0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.058	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.63		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.61	I	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA	0.53		0.40	0.10	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GSI Environmental Inc
Job ID: 320-118553-1
Project/Site: Spokane International Airport

Client Sample ID: FMB-004-FD-S010-01232025
Lab Sample ID: 320-118553-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.23		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.21		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.094	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.13	J	0.19	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.089	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.093	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.86		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.82	I	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanoic acid (PFBA) - RA	0.11	J	0.39	0.097	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA	0.77		0.39	0.097	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: FMB-004-FD-S003-01232025
Lab Sample ID: 320-118553-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.87		0.19	0.059	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.63		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.47		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.63		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	18		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA	0.18	J	0.38	0.096	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA) - RA	0.25	J	0.96	0.24	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-1

Client Sample ID: HFH-004-N-S001-01232025
Date Collected: 01/23/25 10:25
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-2
Matrix: Solid
Percent Solids: 90.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
Perfluoropentanoic acid (PFPeA)	**0.075**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
Perfluorohexanoic acid (PFHxA)	**0.13**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
Perfluoroheptanoic acid (PFHpA)	**0.12**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
Perfluorooctanoic acid (PFOA)	**0.69**		0.20	0.062	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
Perfluorononanoic acid (PFNA)	**0.65**		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
Perfluorodecanoic acid (PFDA)	**0.17**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
Perfluoroundecanoic acid (PFUnA)	**2.0**		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
Perfluorotridecanoic acid (PFTrDA)	**0.13**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
Perfluorobutanesulfonic acid (PFBS)	**0.068**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
Perfluoropentanesulfonic acid (PFPeS)	**0.16**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
Perfluorohexanesulfonic acid (PFHxS)	**6.9**		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.65**		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
Perfluorooctanesulfonic acid (PFOS)	**22**		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
Perfluorononanesulfonic acid (PFNS)	**0.12**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.19**	**J**	0.40	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**0.17**	**J**	0.40	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
Perfluorooctanesulfonamide (PFOSA)	**0.93**		0.20	0.063	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1

Client: GSI Environmental Inc
Job ID: 320-118553-1
Project/Site: Spokane International Airport

Client Sample ID: HFH-004-N-S001-01232025
Lab Sample ID: 320-118553-2
Date Collected: 01/23/25 10:25
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 90.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 01:25	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*100*		*8 - 130*	*01/29/25 11:30*	*01/31/25 01:25*	*1*
13C5 PFPeA	*91.7*		*35 - 130*	*01/29/25 11:30*	*01/31/25 01:25*	*1*
13C5 PFHxA	*88.5*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:25*	*1*
13C4 PFHpA	*86.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:25*	*1*
13C8 PFOA	*83.4*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:25*	*1*
13C9 PFNA	*89.3*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:25*	*1*
13C6 PFDA	*73.8*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:25*	*1*
13C7 PFUnA	*55.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:25*	*1*
13C2 PFDoA	*35.7*	**5-*	*40 - 130*	*01/29/25 11:30*	*01/31/25 01:25*	*1*
13C2 PFTeDA	*34.9*		*20 - 130*	*01/29/25 11:30*	*01/31/25 01:25*	*1*
13C3 PFBS	*82.6*		*40 - 135*	*01/29/25 11:30*	*01/31/25 01:25*	*1*
13C3 PFHxS	*83.3*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:25*	*1*
13C8 PFOS	*70.5*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:25*	*1*
13C8 FOSA	*51.9*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:25*	*1*
d3-NMeFOSAA	*61.0*		*40 - 135*	*01/29/25 11:30*	*01/31/25 01:25*	*1*
d5-NEtFOSAA	*51.9*		*40 - 150*	*01/29/25 11:30*	*01/31/25 01:25*	*1*
13C2 4:2 FTS	*76.7*		*40 - 165*	*01/29/25 11:30*	*01/31/25 01:25*	*1*
13C2 6:2 FTS	*77.3*		*40 - 215*	*01/29/25 11:30*	*01/31/25 01:25*	*1*
13C2 8:2 FTS	*55.4*		*40 - 275*	*01/29/25 11:30*	*01/31/25 01:25*	*1*
13C3 HFPO-DA	*84.7*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:25*	*1*
d7-N-MeFOSE-M	*37.7*		*20 - 130*	*01/29/25 11:30*	*01/31/25 01:25*	*1*
d9-N-EtFOSE-M	*32.1*		*15 - 130*	*01/29/25 11:30*	*01/31/25 01:25*	*1*
d5-NEtPFOSA	*35.0*		*10 - 130*	*01/29/25 11:30*	*01/31/25 01:25*	*1*
d3-NMePFOSA	*35.7*		*10 - 130*	*01/29/25 11:30*	*01/31/25 01:25*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**9.8**		0.10	0.10	%			01/27/25 13:46	1

Client: GSI Environmental Inc
Job ID: 320-118553-1
Project/Site: Spokane International Airport

Client Sample ID: HFH-004-N-S003-01232025
Lab Sample ID: 320-118553-3
Date Collected: 01/23/25 10:30
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 94.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.099	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
Perfluorohexanoic acid (PFHxA)	**0.075**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
Perfluoroheptanoic acid (PFHpA)	**0.11**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
Perfluorooctanoic acid (PFOA)	**0.67**		0.20	0.061	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
Perfluorononanoic acid (PFNA)	**0.099**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
Perfluorodecanoic acid (PFDA)	**0.19**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
Perfluoropentanesulfonic acid (PFPeS)	**0.078**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
Perfluorohexanesulfonic acid (PFHxS)	**4.8**		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.12**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
Perfluorooctanesulfonic acid (PFOS)	**6.9**		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.21**	**J**	0.40	0.099	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**0.13**	**J**	0.40	0.099	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
Perfluorooctanesulfonamide (PFOSA)	**0.12**	**J**	0.20	0.062	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1

Client Sample ID: HFH-004-N-S003-01232025 — **Lab Sample ID: 320-118553-3**
Date Collected: 01/23/25 10:30 — **Matrix: Solid**
Date Received: 01/25/25 08:45 — **Percent Solids: 94.4**

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.099	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 01:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*105*		*8 - 130*	*01/29/25 11:30*	*01/31/25 01:41*	*1*
13C5 PFPeA	*93.2*		*35 - 130*	*01/29/25 11:30*	*01/31/25 01:41*	*1*
13C5 PFHxA	*94.1*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:41*	*1*
13C4 PFHpA	*87.3*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:41*	*1*
13C8 PFOA	*82.5*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:41*	*1*
13C9 PFNA	*93.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:41*	*1*
13C6 PFDA	*87.1*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:41*	*1*
13C7 PFUnA	*75.1*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:41*	*1*
13C2 PFDoA	*74.7*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:41*	*1*
13C2 PFTeDA	*66.7*		*20 - 130*	*01/29/25 11:30*	*01/31/25 01:41*	*1*
13C3 PFBS	*91.9*		*40 - 135*	*01/29/25 11:30*	*01/31/25 01:41*	*1*
13C3 PFHxS	*88.5*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:41*	*1*
13C8 PFOS	*79.7*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:41*	*1*
13C8 FOSA	*70.5*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:41*	*1*
d3-NMeFOSAA	*80.7*		*40 - 135*	*01/29/25 11:30*	*01/31/25 01:41*	*1*
d5-NEtFOSAA	*72.5*		*40 - 150*	*01/29/25 11:30*	*01/31/25 01:41*	*1*
13C2 4:2 FTS	*73.7*		*40 - 165*	*01/29/25 11:30*	*01/31/25 01:41*	*1*
13C2 6:2 FTS	*74.4*		*40 - 215*	*01/29/25 11:30*	*01/31/25 01:41*	*1*
13C2 8:2 FTS	*61.1*		*40 - 275*	*01/29/25 11:30*	*01/31/25 01:41*	*1*
13C3 HFPO-DA	*83.8*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:41*	*1*
d7-N-MeFOSE-M	*66.8*		*20 - 130*	*01/29/25 11:30*	*01/31/25 01:41*	*1*
d9-N-EtFOSE-M	*65.3*		*15 - 130*	*01/29/25 11:30*	*01/31/25 01:41*	*1*
d5-NEtPFOSA	*52.9*		*10 - 130*	*01/29/25 11:30*	*01/31/25 01:41*	*1*
d3-NMePFOSA	*52.2*		*10 - 130*	*01/29/25 11:30*	*01/31/25 01:41*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**5.6**		0.10	0.10	%			01/27/25 13:46	1

Client Sample ID: HFH-004-FD-S003-01232025 — **Lab Sample ID: 320-118553-4**
Date Collected: 01/23/25 11:00 — **Matrix: Solid**
Date Received: 01/25/25 08:45 — **Percent Solids: 94.9**

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
Perfluoropentanoic acid (PFPeA)	**0.11**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
Perfluorohexanoic acid (PFHxA)	**0.42**		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-1

Client Sample ID: HFH-004-FD-S003-01232025
Date Collected: 01/23/25 11:00
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-4
Matrix: Solid
Percent Solids: 94.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	**0.19**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
Perfluorooctanoic acid (PFOA)	**1.1**		0.20	0.062	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
Perfluorononanoic acid (PFNA)	**0.093**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
Perfluorodecanoic acid (PFDA)	**0.13**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
Perfluorobutanesulfonic acid (PFBS)	**0.16**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
Perfluoropentanesulfonic acid (PFPeS)	**0.18**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
Perfluorohexanesulfonic acid (PFHxS)	**4.1**		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.094**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
Perfluorooctanesulfonic acid (PFOS)	**7.1**		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.86**		0.40	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**0.13**	**J**	0.40	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
Perfluorooctanesulfonamide (PFOSA)	**0.081**	**J**	0.20	0.064	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1

Client Sample ID: HFH-004-FD-S003-01232025 — **Lab Sample ID: 320-118553-4**
Date Collected: 01/23/25 11:00 — **Matrix: Solid**
Date Received: 01/25/25 08:45 — **Percent Solids: 94.9**

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 01:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*104*		*8 - 130*	*01/29/25 11:30*	*01/31/25 01:58*	*1*
13C5 PFPeA	*90.5*		*35 - 130*	*01/29/25 11:30*	*01/31/25 01:58*	*1*
13C5 PFHxA	*83.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:58*	*1*
13C4 PFHpA	*82.7*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:58*	*1*
13C8 PFOA	*80.9*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:58*	*1*
13C9 PFNA	*90.5*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:58*	*1*
13C6 PFDA	*88.7*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:58*	*1*
13C7 PFUnA	*85.9*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:58*	*1*
13C2 PFDoA	*87.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:58*	*1*
13C2 PFTeDA	*84.3*		*20 - 130*	*01/29/25 11:30*	*01/31/25 01:58*	*1*
13C3 PFBS	*88.9*		*40 - 135*	*01/29/25 11:30*	*01/31/25 01:58*	*1*
13C3 PFHxS	*89.5*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:58*	*1*
13C8 PFOS	*84.8*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:58*	*1*
13C8 FOSA	*74.5*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:58*	*1*
d3-NMeFOSAA	*89.4*		*40 - 135*	*01/29/25 11:30*	*01/31/25 01:58*	*1*
d5-NEtFOSAA	*86.8*		*40 - 150*	*01/29/25 11:30*	*01/31/25 01:58*	*1*
13C2 4:2 FTS	*73.0*		*40 - 165*	*01/29/25 11:30*	*01/31/25 01:58*	*1*
13C2 6:2 FTS	*76.0*		*40 - 215*	*01/29/25 11:30*	*01/31/25 01:58*	*1*
13C2 8:2 FTS	*65.3*		*40 - 275*	*01/29/25 11:30*	*01/31/25 01:58*	*1*
13C3 HFPO-DA	*80.9*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:58*	*1*
d7-N-MeFOSE-M	*69.2*		*20 - 130*	*01/29/25 11:30*	*01/31/25 01:58*	*1*
d9-N-EtFOSE-M	*71.8*		*15 - 130*	*01/29/25 11:30*	*01/31/25 01:58*	*1*
d5-NEtPFOSA	*52.0*		*10 - 130*	*01/29/25 11:30*	*01/31/25 01:58*	*1*
d3-NMePFOSA	*51.3*		*10 - 130*	*01/29/25 11:30*	*01/31/25 01:58*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**5.1**		0.10	0.10	%			01/27/25 13:46	1

Client Sample ID: HFH-004-N-S010-01232025 — **Lab Sample ID: 320-118553-6**
Date Collected: 01/23/25 10:40 — **Matrix: Solid**
Date Received: 01/25/25 08:45 — **Percent Solids: 93.7**

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.41	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
Perfluorohexanoic acid (PFHxA)	**0.075**	**J**	0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
Perfluorooctanoic acid (PFOA)	**0.26**		0.20	0.063	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-1

Client Sample ID: HFH-004-N-S010-01232025
Date Collected: 01/23/25 10:40
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-6
Matrix: Solid
Percent Solids: 93.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	**0.11**	**J**	0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
Perfluorodecanoic acid (PFDA)	**0.11**	**J**	0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
Perfluoroundecanoic acid (PFUnA)	**0.38**		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
Perfluorohexanesulfonic acid (PFHxS)	**1.7**		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.12**	**J**	0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
Perfluorooctanesulfonic acid (PFOS)	**6.1**		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
Perfluorodecanesulfonic acid (PFDS)	**0.077**	**J**	0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.41	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.17**	**J**	0.41	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**0.68**		0.41	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
Perfluorooctanesulfonamide (PFOSA)	**0.38**		0.20	0.064	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1

Client Sample ID: HFH-004-N-S010-01232025 — **Lab Sample ID: 320-118553-6**
Date Collected: 01/23/25 10:40 — **Matrix: Solid**
Date Received: 01/25/25 08:45 — **Percent Solids: 93.7**

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.41	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 02:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*102*		*8 - 130*	*01/29/25 11:30*	*01/31/25 02:47*	*1*
13C5 PFPeA	*87.4*		*35 - 130*	*01/29/25 11:30*	*01/31/25 02:47*	*1*
13C5 PFHxA	*85.8*		*40 - 130*	*01/29/25 11:30*	*01/31/25 02:47*	*1*
13C4 PFHpA	*85.9*		*40 - 130*	*01/29/25 11:30*	*01/31/25 02:47*	*1*
13C8 PFOA	*83.3*		*40 - 130*	*01/29/25 11:30*	*01/31/25 02:47*	*1*
13C9 PFNA	*90.1*		*40 - 130*	*01/29/25 11:30*	*01/31/25 02:47*	*1*
13C6 PFDA	*92.6*		*40 - 130*	*01/29/25 11:30*	*01/31/25 02:47*	*1*
13C7 PFUnA	*86.4*		*40 - 130*	*01/29/25 11:30*	*01/31/25 02:47*	*1*
13C2 PFDoA	*90.3*		*40 - 130*	*01/29/25 11:30*	*01/31/25 02:47*	*1*
13C2 PFTeDA	*82.9*		*20 - 130*	*01/29/25 11:30*	*01/31/25 02:47*	*1*
13C3 PFBS	*86.3*		*40 - 135*	*01/29/25 11:30*	*01/31/25 02:47*	*1*
13C3 PFHxS	*85.7*		*40 - 130*	*01/29/25 11:30*	*01/31/25 02:47*	*1*
13C8 PFOS	*84.6*		*40 - 130*	*01/29/25 11:30*	*01/31/25 02:47*	*1*
13C8 FOSA	*63.3*		*40 - 130*	*01/29/25 11:30*	*01/31/25 02:47*	*1*
d3-NMeFOSAA	*81.2*		*40 - 135*	*01/29/25 11:30*	*01/31/25 02:47*	*1*
d5-NEtFOSAA	*75.7*		*40 - 150*	*01/29/25 11:30*	*01/31/25 02:47*	*1*
13C2 4:2 FTS	*66.2*		*40 - 165*	*01/29/25 11:30*	*01/31/25 02:47*	*1*
13C2 6:2 FTS	*72.8*		*40 - 215*	*01/29/25 11:30*	*01/31/25 02:47*	*1*
13C2 8:2 FTS	*60.6*		*40 - 275*	*01/29/25 11:30*	*01/31/25 02:47*	*1*
13C3 HFPO-DA	*77.7*		*40 - 130*	*01/29/25 11:30*	*01/31/25 02:47*	*1*
d7-N-MeFOSE-M	*49.5*		*20 - 130*	*01/29/25 11:30*	*01/31/25 02:47*	*1*
d9-N-EtFOSE-M	*49.2*		*15 - 130*	*01/29/25 11:30*	*01/31/25 02:47*	*1*
d5-NEtPFOSA	*39.4*		*10 - 130*	*01/29/25 11:30*	*01/31/25 02:47*	*1*
d3-NMePFOSA	*40.6*		*10 - 130*	*01/29/25 11:30*	*01/31/25 02:47*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**6.3**		0.10	0.10	%			01/27/25 13:46	1

Client Sample ID: HFH-004-FD-S010-01232025 — **Lab Sample ID: 320-118553-7**
Date Collected: 01/23/25 11:10 — **Matrix: Solid**
Date Received: 01/25/25 08:45 — **Percent Solids: 94.4**

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.099	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
Perfluorohexanoic acid (PFHxA)	**0.080**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
Perfluorooctanoic acid (PFOA)	**0.11**	**J**	0.20	0.061	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
Perfluorononanoic acid (PFNA)	**0.075**	**J I**	0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
Perfluorodecanoic acid (PFDA)	**0.052**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1

Client Sample ID: HFH-004-FD-S010-01232025
Lab Sample ID: 320-118553-7
Date Collected: 01/23/25 11:10
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 94.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	**0.35**		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
Perfluorohexanesulfonic acid (PFHxS)	**0.39**		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
Perfluorooctanesulfonic acid (PFOS)	**3.4**		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
Perfluorodecanesulfonic acid (PFDS)	**0.049**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.10**	**J**	0.40	0.099	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**0.53**		0.40	0.099	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
Perfluorooctanesulfonamide (PFOSA)	**0.37**		0.20	0.062	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1

Client Sample ID: HFH-004-FD-S010-01232025
Lab Sample ID: 320-118553-7

Date Collected: 01/23/25 11:10
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 94.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.099	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 03:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*103*		*8 - 130*	*01/29/25 11:30*	*01/31/25 03:04*	*1*
13C5 PFPeA	*95.7*		*35 - 130*	*01/29/25 11:30*	*01/31/25 03:04*	*1*
13C5 PFHxA	*84.9*		*40 - 130*	*01/29/25 11:30*	*01/31/25 03:04*	*1*
13C4 PFHpA	*90.7*		*40 - 130*	*01/29/25 11:30*	*01/31/25 03:04*	*1*
13C8 PFOA	*82.9*		*40 - 130*	*01/29/25 11:30*	*01/31/25 03:04*	*1*
13C9 PFNA	*92.9*		*40 - 130*	*01/29/25 11:30*	*01/31/25 03:04*	*1*
13C6 PFDA	*85.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 03:04*	*1*
13C7 PFUnA	*85.9*		*40 - 130*	*01/29/25 11:30*	*01/31/25 03:04*	*1*
13C2 PFDoA	*85.5*		*40 - 130*	*01/29/25 11:30*	*01/31/25 03:04*	*1*
13C2 PFTeDA	*81.8*		*20 - 130*	*01/29/25 11:30*	*01/31/25 03:04*	*1*
13C3 PFBS	*85.2*		*40 - 135*	*01/29/25 11:30*	*01/31/25 03:04*	*1*
13C3 PFHxS	*88.3*		*40 - 130*	*01/29/25 11:30*	*01/31/25 03:04*	*1*
13C8 PFOS	*82.0*		*40 - 130*	*01/29/25 11:30*	*01/31/25 03:04*	*1*
13C8 FOSA	*73.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 03:04*	*1*
d3-NMeFOSAA	*85.3*		*40 - 135*	*01/29/25 11:30*	*01/31/25 03:04*	*1*
d5-NEtFOSAA	*83.3*		*40 - 150*	*01/29/25 11:30*	*01/31/25 03:04*	*1*
13C2 4:2 FTS	*68.1*		*40 - 165*	*01/29/25 11:30*	*01/31/25 03:04*	*1*
13C2 6:2 FTS	*69.1*		*40 - 215*	*01/29/25 11:30*	*01/31/25 03:04*	*1*
13C2 8:2 FTS	*59.9*		*40 - 275*	*01/29/25 11:30*	*01/31/25 03:04*	*1*
13C3 HFPO-DA	*82.8*		*40 - 130*	*01/29/25 11:30*	*01/31/25 03:04*	*1*
d7-N-MeFOSE-M	*70.9*		*20 - 130*	*01/29/25 11:30*	*01/31/25 03:04*	*1*
d9-N-EtFOSE-M	*75.0*		*15 - 130*	*01/29/25 11:30*	*01/31/25 03:04*	*1*
d5-NEtPFOSA	*56.7*		*10 - 130*	*01/29/25 11:30*	*01/31/25 03:04*	*1*
d3-NMePFOSA	*55.4*		*10 - 130*	*01/29/25 11:30*	*01/31/25 03:04*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**5.6**		0.10	0.10	%			01/27/25 13:46	1

Client Sample ID: HFH-005-N-S001-01232025
Lab Sample ID: 320-118553-9

Date Collected: 01/23/25 11:20
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 94.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.063	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-1

Client Sample ID: HFH-005-N-S001-01232025
Date Collected: 01/23/25 11:20
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-9
Matrix: Solid
Percent Solids: 94.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
Perfluorooctanesulfonic acid (PFOS)	**0.064**	**J I**	0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.064	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 03:20	1

Client Sample ID: HFH-005-N-S001-01232025

Lab Sample ID: 320-118553-9

Date Collected: 01/23/25 11:20
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 94.2

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	105		8 - 130	01/29/25 11:30	01/31/25 03:20	1
13C5 PFPeA	94.2		35 - 130	01/29/25 11:30	01/31/25 03:20	1
13C5 PFHxA	89.9		40 - 130	01/29/25 11:30	01/31/25 03:20	1
13C4 PFHpA	82.9		40 - 130	01/29/25 11:30	01/31/25 03:20	1
13C8 PFOA	86.7		40 - 130	01/29/25 11:30	01/31/25 03:20	1
13C9 PFNA	97.5		40 - 130	01/29/25 11:30	01/31/25 03:20	1
13C6 PFDA	92.8		40 - 130	01/29/25 11:30	01/31/25 03:20	1
13C7 PFUnA	92.1		40 - 130	01/29/25 11:30	01/31/25 03:20	1
13C2 PFDoA	91.0		40 - 130	01/29/25 11:30	01/31/25 03:20	1
13C2 PFTeDA	94.0		20 - 130	01/29/25 11:30	01/31/25 03:20	1
13C3 PFBS	86.5		40 - 135	01/29/25 11:30	01/31/25 03:20	1
13C3 PFHxS	86.1		40 - 130	01/29/25 11:30	01/31/25 03:20	1
13C8 PFOS	83.3		40 - 130	01/29/25 11:30	01/31/25 03:20	1
13C8 FOSA	75.2		40 - 130	01/29/25 11:30	01/31/25 03:20	1
d3-NMeFOSAA	85.3		40 - 135	01/29/25 11:30	01/31/25 03:20	1
d5-NEtFOSAA	80.9		40 - 150	01/29/25 11:30	01/31/25 03:20	1
13C2 4:2 FTS	67.9		40 - 165	01/29/25 11:30	01/31/25 03:20	1
13C2 6:2 FTS	69.0		40 - 215	01/29/25 11:30	01/31/25 03:20	1
13C2 8:2 FTS	61.9		40 - 275	01/29/25 11:30	01/31/25 03:20	1
13C3 HFPO-DA	84.4		40 - 130	01/29/25 11:30	01/31/25 03:20	1
d7-N-MeFOSE-M	73.9		20 - 130	01/29/25 11:30	01/31/25 03:20	1
d9-N-EtFOSE-M	74.6		15 - 130	01/29/25 11:30	01/31/25 03:20	1
d5-NEtPFOSA	60.6		10 - 130	01/29/25 11:30	01/31/25 03:20	1
d3-NMePFOSA	61.5		10 - 130	01/29/25 11:30	01/31/25 03:20	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	5.8		0.10	0.10	%			01/27/25 13:46	1

Client Sample ID: HFH-005-FD-S001-01232025

Lab Sample ID: 320-118553-10

Date Collected: 01/23/25 11:50
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 95.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.41	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.063	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1

Client Sample ID: HFH-005-FD-S001-01232025
Date Collected: 01/23/25 11:50
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-10
Matrix: Solid
Percent Solids: 95.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**0.23**		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.41	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.41	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.41	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.064	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.41	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 03:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*104*		*8 - 130*	*01/29/25 11:30*	*01/31/25 03:37*	*1*
13C5 PFPeA	*89.9*		*35 - 130*	*01/29/25 11:30*	*01/31/25 03:37*	*1*
13C5 PFHxA	*86.9*		*40 - 130*	*01/29/25 11:30*	*01/31/25 03:37*	*1*
13C4 PFHpA	*86.6*		*40 - 130*	*01/29/25 11:30*	*01/31/25 03:37*	*1*
13C8 PFOA	*86.9*		*40 - 130*	*01/29/25 11:30*	*01/31/25 03:37*	*1*
13C9 PFNA	*95.5*		*40 - 130*	*01/29/25 11:30*	*01/31/25 03:37*	*1*
13C6 PFDA	*90.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 03:37*	*1*

Client Sample ID: HFH-005-FD-S001-01232025

Lab Sample ID: 320-118553-10

Date Collected: 01/23/25 11:50
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 95.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C7 PFUnA	88.1		40 - 130	01/29/25 11:30	01/31/25 03:37	1
13C2 PFDoA	90.8		40 - 130	01/29/25 11:30	01/31/25 03:37	1
13C2 PFTeDA	93.9		20 - 130	01/29/25 11:30	01/31/25 03:37	1
13C3 PFBS	96.5		40 - 135	01/29/25 11:30	01/31/25 03:37	1
13C3 PFHxS	91.5		40 - 130	01/29/25 11:30	01/31/25 03:37	1
13C8 PFOS	90.1		40 - 130	01/29/25 11:30	01/31/25 03:37	1
13C8 FOSA	73.6		40 - 130	01/29/25 11:30	01/31/25 03:37	1
d3-NMeFOSAA	85.9		40 - 135	01/29/25 11:30	01/31/25 03:37	1
d5-NEtFOSAA	82.3		40 - 150	01/29/25 11:30	01/31/25 03:37	1
13C2 4:2 FTS	74.5		40 - 165	01/29/25 11:30	01/31/25 03:37	1
13C2 6:2 FTS	72.3		40 - 215	01/29/25 11:30	01/31/25 03:37	1
13C2 8:2 FTS	61.5		40 - 275	01/29/25 11:30	01/31/25 03:37	1
13C3 HFPO-DA	82.3		40 - 130	01/29/25 11:30	01/31/25 03:37	1
d7-N-MeFOSE-M	71.0		20 - 130	01/29/25 11:30	01/31/25 03:37	1
d9-N-EtFOSE-M	71.0		15 - 130	01/29/25 11:30	01/31/25 03:37	1
d5-NEtPFOSA	59.4		10 - 130	01/29/25 11:30	01/31/25 03:37	1
d3-NMePFOSA	60.4		10 - 130	01/29/25 11:30	01/31/25 03:37	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	4.7		0.10	0.10	%			01/27/25 13:46	1

Client Sample ID: HFH-005-N-S003-01232025

Lab Sample ID: 320-118553-11

Date Collected: 01/23/25 11:25
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 91.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.099	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
Perfluorohexanoic acid (PFHxA)	0.058	J	0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
Perfluorooctanoic acid (PFOA)	0.39		0.20	0.062	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
Perfluorohexanesulfonic acid (PFHxS)	0.39		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
Perfluorooctanesulfonic acid (PFOS)	3.4		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
Perfluorodecanesulfonic acid (PFDS)	0.087	J	0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-1

Client Sample ID: HFH-005-N-S003-01232025
Date Collected: 01/23/25 11:25
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-11
Matrix: Solid
Percent Solids: 91.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.099	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.099	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
Perfluorooctanesulfonamide (PFOSA)	**0.13**	**J**	0.20	0.063	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.099	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 03:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*8 - 130*	*01/29/25 11:30*	*01/31/25 03:53*	*1*
13C5 PFPeA	*93.0*		*35 - 130*	*01/29/25 11:30*	*01/31/25 03:53*	*1*
13C5 PFHxA	*87.5*		*40 - 130*	*01/29/25 11:30*	*01/31/25 03:53*	*1*
13C4 PFHpA	*83.1*		*40 - 130*	*01/29/25 11:30*	*01/31/25 03:53*	*1*
13C8 PFOA	*84.6*		*40 - 130*	*01/29/25 11:30*	*01/31/25 03:53*	*1*
13C9 PFNA	*89.9*		*40 - 130*	*01/29/25 11:30*	*01/31/25 03:53*	*1*
13C6 PFDA	*83.3*		*40 - 130*	*01/29/25 11:30*	*01/31/25 03:53*	*1*
13C7 PFUnA	*83.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 03:53*	*1*
13C2 PFDoA	*83.1*		*40 - 130*	*01/29/25 11:30*	*01/31/25 03:53*	*1*
13C2 PFTeDA	*77.5*		*20 - 130*	*01/29/25 11:30*	*01/31/25 03:53*	*1*

Client Sample ID: HFH-005-N-S003-01232025
Lab Sample ID: 320-118553-11

Date Collected: 01/23/25 11:25
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 91.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	86.7		40 - 135	01/29/25 11:30	01/31/25 03:53	1
13C3 PFHxS	89.5		40 - 130	01/29/25 11:30	01/31/25 03:53	1
13C8 PFOS	81.2		40 - 130	01/29/25 11:30	01/31/25 03:53	1
13C8 FOSA	63.3		40 - 130	01/29/25 11:30	01/31/25 03:53	1
d3-NMeFOSAA	77.3		40 - 135	01/29/25 11:30	01/31/25 03:53	1
d5-NEtFOSAA	70.7		40 - 150	01/29/25 11:30	01/31/25 03:53	1
13C2 4:2 FTS	71.9		40 - 165	01/29/25 11:30	01/31/25 03:53	1
13C2 6:2 FTS	80.0		40 - 215	01/29/25 11:30	01/31/25 03:53	1
13C2 8:2 FTS	73.0		40 - 275	01/29/25 11:30	01/31/25 03:53	1
13C3 HFPO-DA	80.5		40 - 130	01/29/25 11:30	01/31/25 03:53	1
d7-N-MeFOSE-M	57.1		20 - 130	01/29/25 11:30	01/31/25 03:53	1
d9-N-EtFOSE-M	61.4		15 - 130	01/29/25 11:30	01/31/25 03:53	1
d5-NEtPFOSA	62.4		10 - 130	01/29/25 11:30	01/31/25 03:53	1
d3-NMePFOSA	66.1		10 - 130	01/29/25 11:30	01/31/25 03:53	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	8.1		0.10	0.10	%			01/27/25 13:46	1

Client Sample ID: HFH-003-N-S001-01232025
Lab Sample ID: 320-118553-15

Date Collected: 01/23/25 12:25
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 93.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.16	J	0.40	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
Perfluoropentanoic acid (PFPeA)	0.54		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
Perfluorohexanoic acid (PFHxA)	0.91		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
Perfluoroheptanoic acid (PFHpA)	0.29		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
Perfluorooctanoic acid (PFOA)	1.5		0.20	0.063	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
Perfluorononanoic acid (PFNA)	0.22		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
Perfluorodecanoic acid (PFDA)	0.29		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
Perfluoroundecanoic acid (PFUnA)	2.4		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
Perfluorobutanesulfonic acid (PFBS)	0.20		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
Perfluoropentanesulfonic acid (PFPeS)	0.23		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
Perfluorohexanesulfonic acid (PFHxS)	3.2		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
Perfluoroheptanesulfonic acid (PFHpS)	0.34		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
Perfluorooctanesulfonic acid (PFOS)	19		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
Perfluorononanesulfonic acid (PFNS)	0.23		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
Perfluorodecanesulfonic acid (PFDS)	0.51		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-1

Client Sample ID: HFH-003-N-S001-01232025
Date Collected: 01/23/25 12:25
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-15
Matrix: Solid
Percent Solids: 93.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**1.6**		0.40	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**22**		0.40	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
Perfluorooctanesulfonamide (PFOSA)	**11**		0.20	0.064	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	**0.59**		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	**0.066**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**1.3**		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**0.29**	**J**	1.0	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	**0.63**	**J**	1.0	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 04:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*96.6*		*8 - 130*	*01/29/25 11:30*	*01/31/25 04:10*	*1*
13C5 PFPeA	*86.5*		*35 - 130*	*01/29/25 11:30*	*01/31/25 04:10*	*1*
13C5 PFHxA	*80.7*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:10*	*1*
13C4 PFHpA	*81.7*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:10*	*1*
13C8 PFOA	*80.8*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:10*	*1*
13C9 PFNA	*91.6*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:10*	*1*
13C6 PFDA	*80.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:10*	*1*
13C7 PFUnA	*68.5*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:10*	*1*
13C2 PFDoA	*62.4*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:10*	*1*
13C2 PFTeDA	*63.7*		*20 - 130*	*01/29/25 11:30*	*01/31/25 04:10*	*1*

Client Sample ID: HFH-003-N-S001-01232025
Lab Sample ID: 320-118553-15

Date Collected: 01/23/25 12:25
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 93.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	87.4		40 - 135	01/29/25 11:30	01/31/25 04:10	1
13C3 PFHxS	85.7		40 - 130	01/29/25 11:30	01/31/25 04:10	1
13C8 PFOS	81.4		40 - 130	01/29/25 11:30	01/31/25 04:10	1
13C8 FOSA	56.7		40 - 130	01/29/25 11:30	01/31/25 04:10	1
d3-NMeFOSAA	71.4		40 - 135	01/29/25 11:30	01/31/25 04:10	1
d5-NEtFOSAA	64.6		40 - 150	01/29/25 11:30	01/31/25 04:10	1
13C2 4:2 FTS	66.6		40 - 165	01/29/25 11:30	01/31/25 04:10	1
13C2 6:2 FTS	66.0		40 - 215	01/29/25 11:30	01/31/25 04:10	1
13C2 8:2 FTS	56.4		40 - 275	01/29/25 11:30	01/31/25 04:10	1
13C3 HFPO-DA	83.6		40 - 130	01/29/25 11:30	01/31/25 04:10	1
d7-N-MeFOSE-M	43.9		20 - 130	01/29/25 11:30	01/31/25 04:10	1
d9-N-EtFOSE-M	46.8		15 - 130	01/29/25 11:30	01/31/25 04:10	1
d5-NEtPFOSA	43.8		10 - 130	01/29/25 11:30	01/31/25 04:10	1
d3-NMePFOSA	44.2		10 - 130	01/29/25 11:30	01/31/25 04:10	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	7.0		0.10	0.10	%			01/27/25 13:46	1

Client Sample ID: HFH-003-N-S003-01232025
Lab Sample ID: 320-118553-16

Date Collected: 01/23/25 12:30
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 95.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.14	J	0.41	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
Perfluoropentanoic acid (PFPeA)	0.44		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
Perfluorohexanoic acid (PFHxA)	0.78		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
Perfluoroheptanoic acid (PFHpA)	0.28		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
Perfluorooctanoic acid (PFOA)	0.79		0.20	0.063	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
Perfluorononanoic acid (PFNA)	0.060	J	0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
Perfluorodecanoic acid (PFDA)	0.56		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
Perfluorobutanesulfonic acid (PFBS)	0.13	J	0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
Perfluoropentanesulfonic acid (PFPeS)	0.18	J	0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
Perfluorohexanesulfonic acid (PFHxS)	2.5		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
Perfluoroheptanesulfonic acid (PFHpS)	0.11	J	0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
Perfluorooctanesulfonic acid (PFOS)	17		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
Perfluorononanesulfonic acid (PFNS)	0.15	J	0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-1

Client Sample ID: HFH-003-N-S003-01232025
Date Collected: 01/23/25 12:30
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-16
Matrix: Solid
Percent Solids: 95.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.41	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**2.9**		0.41	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**13**		0.41	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
Perfluorooctanesulfonamide (PFOSA)	**0.89**		0.20	0.064	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.26	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.26	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.077	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.41	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	01/29/25 11:30	01/31/25 04:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*109*		*8 - 130*	*01/29/25 11:30*	*01/31/25 04:26*	*1*
13C5 PFPeA	*92.8*		*35 - 130*	*01/29/25 11:30*	*01/31/25 04:26*	*1*
13C5 PFHxA	*89.0*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:26*	*1*
13C4 PFHpA	*87.7*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:26*	*1*
13C8 PFOA	*91.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:26*	*1*
13C9 PFNA	*97.4*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:26*	*1*
13C6 PFDA	*91.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:26*	*1*
13C7 PFUnA	*83.6*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:26*	*1*
13C2 PFDoA	*79.1*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:26*	*1*
13C2 PFTeDA	*73.0*		*20 - 130*	*01/29/25 11:30*	*01/31/25 04:26*	*1*
13C3 PFBS	*101*		*40 - 135*	*01/29/25 11:30*	*01/31/25 04:26*	*1*

Client Sample ID: HFH-003-N-S003-01232025

Lab Sample ID: 320-118553-16

Date Collected: 01/23/25 12:30
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 95.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	99.6		40 - 130	01/29/25 11:30	01/31/25 04:26	1
13C8 PFOS	94.2		40 - 130	01/29/25 11:30	01/31/25 04:26	1
13C8 FOSA	80.8		40 - 130	01/29/25 11:30	01/31/25 04:26	1
d3-NMeFOSAA	91.8		40 - 135	01/29/25 11:30	01/31/25 04:26	1
d5-NEtFOSAA	87.7		40 - 150	01/29/25 11:30	01/31/25 04:26	1
13C2 4:2 FTS	76.3		40 - 165	01/29/25 11:30	01/31/25 04:26	1
13C2 6:2 FTS	76.5		40 - 215	01/29/25 11:30	01/31/25 04:26	1
13C2 8:2 FTS	64.3		40 - 275	01/29/25 11:30	01/31/25 04:26	1
13C3 HFPO-DA	83.1		40 - 130	01/29/25 11:30	01/31/25 04:26	1
d7-N-MeFOSE-M	61.3		20 - 130	01/29/25 11:30	01/31/25 04:26	1
d9-N-EtFOSE-M	65.7		15 - 130	01/29/25 11:30	01/31/25 04:26	1
d5-NEtPFOSA	54.7		10 - 130	01/29/25 11:30	01/31/25 04:26	1
d3-NMePFOSA	56.5		10 - 130	01/29/25 11:30	01/31/25 04:26	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	4.8		0.10	0.10	%			01/27/25 13:46	1

Client Sample ID: HFH-003-N-S006-01232025

Lab Sample ID: 320-118553-17

Date Collected: 01/23/25 12:35
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 94.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.18	J	0.41	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
Perfluoropentanoic acid (PFPeA)	0.56		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
Perfluorohexanoic acid (PFHxA)	1.0		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
Perfluoroheptanoic acid (PFHpA)	0.28		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
Perfluorooctanoic acid (PFOA)	0.80		0.20	0.063	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
Perfluorononanoic acid (PFNA)	0.056	J	0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
Perfluorodecanoic acid (PFDA)	0.47		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
Perfluoroundecanoic acid (PFUnA)	0.056	J	0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
Perfluorobutanesulfonic acid (PFBS)	0.16	J	0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
Perfluoropentanesulfonic acid (PFPeS)	0.20		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
Perfluorohexanesulfonic acid (PFHxS)	2.3		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
Perfluoroheptanesulfonic acid (PFHpS)	0.10	J	0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
Perfluorooctanesulfonic acid (PFOS)	17		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
Perfluorononanesulfonic acid (PFNS)	0.13	J	0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
Perfluorodecanesulfonic acid (PFDS)	0.061	J	0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-1

Client Sample ID: HFH-003-N-S006-01232025
Date Collected: 01/23/25 12:35
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-17
Matrix: Solid
Percent Solids: 94.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.41	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**2.5**		0.41	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**11**		0.41	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
Perfluorooctanesulfonamide (PFOSA)	**0.95**		0.20	0.064	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**0.054**	**J**	0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.26	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.26	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.077	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.41	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	01/29/25 11:30	01/31/25 04:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*104*		*8 - 130*	*01/29/25 11:30*	*01/31/25 04:42*	*1*
13C5 PFPeA	*95.6*		*35 - 130*	*01/29/25 11:30*	*01/31/25 04:42*	*1*
13C5 PFHxA	*85.1*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:42*	*1*
13C4 PFHpA	*86.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:42*	*1*
13C8 PFOA	*83.6*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:42*	*1*
13C9 PFNA	*94.9*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:42*	*1*
13C6 PFDA	*87.0*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:42*	*1*
13C7 PFUnA	*83.0*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:42*	*1*
13C2 PFDoA	*88.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:42*	*1*
13C2 PFTeDA	*90.7*		*20 - 130*	*01/29/25 11:30*	*01/31/25 04:42*	*1*
13C3 PFBS	*89.3*		*40 - 135*	*01/29/25 11:30*	*01/31/25 04:42*	*1*

Client Sample ID: HFH-003-N-S006-01232025

Lab Sample ID: 320-118553-17

Date Collected: 01/23/25 12:35
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 94.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	92.7		40 - 130	01/29/25 11:30	01/31/25 04:42	1
13C8 PFOS	93.0		40 - 130	01/29/25 11:30	01/31/25 04:42	1
13C8 FOSA	81.2		40 - 130	01/29/25 11:30	01/31/25 04:42	1
d3-NMeFOSAA	93.9		40 - 135	01/29/25 11:30	01/31/25 04:42	1
d5-NEtFOSAA	88.4		40 - 150	01/29/25 11:30	01/31/25 04:42	1
13C2 4:2 FTS	71.2		40 - 165	01/29/25 11:30	01/31/25 04:42	1
13C2 6:2 FTS	74.5		40 - 215	01/29/25 11:30	01/31/25 04:42	1
13C2 8:2 FTS	63.9		40 - 275	01/29/25 11:30	01/31/25 04:42	1
13C3 HFPO-DA	83.8		40 - 130	01/29/25 11:30	01/31/25 04:42	1
d7-N-MeFOSE-M	75.1		20 - 130	01/29/25 11:30	01/31/25 04:42	1
d9-N-EtFOSE-M	79.7		15 - 130	01/29/25 11:30	01/31/25 04:42	1
d5-NEtPFOSA	69.4		10 - 130	01/29/25 11:30	01/31/25 04:42	1
d3-NMePFOSA	70.3		10 - 130	01/29/25 11:30	01/31/25 04:42	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	5.4		0.10	0.10	%			01/27/25 13:46	1

Client Sample ID: HFH-003-FD-S006-01232025

Lab Sample ID: 320-118553-18

Date Collected: 01/23/25 13:05
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 94.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.16	J	0.39	0.098	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
Perfluoropentanoic acid (PFPeA)	0.50		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
Perfluorohexanoic acid (PFHxA)	0.84		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
Perfluoroheptanoic acid (PFHpA)	0.26		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
Perfluorooctanoic acid (PFOA)	0.75		0.20	0.061	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
Perfluorononanoic acid (PFNA)	0.062	J	0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
Perfluorodecanoic acid (PFDA)	0.46		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
Perfluorobutanesulfonic acid (PFBS)	0.14	J	0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
Perfluoropentanesulfonic acid (PFPeS)	0.19	J	0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
Perfluorohexanesulfonic acid (PFHxS)	2.3		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
Perfluoroheptanesulfonic acid (PFHpS)	0.11	J	0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
Perfluorooctanesulfonic acid (PFOS)	20		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
Perfluorononanesulfonic acid (PFNS)	0.14	J	0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1

Client Sample ID: HFH-003-FD-S006-01232025
Date Collected: 01/23/25 13:05
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-18
Matrix: Solid
Percent Solids: 94.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**2.8**		0.39	0.098	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**12**		0.39	0.098	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
Perfluorooctanesulfonamide (PFOSA)	**0.86**		0.20	0.062	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 04:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*103*		*8 - 130*	*01/29/25 11:30*	*01/31/25 04:59*	*1*
13C5 PFPeA	*92.3*		*35 - 130*	*01/29/25 11:30*	*01/31/25 04:59*	*1*
13C5 PFHxA	*91.3*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:59*	*1*
13C4 PFHpA	*86.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:59*	*1*
13C8 PFOA	*88.6*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:59*	*1*
13C9 PFNA	*95.5*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:59*	*1*
13C6 PFDA	*89.6*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:59*	*1*
13C7 PFUnA	*84.9*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:59*	*1*
13C2 PFDoA	*90.3*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:59*	*1*
13C2 PFTeDA	*93.5*		*20 - 130*	*01/29/25 11:30*	*01/31/25 04:59*	*1*
13C3 PFBS	*97.3*		*40 - 135*	*01/29/25 11:30*	*01/31/25 04:59*	*1*
13C3 PFHxS	*92.7*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:59*	*1*
13C8 PFOS	*93.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 04:59*	*1*

Client Sample ID: HFH-003-FD-S006-01232025

Lab Sample ID: 320-118553-18

Date Collected: 01/23/25 13:05
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 94.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	84.7		40 - 130	01/29/25 11:30	01/31/25 04:59	1
d3-NMeFOSAA	96.6		40 - 135	01/29/25 11:30	01/31/25 04:59	1
d5-NEtFOSAA	92.3		40 - 150	01/29/25 11:30	01/31/25 04:59	1
13C2 4:2 FTS	67.2		40 - 165	01/29/25 11:30	01/31/25 04:59	1
13C2 6:2 FTS	73.7		40 - 215	01/29/25 11:30	01/31/25 04:59	1
13C2 8:2 FTS	63.1		40 - 275	01/29/25 11:30	01/31/25 04:59	1
13C3 HFPO-DA	82.7		40 - 130	01/29/25 11:30	01/31/25 04:59	1
d7-N-MeFOSE-M	77.8		20 - 130	01/29/25 11:30	01/31/25 04:59	1
d9-N-EtFOSE-M	81.5		15 - 130	01/29/25 11:30	01/31/25 04:59	1
d5-NEtPFOSA	74.5		10 - 130	01/29/25 11:30	01/31/25 04:59	1
d3-NMePFOSA	75.0		10 - 130	01/29/25 11:30	01/31/25 04:59	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	5.2		0.10	0.10	%			01/27/25 13:46	1

Client Sample ID: HFH-002-N-S001-01232025

Lab Sample ID: 320-118553-22

Date Collected: 01/23/25 13:15
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 95.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.16	J	0.39	0.098	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
Perfluoropentanoic acid (PFPeA)	1.3		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
Perfluorohexanoic acid (PFHxA)	1.0		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
Perfluoroheptanoic acid (PFHpA)	0.59		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
Perfluorooctanoic acid (PFOA)	0.74		0.20	0.061	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
Perfluorononanoic acid (PFNA)	0.10	J	0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
Perfluorodecanoic acid (PFDA)	0.11	J	0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
Perfluoroundecanoic acid (PFUnA)	0.064	J	0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
Perfluorobutanesulfonic acid (PFBS)	0.053	J	0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
Perfluoropentanesulfonic acid (PFPeS)	0.068	J	0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
Perfluorohexanesulfonic acid (PFHxS)	0.61		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
Perfluorooctanesulfonic acid (PFOS)	6.0		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.27	J	0.39	0.098	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-1

Client Sample ID: HFH-002-N-S001-01232025
Date Collected: 01/23/25 13:15
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-22
Matrix: Solid
Percent Solids: 95.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.4		0.39	0.098	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
Perfluorooctanesulfonamide (PFOSA)	0.086	J	0.20	0.062	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.24	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.24	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.073	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	01/29/25 11:30	01/31/25 05:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*108*		*8 - 130*	*01/29/25 11:30*	*01/31/25 05:15*	*1*
13C5 PFPeA	*95.3*		*35 - 130*	*01/29/25 11:30*	*01/31/25 05:15*	*1*
13C5 PFHxA	*90.0*		*40 - 130*	*01/29/25 11:30*	*01/31/25 05:15*	*1*
13C4 PFHpA	*85.6*		*40 - 130*	*01/29/25 11:30*	*01/31/25 05:15*	*1*
13C8 PFOA	*87.4*		*40 - 130*	*01/29/25 11:30*	*01/31/25 05:15*	*1*
13C9 PFNA	*93.3*		*40 - 130*	*01/29/25 11:30*	*01/31/25 05:15*	*1*
13C6 PFDA	*81.0*		*40 - 130*	*01/29/25 11:30*	*01/31/25 05:15*	*1*
13C7 PFUnA	*66.8*		*40 - 130*	*01/29/25 11:30*	*01/31/25 05:15*	*1*
13C2 PFDoA	*62.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 05:15*	*1*
13C2 PFTeDA	*69.4*		*20 - 130*	*01/29/25 11:30*	*01/31/25 05:15*	*1*
13C3 PFBS	*95.4*		*40 - 135*	*01/29/25 11:30*	*01/31/25 05:15*	*1*
13C3 PFHxS	*91.9*		*40 - 130*	*01/29/25 11:30*	*01/31/25 05:15*	*1*
13C8 PFOS	*81.9*		*40 - 130*	*01/29/25 11:30*	*01/31/25 05:15*	*1*
13C8 FOSA	*45.9*		*40 - 130*	*01/29/25 11:30*	*01/31/25 05:15*	*1*
d3-NMeFOSAA	*65.8*		*40 - 135*	*01/29/25 11:30*	*01/31/25 05:15*	*1*

Client Sample ID: HFH-002-N-S001-01232025

Lab Sample ID: 320-118553-22

Date Collected: 01/23/25 13:15
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 95.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*58.0*		*40 - 150*	*01/29/25 11:30*	*01/31/25 05:15*	*1*
13C2 4:2 FTS	*71.7*		*40 - 165*	*01/29/25 11:30*	*01/31/25 05:15*	*1*
13C2 6:2 FTS	*71.1*		*40 - 215*	*01/29/25 11:30*	*01/31/25 05:15*	*1*
13C2 8:2 FTS	*56.3*		*40 - 275*	*01/29/25 11:30*	*01/31/25 05:15*	*1*
13C3 HFPO-DA	*85.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 05:15*	*1*
d7-N-MeFOSE-M	*34.3*		*20 - 130*	*01/29/25 11:30*	*01/31/25 05:15*	*1*
d9-N-EtFOSE-M	*34.4*		*15 - 130*	*01/29/25 11:30*	*01/31/25 05:15*	*1*
d5-NEtPFOSA	*30.3*		*10 - 130*	*01/29/25 11:30*	*01/31/25 05:15*	*1*
d3-NMePFOSA	*28.9*		*10 - 130*	*01/29/25 11:30*	*01/31/25 05:15*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**4.1**		0.10	0.10	%			01/27/25 13:46	1

Client Sample ID: HFH-002-FD-S001-01232025

Lab Sample ID: 320-118553-23

Date Collected: 01/23/25 13:45
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 95.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.15**	**J**	0.39	0.098	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
Perfluoropentanoic acid (PFPeA)	**1.1**		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
Perfluorohexanoic acid (PFHxA)	**0.94**		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
Perfluoroheptanoic acid (PFHpA)	**0.55**		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
Perfluorooctanoic acid (PFOA)	**0.83**		0.20	0.061	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
Perfluorononanoic acid (PFNA)	**0.12**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
Perfluorodecanoic acid (PFDA)	**0.19**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
Perfluoroundecanoic acid (PFUnA)	**0.12**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
Perfluoropentanesulfonic acid (PFPeS)	**0.065**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
Perfluorohexanesulfonic acid (PFHxS)	**0.72**		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
Perfluorooctanesulfonic acid (PFOS)	**10**		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.43**		0.39	0.098	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**2.2**		0.39	0.098	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
Perfluorooctanesulfonamide (PFOSA)	**0.14**	**J**	0.20	0.062	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-1

Client Sample ID: HFH-002-FD-S001-01232025
Date Collected: 01/23/25 13:45
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-23
Matrix: Solid
Percent Solids: 95.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 06:05	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*104*		*8 - 130*	*01/29/25 11:30*	*01/31/25 06:05*	*1*
13C5 PFPeA	*93.8*		*35 - 130*	*01/29/25 11:30*	*01/31/25 06:05*	*1*
13C5 PFHxA	*87.9*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:05*	*1*
13C4 PFHpA	*87.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:05*	*1*
13C8 PFOA	*86.7*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:05*	*1*
13C9 PFNA	*91.4*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:05*	*1*
13C6 PFDA	*84.5*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:05*	*1*
13C7 PFUnA	*84.5*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:05*	*1*
13C2 PFDoA	*88.8*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:05*	*1*
13C2 PFTeDA	*94.1*		*20 - 130*	*01/29/25 11:30*	*01/31/25 06:05*	*1*
13C3 PFBS	*91.0*		*40 - 135*	*01/29/25 11:30*	*01/31/25 06:05*	*1*
13C3 PFHxS	*89.8*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:05*	*1*
13C8 PFOS	*88.6*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:05*	*1*
13C8 FOSA	*76.6*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:05*	*1*
d3-NMeFOSAA	*87.4*		*40 - 135*	*01/29/25 11:30*	*01/31/25 06:05*	*1*
d5-NEtFOSAA	*82.7*		*40 - 150*	*01/29/25 11:30*	*01/31/25 06:05*	*1*
13C2 4:2 FTS	*66.6*		*40 - 165*	*01/29/25 11:30*	*01/31/25 06:05*	*1*
13C2 6:2 FTS	*70.1*		*40 - 215*	*01/29/25 11:30*	*01/31/25 06:05*	*1*

Client Sample ID: HFH-002-FD-S001-01232025

Lab Sample ID: 320-118553-23

Date Collected: 01/23/25 13:45
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 95.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 8:2 FTS	56.9		40 - 275	01/29/25 11:30	01/31/25 06:05	1
13C3 HFPO-DA	84.4		40 - 130	01/29/25 11:30	01/31/25 06:05	1
d7-N-MeFOSE-M	73.4		20 - 130	01/29/25 11:30	01/31/25 06:05	1
d9-N-EtFOSE-M	75.5		15 - 130	01/29/25 11:30	01/31/25 06:05	1
d5-NEtPFOSA	65.2		10 - 130	01/29/25 11:30	01/31/25 06:05	1
d3-NMePFOSA	63.2		10 - 130	01/29/25 11:30	01/31/25 06:05	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	5.0		0.10	0.10	%			01/27/25 13:46	1

Client Sample ID: HFH-002-N-S003-01232025

Lab Sample ID: 320-118553-24

Date Collected: 01/23/25 13:20
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 93.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.42	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
Perfluoropentanoic acid (PFPeA)	0.14	J	0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
Perfluorohexanoic acid (PFHxA)	0.40		0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
Perfluoroheptanoic acid (PFHpA)	0.14	J	0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
Perfluorooctanoic acid (PFOA)	0.46		0.21	0.065	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
Perfluorononanoic acid (PFNA)	0.25		0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
Perfluorodecanoic acid (PFDA)	0.85		0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
Perfluoroundecanoic acid (PFUnA)	0.066	J	0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.21	0.061	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
Perfluoropentanesulfonic acid (PFPeS)	0.056	J	0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
Perfluorohexanesulfonic acid (PFHxS)	1.5		0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
Perfluoroheptanesulfonic acid (PFHpS)	0.083	J	0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
Perfluorononanesulfonic acid (PFNS)	0.080	J	0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.42	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	5.4		0.42	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	8.3		0.42	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
Perfluorooctanesulfonamide (PFOSA)	0.28		0.21	0.066	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-1

Client Sample ID: HFH-002-N-S003-01232025
Date Collected: 01/23/25 13:20
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-24
Matrix: Solid
Percent Solids: 93.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.26	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.26	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.21	0.065	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.21	0.078	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.21	0.052	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.42	0.10	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.26	ug/Kg	☼	01/29/25 11:30	01/31/25 06:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*106*		*8 - 130*	*01/29/25 11:30*	*01/31/25 06:21*	*1*
13C5 PFPeA	*92.9*		*35 - 130*	*01/29/25 11:30*	*01/31/25 06:21*	*1*
13C5 PFHxA	*88.1*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:21*	*1*
13C4 PFHpA	*90.9*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:21*	*1*
13C8 PFOA	*87.0*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:21*	*1*
13C9 PFNA	*94.8*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:21*	*1*
13C6 PFDA	*92.3*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:21*	*1*
13C7 PFUnA	*91.6*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:21*	*1*
13C2 PFDoA	*91.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:21*	*1*
13C2 PFTeDA	*94.1*		*20 - 130*	*01/29/25 11:30*	*01/31/25 06:21*	*1*
13C3 PFBS	*89.8*		*40 - 135*	*01/29/25 11:30*	*01/31/25 06:21*	*1*
13C3 PFHxS	*92.5*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:21*	*1*
13C8 PFOS	*94.5*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:21*	*1*
13C8 FOSA	*90.7*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:21*	*1*
d3-NMeFOSAA	*106*		*40 - 135*	*01/29/25 11:30*	*01/31/25 06:21*	*1*
d5-NEtFOSAA	*99.7*		*40 - 150*	*01/29/25 11:30*	*01/31/25 06:21*	*1*
13C2 4:2 FTS	*65.7*		*40 - 165*	*01/29/25 11:30*	*01/31/25 06:21*	*1*
13C2 6:2 FTS	*72.0*		*40 - 215*	*01/29/25 11:30*	*01/31/25 06:21*	*1*
13C2 8:2 FTS	*60.9*		*40 - 275*	*01/29/25 11:30*	*01/31/25 06:21*	*1*
13C3 HFPO-DA	*86.3*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:21*	*1*
d7-N-MeFOSE-M	*85.9*		*20 - 130*	*01/29/25 11:30*	*01/31/25 06:21*	*1*
d9-N-EtFOSE-M	*88.8*		*15 - 130*	*01/29/25 11:30*	*01/31/25 06:21*	*1*

Client Sample ID: HFH-002-N-S003-01232025

Lab Sample ID: 320-118553-24

Date Collected: 01/23/25 13:20
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 93.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtPFOSA	78.2		10 - 130	01/29/25 11:30	01/31/25 06:21	1
d3-NMePFOSA	77.3		10 - 130	01/29/25 11:30	01/31/25 06:21	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**66**		2.1	0.52	ug/Kg	☼	01/29/25 11:30	01/31/25 14:34	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	86.6	*3	40 - 130	01/29/25 11:30	01/31/25 14:34	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**6.5**		0.10	0.10	%			01/27/25 13:46	1

Client Sample ID: FMB-004-N-S001-01232025

Lab Sample ID: 320-118553-29

Date Collected: 01/23/25 15:55
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 88.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.45	0.11	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
Perfluoropentanoic acid (PFPeA)	ND		0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
Perfluorohexanoic acid (PFHxA)	ND		0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
Perfluoroheptanoic acid (PFHpA)	ND		0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
Perfluorooctanoic acid (PFOA)	ND		0.22	0.069	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
Perfluorononanoic acid (PFNA)	ND		0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
Perfluorodecanoic acid (PFDA)	**0.12**	**J**	0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
Perfluoroundecanoic acid (PFUnA)	**0.088**	**J**	0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
Perfluorododecanoic acid (PFDoA)	**0.32**		0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.22	0.065	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
Perfluorooctanesulfonic acid (PFOS)	**0.38**		0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
Perfluorononanesulfonic acid (PFNS)	ND		0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.45	0.11	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.45	0.11	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.45	0.11	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.22	0.071	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-1

Client Sample ID: FMB-004-N-S001-01232025
Date Collected: 01/23/25 15:55
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-29
Matrix: Solid
Percent Solids: 88.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.1	0.28	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.1	0.28	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.22	0.069	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.22	0.084	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.22	0.056	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.45	0.11	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.1	0.28	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.1	0.28	ug/Kg	☼	01/29/25 11:30	01/31/25 06:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*8 - 130*	*01/29/25 11:30*	*01/31/25 06:38*	*1*
13C5 PFPeA	*94.3*		*35 - 130*	*01/29/25 11:30*	*01/31/25 06:38*	*1*
13C5 PFHxA	*89.9*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:38*	*1*
13C4 PFHpA	*83.0*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:38*	*1*
13C8 PFOA	*87.4*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:38*	*1*
13C9 PFNA	*92.0*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:38*	*1*
13C6 PFDA	*83.1*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:38*	*1*
13C7 PFUnA	*75.9*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:38*	*1*
13C2 PFDoA	*72.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:38*	*1*
13C2 PFTeDA	*73.5*		*20 - 130*	*01/29/25 11:30*	*01/31/25 06:38*	*1*
13C3 PFBS	*90.2*		*40 - 135*	*01/29/25 11:30*	*01/31/25 06:38*	*1*
13C3 PFHxS	*88.8*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:38*	*1*
13C8 PFOS	*87.6*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:38*	*1*
13C8 FOSA	*65.4*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:38*	*1*
d3-NMeFOSAA	*75.1*		*40 - 135*	*01/29/25 11:30*	*01/31/25 06:38*	*1*
d5-NEtFOSAA	*70.7*		*40 - 150*	*01/29/25 11:30*	*01/31/25 06:38*	*1*
13C2 4:2 FTS	*68.1*		*40 - 165*	*01/29/25 11:30*	*01/31/25 06:38*	*1*
13C2 6:2 FTS	*68.0*		*40 - 215*	*01/29/25 11:30*	*01/31/25 06:38*	*1*

Client Sample ID: FMB-004-N-S001-01232025

Lab Sample ID: 320-118553-29

Date Collected: 01/23/25 15:55
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 88.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 8:2 FTS	58.6		40 - 275	01/29/25 11:30	01/31/25 06:38	1
13C3 HFPO-DA	85.3		40 - 130	01/29/25 11:30	01/31/25 06:38	1
d7-N-MeFOSE-M	47.0		20 - 130	01/29/25 11:30	01/31/25 06:38	1
d9-N-EtFOSE-M	48.4		15 - 130	01/29/25 11:30	01/31/25 06:38	1
d5-NEtPFOSA	54.2		10 - 130	01/29/25 11:30	01/31/25 06:38	1
d3-NMePFOSA	51.8		10 - 130	01/29/25 11:30	01/31/25 06:38	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	12		0.10	0.10	%			01/27/25 13:46	1

Client Sample ID: FMB-004-N-S003-01232025

Lab Sample ID: 320-118553-30

Date Collected: 01/23/25 16:00
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 84.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.46	0.12	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
Perfluoropentanoic acid (PFPeA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
Perfluorohexanoic acid (PFHxA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
Perfluoroheptanoic acid (PFHpA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
Perfluorooctanoic acid (PFOA)	0.85		0.23	0.072	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
Perfluorononanoic acid (PFNA)	0.77		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
Perfluorodecanoic acid (PFDA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
Perfluoroundecanoic acid (PFUnA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
Perfluorododecanoic acid (PFDoA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.23	0.067	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
Perfluorohexanesulfonic acid (PFHxS)	0.57		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
Perfluoroheptanesulfonic acid (PFHpS)	0.70		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
Perfluorooctanesulfonic acid (PFOS)	22		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
Perfluorononanesulfonic acid (PFNS)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.46	0.12	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.23	J	0.46	0.12	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.46	0.12	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.23	0.073	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1

Client Sample ID: FMB-004-N-S003-01232025
Date Collected: 01/23/25 16:00
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-30
Matrix: Solid
Percent Solids: 84.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.2	0.29	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.2	0.29	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.23	0.072	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.23	0.087	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.46	0.12	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.2	0.29	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.2	0.29	ug/Kg	☼	01/29/25 11:30	01/31/25 06:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*8 - 130*	*01/29/25 11:30*	*01/31/25 06:54*	*1*
13C5 PFPeA	*90.3*		*35 - 130*	*01/29/25 11:30*	*01/31/25 06:54*	*1*
13C5 PFHxA	*88.1*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:54*	*1*
13C4 PFHpA	*82.0*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:54*	*1*
13C8 PFOA	*83.7*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:54*	*1*
13C9 PFNA	*83.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:54*	*1*
13C6 PFDA	*65.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:54*	*1*
13C7 PFUnA	*43.4*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:54*	*1*
13C2 PFDoA	*33.3*	*5-	*40 - 130*	*01/29/25 11:30*	*01/31/25 06:54*	*1*
13C2 PFTeDA	*47.0*		*20 - 130*	*01/29/25 11:30*	*01/31/25 06:54*	*1*
13C3 PFBS	*91.0*		*40 - 135*	*01/29/25 11:30*	*01/31/25 06:54*	*1*
13C3 PFHxS	*88.0*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:54*	*1*
13C8 PFOS	*66.3*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:54*	*1*
13C8 FOSA	*51.0*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:54*	*1*
d3-NMeFOSAA	*43.8*		*40 - 135*	*01/29/25 11:30*	*01/31/25 06:54*	*1*
d5-NEtFOSAA	*35.8*	*5-	*40 - 150*	*01/29/25 11:30*	*01/31/25 06:54*	*1*
13C2 4:2 FTS	*70.7*		*40 - 165*	*01/29/25 11:30*	*01/31/25 06:54*	*1*
13C2 6:2 FTS	*68.0*		*40 - 215*	*01/29/25 11:30*	*01/31/25 06:54*	*1*
13C2 8:2 FTS	*42.9*		*40 - 275*	*01/29/25 11:30*	*01/31/25 06:54*	*1*
13C3 HFPO-DA	*82.1*		*40 - 130*	*01/29/25 11:30*	*01/31/25 06:54*	*1*
d7-N-MeFOSE-M	*37.9*		*20 - 130*	*01/29/25 11:30*	*01/31/25 06:54*	*1*
d9-N-EtFOSE-M	*32.9*		*15 - 130*	*01/29/25 11:30*	*01/31/25 06:54*	*1*

Client Sample ID: FMB-004-N-S003-01232025

Lab Sample ID: 320-118553-30

Date Collected: 01/23/25 16:00
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 84.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtPFOSA	28.8		10 - 130	01/29/25 11:30	01/31/25 06:54	1
d3-NMePFOSA	31.9		10 - 130	01/29/25 11:30	01/31/25 06:54	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	15		0.10	0.10	%			01/27/25 13:46	1

Client Sample ID: FMB-004-N-S010-01232025

Lab Sample ID: 320-118553-32

Date Collected: 01/23/25 16:10
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 79.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	0.12	J	0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
Perfluorohexanoic acid (PFHxA)	0.12	J	0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
Perfluoroheptanoic acid (PFHpA)	0.065	J	0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
Perfluorooctanoic acid (PFOA)	0.094	J	0.20	0.062	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
Perfluoropentanesulfonic acid (PFPeS)	0.058	J	0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
Perfluorohexanesulfonic acid (PFHxS)	0.63		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
Perfluorooctanesulfonic acid (PFOS)	0.61	I	0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	01/31/25 01:43	1

Client Sample ID: FMB-004-N-S010-01232025
Date Collected: 01/23/25 16:10
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-32
Matrix: Solid
Percent Solids: 79.2

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	87.5		35 - 130	01/30/25 04:13	01/31/25 01:43	1
13C5 PFHxA	83.8		40 - 130	01/30/25 04:13	01/31/25 01:43	1
13C4 PFHpA	85.6		40 - 130	01/30/25 04:13	01/31/25 01:43	1
13C8 PFOA	90.3		40 - 130	01/30/25 04:13	01/31/25 01:43	1
13C9 PFNA	84.7		40 - 130	01/30/25 04:13	01/31/25 01:43	1
13C6 PFDA	84.9		40 - 130	01/30/25 04:13	01/31/25 01:43	1
13C7 PFUnA	78.8		40 - 130	01/30/25 04:13	01/31/25 01:43	1
13C2 PFDoA	87.6		40 - 130	01/30/25 04:13	01/31/25 01:43	1
13C2 PFTeDA	94.2		20 - 130	01/30/25 04:13	01/31/25 01:43	1
13C3 PFBS	81.4		40 - 135	01/30/25 04:13	01/31/25 01:43	1
13C3 PFHxS	79.7		40 - 130	01/30/25 04:13	01/31/25 01:43	1
13C8 PFOS	85.1		40 - 130	01/30/25 04:13	01/31/25 01:43	1
13C8 FOSA	76.2		40 - 130	01/30/25 04:13	01/31/25 01:43	1
d3-NMeFOSAA	78.6		40 - 135	01/30/25 04:13	01/31/25 01:43	1
d5-NEtFOSAA	77.4		40 - 150	01/30/25 04:13	01/31/25 01:43	1
d5-NEtPFOSA	54.9		10 - 130	01/30/25 04:13	01/31/25 01:43	1
d3-NMePFOSA	51.8		10 - 130	01/30/25 04:13	01/31/25 01:43	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 23:47	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 23:47	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.53**		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 23:47	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 23:47	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 23:47	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 23:47	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	02/03/25 23:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	02/03/25 23:47	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	01/30/25 04:13	02/03/25 23:47	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	01/30/25 04:13	02/03/25 23:47	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	01/30/25 04:13	02/03/25 23:47	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 23:47	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/30/25 04:13	02/03/25 23:47	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	86.1		8 - 130	01/30/25 04:13	02/03/25 23:47	1
13C5 PFPeA	94.4		35 - 130	01/30/25 04:13	02/03/25 23:47	1
13C5 PFHxA	92.6		40 - 130	01/30/25 04:13	02/03/25 23:47	1
13C2 4:2 FTS	82.4		40 - 165	01/30/25 04:13	02/03/25 23:47	1
13C2 6:2 FTS	73.8		40 - 215	01/30/25 04:13	02/03/25 23:47	1
13C2 8:2 FTS	64.7		40 - 275	01/30/25 04:13	02/03/25 23:47	1
13C3 HFPO-DA	92.4		40 - 130	01/30/25 04:13	02/03/25 23:47	1

Client Sample ID: FMB-004-N-S010-01232025

Lab Sample ID: 320-118553-32

Date Collected: 01/23/25 16:10
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 79.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d7-N-MeFOSE-M	72.4		20 - 130	01/30/25 04:13	02/03/25 23:47	1
d9-N-EtFOSE-M	79.0		15 - 130	01/30/25 04:13	02/03/25 23:47	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	21		0.10	0.10	%			01/27/25 13:46	1

Client Sample ID: FMB-004-FD-S010-01232025

Lab Sample ID: 320-118553-33

Date Collected: 01/23/25 16:40
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 63.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	0.23		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
Perfluorohexanoic acid (PFHxA)	0.21		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
Perfluoroheptanoic acid (PFHpA)	0.094	J	0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
Perfluorooctanoic acid (PFOA)	0.13	J	0.19	0.060	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.057	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
Perfluorobutanesulfonic acid (PFBS)	0.089	J	0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
Perfluoropentanesulfonic acid (PFPeS)	0.093	J	0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
Perfluorohexanesulfonic acid (PFHxS)	0.86		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
Perfluorooctanesulfonic acid (PFOS)	0.82	I	0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	01/31/25 02:00	1

Client Sample ID: FMB-004-FD-S010-01232025
Date Collected: 01/23/25 16:40
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-33
Matrix: Solid
Percent Solids: 63.1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	75.5		35 - 130	01/30/25 04:13	01/31/25 02:00	1
13C5 PFHxA	80.1		40 - 130	01/30/25 04:13	01/31/25 02:00	1
13C4 PFHpA	82.8		40 - 130	01/30/25 04:13	01/31/25 02:00	1
13C8 PFOA	85.8		40 - 130	01/30/25 04:13	01/31/25 02:00	1
13C9 PFNA	78.7		40 - 130	01/30/25 04:13	01/31/25 02:00	1
13C6 PFDA	80.3		40 - 130	01/30/25 04:13	01/31/25 02:00	1
13C7 PFUnA	70.2		40 - 130	01/30/25 04:13	01/31/25 02:00	1
13C2 PFDoA	72.6		40 - 130	01/30/25 04:13	01/31/25 02:00	1
13C2 PFTeDA	71.0		20 - 130	01/30/25 04:13	01/31/25 02:00	1
13C3 PFBS	74.5		40 - 135	01/30/25 04:13	01/31/25 02:00	1
13C3 PFHxS	79.1		40 - 130	01/30/25 04:13	01/31/25 02:00	1
13C8 PFOS	75.6		40 - 130	01/30/25 04:13	01/31/25 02:00	1
13C8 FOSA	66.6		40 - 130	01/30/25 04:13	01/31/25 02:00	1
d3-NMeFOSAA	64.5		40 - 135	01/30/25 04:13	01/31/25 02:00	1
d5-NEtFOSAA	67.1		40 - 150	01/30/25 04:13	01/31/25 02:00	1
d5-NEtPFOSA	53.2		10 - 130	01/30/25 04:13	01/31/25 02:00	1
d3-NMePFOSA	51.5		10 - 130	01/30/25 04:13	01/31/25 02:00	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.11**	**J**	0.39	0.097	ug/Kg	☼	01/30/25 04:13	02/04/25 00:03	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/30/25 04:13	02/04/25 00:03	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.77**		0.39	0.097	ug/Kg	☼	01/30/25 04:13	02/04/25 00:03	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/30/25 04:13	02/04/25 00:03	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	01/30/25 04:13	02/04/25 00:03	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	01/30/25 04:13	02/04/25 00:03	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	02/04/25 00:03	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	02/04/25 00:03	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.049	ug/Kg	☼	01/30/25 04:13	02/04/25 00:03	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.073	ug/Kg	☼	01/30/25 04:13	02/04/25 00:03	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	01/30/25 04:13	02/04/25 00:03	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	01/30/25 04:13	02/04/25 00:03	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	01/30/25 04:13	02/04/25 00:03	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	80.1		8 - 130	01/30/25 04:13	02/04/25 00:03	1
13C5 PFPeA	84.2		35 - 130	01/30/25 04:13	02/04/25 00:03	1
13C5 PFHxA	85.0		40 - 130	01/30/25 04:13	02/04/25 00:03	1
13C2 4:2 FTS	73.9		40 - 165	01/30/25 04:13	02/04/25 00:03	1
13C2 6:2 FTS	68.1		40 - 215	01/30/25 04:13	02/04/25 00:03	1
13C2 8:2 FTS	60.7		40 - 275	01/30/25 04:13	02/04/25 00:03	1
13C3 HFPO-DA	84.3		40 - 130	01/30/25 04:13	02/04/25 00:03	1

Client Sample ID: FMB-004-FD-S010-01232025
Lab Sample ID: 320-118553-33

Date Collected: 01/23/25 16:40
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 63.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d7-N-MeFOSE-M	*69.7*		*20 - 130*	*01/30/25 04:13*	*02/04/25 00:03*	*1*
d9-N-EtFOSE-M	*73.6*		*15 - 130*	*01/30/25 04:13*	*02/04/25 00:03*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**37**		0.10	0.10	%			01/27/25 13:46	1

Client Sample ID: FMB-004-FD-S003-01232025
Lab Sample ID: 320-118553-34

Date Collected: 01/23/25 16:30
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 84.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
Perfluorooctanoic acid (PFOA)	**0.87**		0.19	0.059	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
Perfluorononanoic acid (PFNA)	**0.63**		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.055	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
Perfluorohexanesulfonic acid (PFHxS)	**0.47**		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.63**		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
Perfluorooctanesulfonic acid (PFOS)	**18**		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.060	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.059	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	01/31/25 02:16	1

Client Sample ID: FMB-004-FD-S003-01232025
Date Collected: 01/23/25 16:30
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118553-34
Matrix: Solid
Percent Solids: 84.4

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	97.2		35 - 130	01/30/25 04:13	01/31/25 02:16	1
13C5 PFHxA	93.0		40 - 130	01/30/25 04:13	01/31/25 02:16	1
13C4 PFHpA	102		40 - 130	01/30/25 04:13	01/31/25 02:16	1
13C8 PFOA	92.2		40 - 130	01/30/25 04:13	01/31/25 02:16	1
13C9 PFNA	91.0		40 - 130	01/30/25 04:13	01/31/25 02:16	1
13C6 PFDA	83.8		40 - 130	01/30/25 04:13	01/31/25 02:16	1
13C7 PFUnA	67.0		40 - 130	01/30/25 04:13	01/31/25 02:16	1
13C2 PFDoA	71.7		40 - 130	01/30/25 04:13	01/31/25 02:16	1
13C2 PFTeDA	84.7		20 - 130	01/30/25 04:13	01/31/25 02:16	1
13C3 PFBS	90.5		40 - 135	01/30/25 04:13	01/31/25 02:16	1
13C3 PFHxS	93.5		40 - 130	01/30/25 04:13	01/31/25 02:16	1
13C8 PFOS	87.7		40 - 130	01/30/25 04:13	01/31/25 02:16	1
13C8 FOSA	79.8		40 - 130	01/30/25 04:13	01/31/25 02:16	1
d3-NMeFOSAA	80.9		40 - 135	01/30/25 04:13	01/31/25 02:16	1
d5-NEtFOSAA	80.2		40 - 150	01/30/25 04:13	01/31/25 02:16	1
d5-NEtPFOSA	69.1		10 - 130	01/30/25 04:13	01/31/25 02:16	1
d3-NMePFOSA	67.2		10 - 130	01/30/25 04:13	01/31/25 02:16	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.38	0.096	ug/Kg	☼	01/30/25 04:13	02/04/25 00:20	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.38	0.096	ug/Kg	☼	01/30/25 04:13	02/04/25 00:20	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.18**	**J**	0.38	0.096	ug/Kg	☼	01/30/25 04:13	02/04/25 00:20	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.38	0.096	ug/Kg	☼	01/30/25 04:13	02/04/25 00:20	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.96	0.24	ug/Kg	☼	01/30/25 04:13	02/04/25 00:20	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.96	0.24	ug/Kg	☼	01/30/25 04:13	02/04/25 00:20	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	02/04/25 00:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	02/04/25 00:20	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	01/30/25 04:13	02/04/25 00:20	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.072	ug/Kg	☼	01/30/25 04:13	02/04/25 00:20	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.38	0.096	ug/Kg	☼	01/30/25 04:13	02/04/25 00:20	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**0.25**	**J**	0.96	0.24	ug/Kg	☼	01/30/25 04:13	02/04/25 00:20	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	01/30/25 04:13	02/04/25 00:20	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	92.4		8 - 130	01/30/25 04:13	02/04/25 00:20	1
13C5 PFPeA	101		35 - 130	01/30/25 04:13	02/04/25 00:20	1
13C5 PFHxA	100		40 - 130	01/30/25 04:13	02/04/25 00:20	1
13C2 4:2 FTS	104		40 - 165	01/30/25 04:13	02/04/25 00:20	1
13C2 6:2 FTS	83.9		40 - 215	01/30/25 04:13	02/04/25 00:20	1
13C2 8:2 FTS	71.0		40 - 275	01/30/25 04:13	02/04/25 00:20	1
13C3 HFPO-DA	99.7		40 - 130	01/30/25 04:13	02/04/25 00:20	1

Client: GSI Environmental Inc
Job ID: 320-118553-1
Project/Site: Spokane International Airport

Client Sample ID: FMB-004-FD-S003-01232025
Lab Sample ID: 320-118553-34
Date Collected: 01/23/25 16:30
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 84.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d7-N-MeFOSE-M	*74.4*		*20 - 130*	*01/30/25 04:13*	*02/04/25 00:20*	*1*
d9-N-EtFOSE-M	*76.1*		*15 - 130*	*01/30/25 04:13*	*02/04/25 00:20*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	16		0.10	0.10	%			01/27/25 15:30	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(8-130)	(35-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)
320-118553-2	HFH-004-N-S001-01232025	100	91.7	88.5	86.2	83.4	89.3	73.8	55.2
320-118553-3	HFH-004-N-S003-01232025	105	93.2	94.1	87.3	82.5	93.2	87.1	75.1
320-118553-4	HFH-004-FD-S003-01232025	104	90.5	83.2	82.7	80.9	90.5	88.7	85.9
320-118553-6	HFH-004-N-S010-01232025	102	87.4	85.8	85.9	83.3	90.1	92.6	86.4
320-118553-7	HFH-004-FD-S010-01232025	103	95.7	84.9	90.7	82.9	92.9	85.2	85.9
320-118553-9	HFH-005-N-S001-01232025	105	94.2	89.9	82.9	86.7	97.5	92.8	92.1
320-118553-10	HFH-005-FD-S001-01232025	104	89.9	86.9	86.6	86.9	95.5	90.2	88.1
320-118553-11	HFH-005-N-S003-01232025	101	93.0	87.5	83.1	84.6	89.9	83.3	83.2
320-118553-15	HFH-003-N-S001-01232025	96.6	86.5	80.7	81.7	80.8	91.6	80.2	68.5
320-118553-16	HFH-003-N-S003-01232025	109	92.8	89.0	87.7	91.2	97.4	91.2	83.6
320-118553-17	HFH-003-N-S006-01232025	104	95.6	85.1	86.2	83.6	94.9	87.0	83.0
320-118553-18	HFH-003-FD-S006-01232025	103	92.3	91.3	86.2	88.6	95.5	89.6	84.9
320-118553-22	HFH-002-N-S001-01232025	108	95.3	90.0	85.6	87.4	93.3	81.0	66.8
320-118553-23	HFH-002-FD-S001-01232025	104	93.8	87.9	87.2	86.7	91.4	84.5	84.5
320-118553-24	HFH-002-N-S003-01232025	106	92.9	88.1	90.9	87.0	94.8	92.3	91.6
320-118553-24 - DL	HFH-002-N-S003-01232025								
320-118553-29	FMB-004-N-S001-01232025	101	94.3	89.9	83.0	87.4	92.0	83.1	75.9
320-118553-30	FMB-004-N-S003-01232025	101	90.3	88.1	82.0	83.7	83.2	65.2	43.4
320-118553-32	FMB-004-N-S010-01232025		87.5	83.8	85.6	90.3	84.7	84.9	78.8
320-118553-32 - RA	FMB-004-N-S010-01232025	86.1	94.4	92.6					
320-118553-33	FMB-004-FD-S010-01232025		75.5	80.1	82.8	85.8	78.7	80.3	70.2
320-118553-33 - RA	FMB-004-FD-S010-01232025	80.1	84.2	85.0					
320-118553-34	FMB-004-FD-S003-01232025		97.2	93.0	102	92.2	91.0	83.8	67.0
320-118553-34 - RA	FMB-004-FD-S003-01232025	92.4	101	100					
LCS 320-830153/3-A	Lab Control Sample	99.6	92.8	83.1	83.9	84.2	91.5	89.1	92.7
LCS 320-830277/3-A	Lab Control Sample		99.2	104	110	103	89.3	90.1	81.7
LCS 320-830277/3-A - RA	Lab Control Sample	92.3	116	94.0					
LCSD 320-830153/4-A	Lab Control Sample Dup	106	96.3	85.8	86.1	85.1	95.0	90.7	91.5
LCSD 320-830277/4-A	Lab Control Sample Dup		98.9	104	101	94.3	94.7	92.9	90.8
LCSD 320-830277/4-A - RA	Lab Control Sample Dup	94.6	112	97.2					
LLCS 320-830153/2-A	Lab Control Sample	99.0	91.5	86.8	84.9	84.7	94.1	96.6	91.3
LLCS 320-830277/2-A	Lab Control Sample		93.5	89.3	101	103	99.8	88.3	73.6
LLCS 320-830277/2-A - RA	Lab Control Sample	91.6	109	98.0					
MB 320-830153/1-A	Method Blank	107	92.7	87.3	87.0	85.3	93.5	86.6	83.9
MB 320-830277/1-A	Method Blank		89.9	96.0	96.8	96.1	102	93.3	89.8
MB 320-830277/1-A - RA	Method Blank	97.8	112	101					

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(40-130)	(20-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-135)	(40-150)
320-118553-2	HFH-004-N-S001-01232025	35.7 *5-	34.9	82.6	83.3	70.5	51.9	61.0	51.9
320-118553-3	HFH-004-N-S003-01232025	74.7	66.7	91.9	88.5	79.7	70.5	80.7	72.5
320-118553-4	HFH-004-FD-S003-01232025	87.2	84.3	88.9	89.5	84.8	74.5	89.4	86.8
320-118553-6	HFH-004-N-S010-01232025	90.3	82.9	86.3	85.7	84.6	63.3	81.2	75.7
320-118553-7	HFH-004-FD-S010-01232025	85.5	81.8	85.2	88.3	82.0	73.2	85.3	83.3
320-118553-9	HFH-005-N-S001-01232025	91.0	94.0	86.5	86.1	83.3	75.2	85.3	80.9
320-118553-10	HFH-005-FD-S001-01232025	90.8	93.9	96.5	91.5	90.1	73.6	85.9	82.3
320-118553-11	HFH-005-N-S003-01232025	83.1	77.5	86.7	89.5	81.2	63.3	77.3	70.7
320-118553-15	HFH-003-N-S001-01232025	62.4	63.7	87.4	85.7	81.4	56.7	71.4	64.6
320-118553-16	HFH-003-N-S003-01232025	79.1	73.0	101	99.6	94.2	80.8	91.8	87.7

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Solid
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(40-130)	(20-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-135)	(40-150)
320-118553-17	HFH-003-N-S006-01232025	88.2	90.7	89.3	92.7	93.0	81.2	93.9	88.4
320-118553-18	HFH-003-FD-S006-01232025	90.3	93.5	97.3	92.7	93.2	84.7	96.6	92.3
320-118553-22	HFH-002-N-S001-01232025	62.2	69.4	95.4	91.9	81.9	45.9	65.8	58.0
320-118553-23	HFH-002-FD-S001-01232025	88.8	94.1	91.0	89.8	88.6	76.6	87.4	82.7
320-118553-24	HFH-002-N-S003-01232025	91.2	94.1	89.8	92.5	94.5	90.7	106	99.7
320-118553-24 - DL	HFH-002-N-S003-01232025					86.6 *3			
320-118553-29	FMB-004-N-S001-01232025	72.2	73.5	90.2	88.8	87.6	65.4	75.1	70.7
320-118553-30	FMB-004-N-S003-01232025	33.3 *5-	47.0	91.0	88.0	66.3	51.0	43.8	35.8 *5-
320-118553-32	FMB-004-N-S010-01232025	87.6	94.2	81.4	79.7	85.1	76.2	78.6	77.4
320-118553-32 - RA	FMB-004-N-S010-01232025								
320-118553-33	FMB-004-FD-S010-01232025	72.6	71.0	74.5	79.1	75.6	66.6	64.5	67.1
320-118553-33 - RA	FMB-004-FD-S010-01232025								
320-118553-34	FMB-004-FD-S003-01232025	71.7	84.7	90.5	93.5	87.7	79.8	80.9	80.2
320-118553-34 - RA	FMB-004-FD-S003-01232025								
LCS 320-830153/3-A	Lab Control Sample	95.2	84.4	86.9	89.5	88.6	84.6	97.2	93.6
LCS 320-830277/3-A	Lab Control Sample	80.9	89.7	92.1	95.2	103	82.3	86.6	88.6
LCS 320-830277/3-A - RA	Lab Control Sample								
LCSD 320-830153/4-A	Lab Control Sample Dup	99.7	91.8	88.7	93.2	89.1	81.8	95.6	91.3
LCSD 320-830277/4-A	Lab Control Sample Dup	97.1	101	93.9	97.8	102	88.3	88.8	90.8
LCSD 320-830277/4-A - RA	Lab Control Sample Dup								
LLCS 320-830153/2-A	Lab Control Sample	101	93.9	91.1	91.9	89.9	88.7	97.6	96.2
LLCS 320-830277/2-A	Lab Control Sample	75.9	85.0	91.3	97.4	93.4	75.1	82.6	77.8
LLCS 320-830277/2-A - RA	Lab Control Sample								
MB 320-830153/1-A	Method Blank	84.9	85.1	88.5	90.1	89.5	78.7	94.1	85.3
MB 320-830277/1-A	Method Blank	93.4	96.8	99.4	96.4	97.5	82.5	91.5	80.4
MB 320-830277/1-A - RA	Method Blank								

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-165)	(40-215)	(40-275)	(40-130)	(20-130)	(15-130)	(10-130)	(10-130)
320-118553-2	HFH-004-N-S001-01232025	76.7	77.3	55.4	84.7	37.7	32.1	35.0	35.7
320-118553-3	HFH-004-N-S003-01232025	73.7	74.4	61.1	83.8	66.8	65.3	52.9	52.2
320-118553-4	HFH-004-FD-S003-01232025	73.0	76.0	65.3	80.9	69.2	71.8	52.0	51.3
320-118553-6	HFH-004-N-S010-01232025	66.2	72.8	60.6	77.7	49.5	49.2	39.4	40.6
320-118553-7	HFH-004-FD-S010-01232025	68.1	69.1	59.9	82.8	70.9	75.0	56.7	55.4
320-118553-9	HFH-005-N-S001-01232025	67.9	69.0	61.9	84.4	73.9	74.6	60.6	61.5
320-118553-10	HFH-005-FD-S001-01232025	74.5	72.3	61.5	82.3	71.0	71.0	59.4	60.4
320-118553-11	HFH-005-N-S003-01232025	71.9	80.0	73.0	80.5	57.1	61.4	62.4	66.1
320-118553-15	HFH-003-N-S001-01232025	66.6	66.0	56.4	83.6	43.9	46.8	43.8	44.2
320-118553-16	HFH-003-N-S003-01232025	76.3	76.5	64.3	83.1	61.3	65.7	54.7	56.5
320-118553-17	HFH-003-N-S006-01232025	71.2	74.5	63.9	83.8	75.1	79.7	69.4	70.3
320-118553-18	HFH-003-FD-S006-01232025	67.2	73.7	63.1	82.7	77.8	81.5	74.5	75.0
320-118553-22	HFH-002-N-S001-01232025	71.7	71.1	56.3	85.2	34.3	34.4	30.3	28.9
320-118553-23	HFH-002-FD-S001-01232025	66.6	70.1	56.9	84.4	73.4	75.5	65.2	63.2
320-118553-24	HFH-002-N-S003-01232025	65.7	72.0	60.9	86.3	85.9	88.8	78.2	77.3
320-118553-24 - DL	HFH-002-N-S003-01232025								
320-118553-29	FMB-004-N-S001-01232025	68.1	68.0	58.6	85.3	47.0	48.4	54.2	51.8
320-118553-30	FMB-004-N-S003-01232025	70.7	68.0	42.9	82.1	37.9	32.9	28.8	31.9
320-118553-32	FMB-004-N-S010-01232025							54.9	51.8
320-118553-32 - RA	FMB-004-N-S010-01232025	82.4	73.8	64.7	92.4	72.4	79.0		
320-118553-33	FMB-004-FD-S010-01232025							53.2	51.5

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118553-1
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Solid
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118553-33 - RA	FMB-004-FD-S010-01232025	73.9	68.1	60.7	84.3	69.7	73.6		
320-118553-34	FMB-004-FD-S003-01232025							69.1	67.2
320-118553-34 - RA	FMB-004-FD-S003-01232025	104	83.9	71.0	99.7	74.4	76.1		
LCS 320-830153/3-A	Lab Control Sample	76.2	78.8	73.3	86.1	67.8	67.8	76.4	83.8
LCS 320-830277/3-A	Lab Control Sample							59.0	53.7
LCS 320-830277/3-A - RA	Lab Control Sample	103	93.9	75.8	114	81.2	72.1		
LCSD 320-830153/4-A	Lab Control Sample Dup	78.6	73.7	70.4	86.3	81.4	83.2	65.3	66.0
LCSD 320-830277/4-A	Lab Control Sample Dup							63.1	62.1
LCSD 320-830277/4-A - RA	Lab Control Sample Dup	101	91.4	80.1	115	83.3	74.9		
LLCS 320-830153/2-A	Lab Control Sample	78.8	80.8	72.0	82.4	82.4	81.4	80.4	84.4
LLCS 320-830277/2-A	Lab Control Sample							57.9	56.4
LLCS 320-830277/2-A - RA	Lab Control Sample	101	87.9	74.6	107	70.7	63.6		
MB 320-830153/1-A	Method Blank	70.7	75.5	68.7	81.5	73.9	77.3	59.0	60.0
MB 320-830277/1-A	Method Blank							64.7	65.0
MB 320-830277/1-A - RA	Method Blank	106	91.8	77.7	115	77.5	70.5		

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-830153/1-A
Matrix: Solid
Analysis Batch: 830527

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830153

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-830153/1-A
Matrix: Solid
Analysis Batch: 830527

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830153

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		01/29/25 11:30	01/30/25 23:30	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*107*		*8 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C5 PFPeA	*92.7*		*35 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C5 PFHxA	*87.3*		*40 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C4 PFHpA	*87.0*		*40 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C8 PFOA	*85.3*		*40 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C9 PFNA	*93.5*		*40 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C6 PFDA	*86.6*		*40 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C7 PFUnA	*83.9*		*40 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C2 PFDoA	*84.9*		*40 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C2 PFTeDA	*85.1*		*20 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C3 PFBS	*88.5*		*40 - 135*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C3 PFHxS	*90.1*		*40 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C8 PFOS	*89.5*		*40 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C8 FOSA	*78.7*		*40 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
d3-NMeFOSAA	*94.1*		*40 - 135*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
d5-NEtFOSAA	*85.3*		*40 - 150*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C2 4:2 FTS	*70.7*		*40 - 165*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C2 6:2 FTS	*75.5*		*40 - 215*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C2 8:2 FTS	*68.7*		*40 - 275*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C3 HFPO-DA	*81.5*		*40 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
d7-N-MeFOSE-M	*73.9*		*20 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
d9-N-EtFOSE-M	*77.3*		*15 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
d5-NEtPFOSA	*59.0*		*10 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
d3-NMePFOSA	*60.0*		*10 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*

Lab Sample ID: LCS 320-830153/3-A
Matrix: Solid
Analysis Batch: 830527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830153

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.89		ug/Kg		98	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.24		ug/Kg		90	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.64		ug/Kg		106	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.53		ug/Kg		101	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.73		ug/Kg		109	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.53		ug/Kg		101	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.56		ug/Kg		102	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-830153/3-A
Matrix: Solid
Analysis Batch: 830527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830153

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.74		ug/Kg		109	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.75		ug/Kg		110	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.30		ug/Kg		92	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.38		ug/Kg		95	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.60		ug/Kg		117	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.56		ug/Kg		109	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.36		ug/Kg		104	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.40		ug/Kg		101	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.33		ug/Kg		100	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.32		ug/Kg		96	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.23		ug/Kg		93	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	1.90		ug/Kg		79	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.64		ug/Kg		99	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.83		ug/Kg		102	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.80		ug/Kg		100	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.41		ug/Kg		96	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.54		ug/Kg		102	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.57		ug/Kg		103	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.67		ug/Kg		107	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.59		ug/Kg		104	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.4		ug/Kg		99	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.4		ug/Kg		99	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.91		ug/Kg		102	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.35		ug/Kg		99	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.35		ug/Kg		94	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.43		ug/Kg		97	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.36		ug/Kg		94	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-830153/3-A
Matrix: Solid
Analysis Batch: 830527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830153

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.19		ug/Kg		94	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.06		ug/Kg		87	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.45		ug/Kg		110	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.32		ug/Kg		86	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.0		ug/Kg		88	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	9.92		ug/Kg		79	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*99.6*		*8 - 130*
13C5 PFPeA	*92.8*		*35 - 130*
13C5 PFHxA	*83.1*		*40 - 130*
13C4 PFHpA	*83.9*		*40 - 130*
13C8 PFOA	*84.2*		*40 - 130*
13C9 PFNA	*91.5*		*40 - 130*
13C6 PFDA	*89.1*		*40 - 130*
13C7 PFUnA	*92.7*		*40 - 130*
13C2 PFDoA	*95.2*		*40 - 130*
13C2 PFTeDA	*84.4*		*20 - 130*
13C3 PFBS	*86.9*		*40 - 135*
13C3 PFHxS	*89.5*		*40 - 130*
13C8 PFOS	*88.6*		*40 - 130*
13C8 FOSA	*84.6*		*40 - 130*
d3-NMeFOSAA	*97.2*		*40 - 135*
d5-NEtFOSAA	*93.6*		*40 - 150*
13C2 4:2 FTS	*76.2*		*40 - 165*
13C2 6:2 FTS	*78.8*		*40 - 215*
13C2 8:2 FTS	*73.3*		*40 - 275*
13C3 HFPO-DA	*86.1*		*40 - 130*
d7-N-MeFOSE-M	*67.8*		*20 - 130*
d9-N-EtFOSE-M	*67.8*		*15 - 130*
d5-NEtPFOSA	*76.4*		*10 - 130*
d3-NMePFOSA	*83.8*		*10 - 130*

Lab Sample ID: LCSD 320-830153/4-A
Matrix: Solid
Analysis Batch: 830527

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830153

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.87		ug/Kg		97	70 - 140	0	30
Perfluoropentanoic acid (PFPeA)			2.50	2.20		ug/Kg		88	60 - 150	2	30
Perfluorohexanoic acid (PFHxA)			2.50	2.66		ug/Kg		106	65 - 140	0	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.61		ug/Kg		104	65 - 145	3	30
Perfluorooctanoic acid (PFOA)			2.50	2.68		ug/Kg		107	70 - 150	2	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-830153/4-A
Matrix: Solid
Analysis Batch: 830527

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830153

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.58		ug/Kg		103	70 - 155	2	30
Perfluorodecanoic acid (PFDA)	2.50	2.43		ug/Kg		97	70 - 155	5	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.71		ug/Kg		109	70 - 155	1	30
Perfluorododecanoic acid (PFDoA)	2.50	2.57		ug/Kg		103	70 - 150	7	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.34		ug/Kg		93	65 - 150	2	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.29		ug/Kg		92	65 - 150	4	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.62		ug/Kg		118	65 - 145	1	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.40		ug/Kg		102	55 - 160	6	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.30		ug/Kg		101	60 - 150	3	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.40		ug/Kg		100	65 - 155	0	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.36		ug/Kg		102	65 - 160	1	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.34		ug/Kg		97	55 - 140	1	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.40		ug/Kg		99	40 - 155	7	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.26		ug/Kg		93	25 - 160	17	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	5.00		ug/Kg		107	60 - 150	8	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	5.01		ug/Kg		105	55 - 200	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.89		ug/Kg		102	70 - 150	2	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.45		ug/Kg		98	70 - 140	2	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.53		ug/Kg		101	70 - 155	1	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.39		ug/Kg		96	70 - 140	7	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.69		ug/Kg		108	65 - 155	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.62		ug/Kg		105	65 - 165	1	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.6		ug/Kg		101	70 - 140	1	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	11.8		ug/Kg		94	70 - 135	5	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.97		ug/Kg		105	70 - 145	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.46		ug/Kg		104	70 - 160	4	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.44		ug/Kg		98	30 - 140	4	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.38		ug/Kg		95	60 - 150	2	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-830153/4-A
Matrix: Solid
Analysis Batch: 830527

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830153

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.61		ug/Kg		104	60 - 155	10	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.15		ug/Kg		92	70 - 150	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.21		ug/Kg		94	45 - 160	7	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.43		ug/Kg		109	70 - 140	1	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.33		ug/Kg		87	45 - 130	0	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.2		ug/Kg		82	60 - 130	8	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	9.94		ug/Kg		79	60 - 150	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*106*		*8 - 130*
13C5 PFPeA	*96.3*		*35 - 130*
13C5 PFHxA	*85.8*		*40 - 130*
13C4 PFHpA	*86.1*		*40 - 130*
13C8 PFOA	*85.1*		*40 - 130*
13C9 PFNA	*95.0*		*40 - 130*
13C6 PFDA	*90.7*		*40 - 130*
13C7 PFUnA	*91.5*		*40 - 130*
13C2 PFDoA	*99.7*		*40 - 130*
13C2 PFTeDA	*91.8*		*20 - 130*
13C3 PFBS	*88.7*		*40 - 135*
13C3 PFHxS	*93.2*		*40 - 130*
13C8 PFOS	*89.1*		*40 - 130*
13C8 FOSA	*81.8*		*40 - 130*
d3-NMeFOSAA	*95.6*		*40 - 135*
d5-NEtFOSAA	*91.3*		*40 - 150*
13C2 4:2 FTS	*78.6*		*40 - 165*
13C2 6:2 FTS	*73.7*		*40 - 215*
13C2 8:2 FTS	*70.4*		*40 - 275*
13C3 HFPO-DA	*86.3*		*40 - 130*
d7-N-MeFOSE-M	*81.4*		*20 - 130*
d9-N-EtFOSE-M	*83.2*		*15 - 130*
d5-NEtPFOSA	*65.3*		*10 - 130*
d3-NMePFOSA	*66.0*		*10 - 130*

Lab Sample ID: LLCS 320-830153/2-A
Matrix: Solid
Analysis Batch: 830527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830153

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.824		ug/Kg		103	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.400		ug/Kg		100	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.459		ug/Kg		115	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-830153/2-A
Matrix: Solid
Analysis Batch: 830527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830153

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.454		ug/Kg		113	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.467		ug/Kg		117	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.424		ug/Kg		106	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.410		ug/Kg		102	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.431		ug/Kg		108	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.423		ug/Kg		106	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.416		ug/Kg		104	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.391		ug/Kg		98	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.415		ug/Kg		117	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.378		ug/Kg		100	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.392		ug/Kg		107	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.381		ug/Kg		100	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.396		ug/Kg		106	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.393		ug/Kg		102	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.403		ug/Kg		105	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.334		ug/Kg		86	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.805		ug/Kg		107	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.760		ug/Kg		100	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.812		ug/Kg		106	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.390		ug/Kg		97	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.420		ug/Kg		105	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.411		ug/Kg		103	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.433		ug/Kg		108	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.441		ug/Kg		110	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.99		ug/Kg		99	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	1.97		ug/Kg		99	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.294		ug/Kg		98	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.440		ug/Kg		116	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.405		ug/Kg		101	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-830153/2-A
Matrix: Solid
Analysis Batch: 830527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830153

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.389		ug/Kg		97	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.527		ug/Kg		132	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.359		ug/Kg		96	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.391		ug/Kg		103	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.393		ug/Kg		110	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.680		ug/Kg		85	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	1.68		ug/Kg		84	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	1.59		ug/Kg		79	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*99.0*		*8 - 130*
13C5 PFPeA	*91.5*		*35 - 130*
13C5 PFHxA	*86.8*		*40 - 130*
13C4 PFHpA	*84.9*		*40 - 130*
13C8 PFOA	*84.7*		*40 - 130*
13C9 PFNA	*94.1*		*40 - 130*
13C6 PFDA	*96.6*		*40 - 130*
13C7 PFUnA	*91.3*		*40 - 130*
13C2 PFDoA	*101*		*40 - 130*
13C2 PFTeDA	*93.9*		*20 - 130*
13C3 PFBS	*91.1*		*40 - 135*
13C3 PFHxS	*91.9*		*40 - 130*
13C8 PFOS	*89.9*		*40 - 130*
13C8 FOSA	*88.7*		*40 - 130*
d3-NMeFOSAA	*97.6*		*40 - 135*
d5-NEtFOSAA	*96.2*		*40 - 150*
13C2 4:2 FTS	*78.8*		*40 - 165*
13C2 6:2 FTS	*80.8*		*40 - 215*
13C2 8:2 FTS	*72.0*		*40 - 275*
13C3 HFPO-DA	*82.4*		*40 - 130*
d7-N-MeFOSE-M	*82.4*		*20 - 130*
d9-N-EtFOSE-M	*81.4*		*15 - 130*
d5-NEtPFOSA	*80.4*		*10 - 130*
d3-NMePFOSA	*84.4*		*10 - 130*

Lab Sample ID: MB 320-830277/1-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830277

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-830277/1-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830277

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		01/30/25 04:13	01/30/25 18:52	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		01/30/25 04:13	01/30/25 18:52	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*89.9*		*35 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C5 PFHxA	*96.0*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C4 PFHpA	*96.8*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C8 PFOA	*96.1*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C9 PFNA	*102*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C6 PFDA	*93.3*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C7 PFUnA	*89.8*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C2 PFDoA	*93.4*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C2 PFTeDA	*96.8*		*20 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C3 PFBS	*99.4*		*40 - 135*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C3 PFHxS	*96.4*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*
13C8 PFOS	*97.5*		*40 - 130*	*01/30/25 04:13*	*01/30/25 18:52*	*1*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-830277/1-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830277

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	82.5		40 - 130	01/30/25 04:13	01/30/25 18:52	1
d3-NMeFOSAA	91.5		40 - 135	01/30/25 04:13	01/30/25 18:52	1
d5-NEtFOSAA	80.4		40 - 150	01/30/25 04:13	01/30/25 18:52	1
d5-NEtPFOSA	64.7		10 - 130	01/30/25 04:13	01/30/25 18:52	1
d3-NMePFOSA	65.0		10 - 130	01/30/25 04:13	01/30/25 18:52	1

Lab Sample ID: LCS 320-830277/3-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830277

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanoic acid (PFPeA)	2.50	2.50		ug/Kg		100	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.41		ug/Kg		96	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.55		ug/Kg		102	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.56		ug/Kg		102	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.95		ug/Kg		118	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.46		ug/Kg		98	70 - 155
Perfluoroundecanoic acid (PFUnA)	2.50	2.73		ug/Kg		109	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.61		ug/Kg		104	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.49		ug/Kg		100	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.51		ug/Kg		100	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.20		ug/Kg		99	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.46		ug/Kg		105	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.03		ug/Kg		89	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.45		ug/Kg		103	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.36		ug/Kg		101	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.21		ug/Kg		92	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.15		ug/Kg		89	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.50		ug/Kg		103	25 - 160
Perfluorooctanesulfonamide (PFOSA)	2.50	2.50		ug/Kg		100	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.52		ug/Kg		101	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.33		ug/Kg		93	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.71		ug/Kg		109	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.64		ug/Kg		106	65 - 165
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.52		ug/Kg		101	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-830277/3-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830277

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			2.50	2.56		ug/Kg		103	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.10		ug/Kg		84	60 - 155		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.77		ug/Kg		124	70 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C5 PFPeA	*99.2*		*35 - 130*
13C5 PFHxA	*104*		*40 - 130*
13C4 PFHpA	*110*		*40 - 130*
13C8 PFOA	*103*		*40 - 130*
13C9 PFNA	*89.3*		*40 - 130*
13C6 PFDA	*90.1*		*40 - 130*
13C7 PFUnA	*81.7*		*40 - 130*
13C2 PFDoA	*80.9*		*40 - 130*
13C2 PFTeDA	*89.7*		*20 - 130*
13C3 PFBS	*92.1*		*40 - 135*
13C3 PFHxS	*95.2*		*40 - 130*
13C8 PFOS	*103*		*40 - 130*
13C8 FOSA	*82.3*		*40 - 130*
d3-NMeFOSAA	*86.6*		*40 - 135*
d5-NEtFOSAA	*88.6*		*40 - 150*
d5-NEtPFOSA	*59.0*		*10 - 130*
d3-NMePFOSA	*53.7*		*10 - 130*

Lab Sample ID: LCSD 320-830277/4-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830277

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanoic acid (PFPeA)			2.50	2.72		ug/Kg		109	60 - 150	8	30
Perfluorohexanoic acid (PFHxA)			2.50	2.35		ug/Kg		94	65 - 140	3	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.70		ug/Kg		108	65 - 145	6	30
Perfluorooctanoic acid (PFOA)			2.50	2.48		ug/Kg		99	70 - 150	3	30
Perfluorononanoic acid (PFNA)			2.50	2.76		ug/Kg		110	70 - 155	7	30
Perfluorodecanoic acid (PFDA)			2.50	2.45		ug/Kg		98	70 - 155	0	30
Perfluoroundecanoic acid (PFUnA)			2.50	2.76		ug/Kg		111	70 - 155	1	30
Perfluorododecanoic acid (PFDoA)			2.50	2.51		ug/Kg		100	70 - 150	4	30
Perfluorotridecanoic acid (PFTrDA)			2.50	2.42		ug/Kg		97	65 - 150	3	30
Perfluorotetradecanoic acid (PFTeDA)			2.50	2.39		ug/Kg		96	65 - 150	5	30
Perfluorobutanesulfonic acid (PFBS)			2.22	2.32		ug/Kg		104	65 - 145	5	30
Perfluoropentanesulfonic acid (PFPeS)			2.35	2.37		ug/Kg		101	55 - 160	4	30
Perfluorohexanesulfonic acid (PFHxS)			2.28	2.00		ug/Kg		88	60 - 150	1	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-830277/4-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830277

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoroheptanesulfonic acid (PFHpS)			2.39	2.49		ug/Kg		104	65 - 155	2	30
Perfluorooctanesulfonic acid (PFOS)			2.33	2.32		ug/Kg		100	65 - 160	1	30
Perfluorononanesulfonic acid (PFNS)			2.41	2.28		ug/Kg		95	55 - 140	3	30
Perfluorodecanesulfonic acid (PFDS)			2.41	2.28		ug/Kg		95	40 - 155	6	30
Perfluorododecanesulfonic acid (PFDoS)			2.43	2.53		ug/Kg		105	25 - 160	2	30
Perfluorooctanesulfonamide (PFOSA)			2.50	2.48		ug/Kg		99	70 - 140	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)			2.50	2.50		ug/Kg		100	70 - 155	1	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)			2.50	2.38		ug/Kg		95	70 - 140	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			2.50	2.80		ug/Kg		112	65 - 155	3	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			2.50	2.62		ug/Kg		105	65 - 165	1	30
Perfluoro-3-methoxypropanoic acid (PFMPA)			2.50	2.45		ug/Kg		98	30 - 140	3	30
Perfluoro-4-methoxybutanoic acid (PFMBA)			2.50	2.28		ug/Kg		91	60 - 150	12	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.40		ug/Kg		96	60 - 155	14	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.63		ug/Kg		118	70 - 140	5	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C5 PFPeA	*98.9*		*35 - 130*
13C5 PFHxA	*104*		*40 - 130*
13C4 PFHpA	*101*		*40 - 130*
13C8 PFOA	*94.3*		*40 - 130*
13C9 PFNA	*94.7*		*40 - 130*
13C6 PFDA	*92.9*		*40 - 130*
13C7 PFUnA	*90.8*		*40 - 130*
13C2 PFDoA	*97.1*		*40 - 130*
13C2 PFTeDA	*101*		*20 - 130*
13C3 PFBS	*93.9*		*40 - 135*
13C3 PFHxS	*97.8*		*40 - 130*
13C8 PFOS	*102*		*40 - 130*
13C8 FOSA	*88.3*		*40 - 130*
d3-NMeFOSAA	*88.8*		*40 - 135*
d5-NEtFOSAA	*90.8*		*40 - 150*
d5-NEtPFOSA	*63.1*		*10 - 130*
d3-NMePFOSA	*62.1*		*10 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-830277/2-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830277

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanoic acid (PFPeA)	0.400	0.404		ug/Kg		101	60 - 150
Perfluorohexanoic acid (PFHxA)	0.400	0.405		ug/Kg		101	65 - 140
Perfluoroheptanoic acid (PFHpA)	0.400	0.415		ug/Kg		104	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.379		ug/Kg		95	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.438		ug/Kg		110	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.415		ug/Kg		104	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.477		ug/Kg		119	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.403		ug/Kg		101	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.395		ug/Kg		99	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.398		ug/Kg		100	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.335		ug/Kg		94	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.406		ug/Kg		108	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.324		ug/Kg		89	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.394		ug/Kg		103	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.439		ug/Kg		118	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.370		ug/Kg		96	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.323		ug/Kg		84	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.406		ug/Kg		105	25 - 160
Perfluorooctanesulfonamide (PFOSA)	0.400	0.445		ug/Kg		111	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.423		ug/Kg		106	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.399		ug/Kg		100	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.440		ug/Kg		110	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.428		ug/Kg		107	65 - 165
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.391		ug/Kg		98	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.400	0.372		ug/Kg		93	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.400	0.381		ug/Kg		95	60 - 155
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.357	0.412		ug/Kg		116	70 - 140

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C5 PFPeA	*93.5*		*35 - 130*
13C5 PFHxA	*89.3*		*40 - 130*
13C4 PFHpA	*101*		*40 - 130*
13C8 PFOA	*103*		*40 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-830277/2-A
Matrix: Solid
Analysis Batch: 830530

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830277

Isotope Dilution	LLCS %Recovery	LLCS Qualifier	Limits
13C9 PFNA	99.8		40 - 130
13C6 PFDA	88.3		40 - 130
13C7 PFUnA	73.6		40 - 130
13C2 PFDoA	75.9		40 - 130
13C2 PFTeDA	85.0		20 - 130
13C3 PFBS	91.3		40 - 135
13C3 PFHxS	97.4		40 - 130
13C8 PFOS	93.4		40 - 130
13C8 FOSA	75.1		40 - 130
d3-NMeFOSAA	82.6		40 - 135
d5-NEtFOSAA	77.8		40 - 150
d5-NEtPFOSA	57.9		10 - 130
d3-NMePFOSA	56.4		10 - 130

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Lab Sample ID: MB 320-830277/1-A
Matrix: Solid
Analysis Batch: 830984

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830277

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA) - RA	ND		0.40	0.10	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) - RA	ND		0.40	0.10	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA	ND		0.40	0.10	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA	ND		0.40	0.10	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE) - RA	ND		1.0	0.25	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE) - RA	ND		1.0	0.25	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) - RA	ND		0.20	0.050	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA	ND		0.20	0.050	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) - RA	ND		0.20	0.050	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) - RA	ND		0.20	0.075	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
3-Perfluoropropylpropanoic acid (3:3 FTCA) - RA	ND		0.40	0.10	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
3-Perfluoropentylpropanoic acid (5:3 FTCA) - RA	ND		1.0	0.25	ug/Kg		01/30/25 04:13	02/03/25 13:22	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA) - RA	ND		1.0	0.25	ug/Kg		01/30/25 04:13	02/03/25 13:22	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA - RA	97.8		8 - 130	01/30/25 04:13	02/03/25 13:22	1
13C5 PFPeA - RA	112		35 - 130	01/30/25 04:13	02/03/25 13:22	1
13C5 PFHxA - RA	101		40 - 130	01/30/25 04:13	02/03/25 13:22	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Lab Sample ID: MB 320-830277/1-A
Matrix: Solid
Analysis Batch: 830984

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830277

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 4:2 FTS - RA	106		40 - 165	01/30/25 04:13	02/03/25 13:22	1
13C2 6:2 FTS - RA	91.8		40 - 215	01/30/25 04:13	02/03/25 13:22	1
13C2 8:2 FTS - RA	77.7		40 - 275	01/30/25 04:13	02/03/25 13:22	1
13C3 HFPO-DA - RA	115		40 - 130	01/30/25 04:13	02/03/25 13:22	1
d7-N-MeFOSE-M - RA	77.5		20 - 130	01/30/25 04:13	02/03/25 13:22	1
d9-N-EtFOSE-M - RA	70.5		15 - 130	01/30/25 04:13	02/03/25 13:22	1

Lab Sample ID: LCS 320-830277/3-A
Matrix: Solid
Analysis Batch: 830984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830277

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA) - RA	5.00	4.99		ug/Kg		100	70 - 140
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) - RA	4.69	4.55		ug/Kg		97	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA	4.76	4.52		ug/Kg		95	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA	4.80	5.01		ug/Kg		104	70 - 150
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE) - RA	12.5	12.0		ug/Kg		96	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE) - RA	12.5	12.4		ug/Kg		99	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) - RA	1.88	2.01		ug/Kg		107	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA	2.37	2.03		ug/Kg		86	70 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) - RA	2.34	2.07		ug/Kg		89	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) - RA	2.36	1.96		ug/Kg		83	45 - 160
3-Perfluoropropylpropanoic acid (3:3 FTCA) - RA	5.00	4.40		ug/Kg		88	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA) - RA	12.5	10.9		ug/Kg		87	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA) - RA	12.5	10.8		ug/Kg		87	60 - 150

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA - RA	92.3		8 - 130
13C5 PFPeA - RA	116		35 - 130
13C5 PFHxA - RA	94.0		40 - 130
13C2 4:2 FTS - RA	103		40 - 165
13C2 6:2 FTS - RA	93.9		40 - 215
13C2 8:2 FTS - RA	75.8		40 - 275
13C3 HFPO-DA - RA	114		40 - 130
d7-N-MeFOSE-M - RA	81.2		20 - 130
d9-N-EtFOSE-M - RA	72.1		15 - 130

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Lab Sample ID: LCSD 320-830277/4-A
Matrix: Solid
Analysis Batch: 830984

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830277

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA) - RA			5.00	4.68		ug/Kg		94	70 - 140	6	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) - RA			4.69	4.84		ug/Kg		103	60 - 150	6	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA			4.76	4.65		ug/Kg		98	55 - 200	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA			4.80	4.72		ug/Kg		98	70 - 150	6	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE) - RA			12.5	12.5		ug/Kg		100	70 - 140	4	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE) - RA			12.5	12.6		ug/Kg		101	70 - 135	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) - RA			1.88	2.00		ug/Kg		107	70 - 145	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA			2.37	1.95		ug/Kg		83	70 - 160	4	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) - RA			2.34	2.11		ug/Kg		90	70 - 150	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) - RA			2.36	1.95		ug/Kg		82	45 - 160	1	30
3-Perfluoropropylpropanoic acid (3:3 FTCA) - RA			5.00	4.69		ug/Kg		94	45 - 130	6	30
3-Perfluoropentylpropanoic acid (5:3 FTCA) - RA			12.5	10.8		ug/Kg		86	60 - 130	1	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA) - RA			12.5	10.5		ug/Kg		84	60 - 150	3	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA - RA	*94.6*		*8 - 130*
13C5 PFPeA - RA	*112*		*35 - 130*
13C5 PFHxA - RA	*97.2*		*40 - 130*
13C2 4:2 FTS - RA	*101*		*40 - 165*
13C2 6:2 FTS - RA	*91.4*		*40 - 215*
13C2 8:2 FTS - RA	*80.1*		*40 - 275*
13C3 HFPO-DA - RA	*115*		*40 - 130*
d7-N-MeFOSE-M - RA	*83.3*		*20 - 130*
d9-N-EtFOSE-M - RA	*74.9*		*15 - 130*

Lab Sample ID: LLCS 320-830277/2-A
Matrix: Solid
Analysis Batch: 830984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830277

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluorobutanoic acid (PFBA) - RA			0.800	0.861		ug/Kg		108	70 - 140		
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) - RA			0.750	0.820		ug/Kg		109	60 - 150		
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA			0.762	0.813		ug/Kg		107	55 - 200		

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA (Continued)

Lab Sample ID: LLCS 320-830277/2-A
Matrix: Solid
Analysis Batch: 830984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830277

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA			0.768	0.864		ug/Kg		113	70 - 150		
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE) - RA			2.00	2.07		ug/Kg		104	70 - 140		
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE) - RA			2.00	2.18		ug/Kg		109	70 - 135		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) - RA			0.300	0.347		ug/Kg		116	70 - 145		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA			0.378	0.391		ug/Kg		103	70 - 160		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) - RA			0.374	0.349		ug/Kg		94	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) - RA			0.378	0.299		ug/Kg		79	45 - 160		
3-Perfluoropropylpropanoic acid (3:3 FTCA) - RA			0.800	0.730		ug/Kg		91	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA) - RA			2.00	1.82		ug/Kg		91	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA) - RA			2.00	1.60		ug/Kg		80	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA - RA	*91.6*		*8 - 130*
13C5 PFPeA - RA	*109*		*35 - 130*
13C5 PFHxA - RA	*98.0*		*40 - 130*
13C2 4:2 FTS - RA	*101*		*40 - 165*
13C2 6:2 FTS - RA	*87.9*		*40 - 215*
13C2 8:2 FTS - RA	*74.6*		*40 - 275*
13C3 HFPO-DA - RA	*107*		*40 - 130*
d7-N-MeFOSE-M - RA	*70.7*		*20 - 130*
d9-N-EtFOSE-M - RA	*63.6*		*15 - 130*

Method: 1633 - Percent Moisture

Lab Sample ID: 320-118553-30 DU
Matrix: Solid
Analysis Batch: 829733

Client Sample ID: FMB-004-N-S003-01232025
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	15			15		%				3	20

LCMS

Prep Batch: 830153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-2	HFH-004-N-S001-01232025	Total/NA	Solid	1633 Shake	
320-118553-3	HFH-004-N-S003-01232025	Total/NA	Solid	1633 Shake	
320-118553-4	HFH-004-FD-S003-01232025	Total/NA	Solid	1633 Shake	
320-118553-6	HFH-004-N-S010-01232025	Total/NA	Solid	1633 Shake	
320-118553-7	HFH-004-FD-S010-01232025	Total/NA	Solid	1633 Shake	
320-118553-9	HFH-005-N-S001-01232025	Total/NA	Solid	1633 Shake	
320-118553-10	HFH-005-FD-S001-01232025	Total/NA	Solid	1633 Shake	
320-118553-11	HFH-005-N-S003-01232025	Total/NA	Solid	1633 Shake	
320-118553-15	HFH-003-N-S001-01232025	Total/NA	Solid	1633 Shake	
320-118553-16	HFH-003-N-S003-01232025	Total/NA	Solid	1633 Shake	
320-118553-17	HFH-003-N-S006-01232025	Total/NA	Solid	1633 Shake	
320-118553-18	HFH-003-FD-S006-01232025	Total/NA	Solid	1633 Shake	
320-118553-22	HFH-002-N-S001-01232025	Total/NA	Solid	1633 Shake	
320-118553-23	HFH-002-FD-S001-01232025	Total/NA	Solid	1633 Shake	
320-118553-24 - DL	HFH-002-N-S003-01232025	Total/NA	Solid	1633 Shake	
320-118553-24	HFH-002-N-S003-01232025	Total/NA	Solid	1633 Shake	
320-118553-29	FMB-004-N-S001-01232025	Total/NA	Solid	1633 Shake	
320-118553-30	FMB-004-N-S003-01232025	Total/NA	Solid	1633 Shake	
MB 320-830153/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-830153/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-830153/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-830153/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Prep Batch: 830277

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-32	FMB-004-N-S010-01232025	Total/NA	Solid	1633 Shake	
320-118553-32 - RA	FMB-004-N-S010-01232025	Total/NA	Solid	1633 Shake	
320-118553-33	FMB-004-FD-S010-01232025	Total/NA	Solid	1633 Shake	
320-118553-33 - RA	FMB-004-FD-S010-01232025	Total/NA	Solid	1633 Shake	
320-118553-34	FMB-004-FD-S003-01232025	Total/NA	Solid	1633 Shake	
320-118553-34 - RA	FMB-004-FD-S003-01232025	Total/NA	Solid	1633 Shake	
MB 320-830277/1-A	Method Blank	Total/NA	Solid	1633 Shake	
MB 320-830277/1-A - RA	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-830277/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCS 320-830277/3-A - RA	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-830277/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LCSD 320-830277/4-A - RA	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-830277/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LLCS 320-830277/2-A - RA	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 830527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-2	HFH-004-N-S001-01232025	Total/NA	Solid	1633	830153
320-118553-3	HFH-004-N-S003-01232025	Total/NA	Solid	1633	830153
320-118553-4	HFH-004-FD-S003-01232025	Total/NA	Solid	1633	830153
320-118553-6	HFH-004-N-S010-01232025	Total/NA	Solid	1633	830153
320-118553-7	HFH-004-FD-S010-01232025	Total/NA	Solid	1633	830153
320-118553-9	HFH-005-N-S001-01232025	Total/NA	Solid	1633	830153
320-118553-10	HFH-005-FD-S001-01232025	Total/NA	Solid	1633	830153
320-118553-11	HFH-005-N-S003-01232025	Total/NA	Solid	1633	830153
320-118553-15	HFH-003-N-S001-01232025	Total/NA	Solid	1633	830153

LCMS (Continued)

Analysis Batch: 830527 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-16	HFH-003-N-S003-01232025	Total/NA	Solid	1633	830153
320-118553-17	HFH-003-N-S006-01232025	Total/NA	Solid	1633	830153
320-118553-18	HFH-003-FD-S006-01232025	Total/NA	Solid	1633	830153
320-118553-22	HFH-002-N-S001-01232025	Total/NA	Solid	1633	830153
320-118553-23	HFH-002-FD-S001-01232025	Total/NA	Solid	1633	830153
320-118553-24	HFH-002-N-S003-01232025	Total/NA	Solid	1633	830153
320-118553-29	FMB-004-N-S001-01232025	Total/NA	Solid	1633	830153
320-118553-30	FMB-004-N-S003-01232025	Total/NA	Solid	1633	830153
MB 320-830153/1-A	Method Blank	Total/NA	Solid	1633	830153
LCS 320-830153/3-A	Lab Control Sample	Total/NA	Solid	1633	830153
LCSD 320-830153/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	830153
LLCS 320-830153/2-A	Lab Control Sample	Total/NA	Solid	1633	830153

Analysis Batch: 830530

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-32	FMB-004-N-S010-01232025	Total/NA	Solid	1633	830277
320-118553-33	FMB-004-FD-S010-01232025	Total/NA	Solid	1633	830277
320-118553-34	FMB-004-FD-S003-01232025	Total/NA	Solid	1633	830277
MB 320-830277/1-A	Method Blank	Total/NA	Solid	1633	830277
LCS 320-830277/3-A	Lab Control Sample	Total/NA	Solid	1633	830277
LCSD 320-830277/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	830277
LLCS 320-830277/2-A	Lab Control Sample	Total/NA	Solid	1633	830277

Analysis Batch: 830706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-24 - DL	HFH-002-N-S003-01232025	Total/NA	Solid	1633	830153

Analysis Batch: 830984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-830277/1-A - RA	Method Blank	Total/NA	Solid	1633	830277
LCS 320-830277/3-A - RA	Lab Control Sample	Total/NA	Solid	1633	830277
LCSD 320-830277/4-A - RA	Lab Control Sample Dup	Total/NA	Solid	1633	830277
LLCS 320-830277/2-A - RA	Lab Control Sample	Total/NA	Solid	1633	830277

Analysis Batch: 830988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-32 - RA	FMB-004-N-S010-01232025	Total/NA	Solid	1633	830277
320-118553-33 - RA	FMB-004-FD-S010-01232025	Total/NA	Solid	1633	830277
320-118553-34 - RA	FMB-004-FD-S003-01232025	Total/NA	Solid	1633	830277

General Chemistry

Analysis Batch: 829733

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-2	HFH-004-N-S001-01232025	Total/NA	Solid	1633	
320-118553-3	HFH-004-N-S003-01232025	Total/NA	Solid	1633	
320-118553-4	HFH-004-FD-S003-01232025	Total/NA	Solid	1633	
320-118553-6	HFH-004-N-S010-01232025	Total/NA	Solid	1633	
320-118553-7	HFH-004-FD-S010-01232025	Total/NA	Solid	1633	
320-118553-9	HFH-005-N-S001-01232025	Total/NA	Solid	1633	
320-118553-10	HFH-005-FD-S001-01232025	Total/NA	Solid	1633	

General Chemistry (Continued)

Analysis Batch: 829733 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-11	HFH-005-N-S003-01232025	Total/NA	Solid	1633	
320-118553-15	HFH-003-N-S001-01232025	Total/NA	Solid	1633	
320-118553-16	HFH-003-N-S003-01232025	Total/NA	Solid	1633	
320-118553-17	HFH-003-N-S006-01232025	Total/NA	Solid	1633	
320-118553-18	HFH-003-FD-S006-01232025	Total/NA	Solid	1633	
320-118553-22	HFH-002-N-S001-01232025	Total/NA	Solid	1633	
320-118553-23	HFH-002-FD-S001-01232025	Total/NA	Solid	1633	
320-118553-24	HFH-002-N-S003-01232025	Total/NA	Solid	1633	
320-118553-29	FMB-004-N-S001-01232025	Total/NA	Solid	1633	
320-118553-30	FMB-004-N-S003-01232025	Total/NA	Solid	1633	
320-118553-32	FMB-004-N-S010-01232025	Total/NA	Solid	1633	
320-118553-33	FMB-004-FD-S010-01232025	Total/NA	Solid	1633	
320-118553-30 DU	FMB-004-N-S003-01232025	Total/NA	Solid	1633	

Analysis Batch: 829756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118553-34	FMB-004-FD-S003-01232025	Total/NA	Solid	1633	

Client Sample ID: HFH-004-N-S001-01232025 — **Lab Sample ID: 320-118553-2**
Date Collected: 01/23/25 10:25 — **Matrix: Solid**
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829733	01/27/25 13:46	CFR	EET SAC

Client Sample ID: HFH-004-N-S001-01232025 — **Lab Sample ID: 320-118553-2**
Date Collected: 01/23/25 10:25 — **Matrix: Solid**
Date Received: 01/25/25 08:45 — **Percent Solids: 90.2**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.22 g	5.00 mL	830153	01/29/25 11:30	JLS	EET SAC
Total/NA	Analysis	1633		1			830527	01/31/25 01:25	S1M	EET SAC

Client Sample ID: HFH-004-N-S003-01232025 — **Lab Sample ID: 320-118553-3**
Date Collected: 01/23/25 10:30 — **Matrix: Solid**
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829733	01/27/25 13:46	CFR	EET SAC

Client Sample ID: HFH-004-N-S003-01232025 — **Lab Sample ID: 320-118553-3**
Date Collected: 01/23/25 10:30 — **Matrix: Solid**
Date Received: 01/25/25 08:45 — **Percent Solids: 94.4**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.14 g	5.00 mL	830153	01/29/25 11:30	JLS	EET SAC
Total/NA	Analysis	1633		1			830527	01/31/25 01:41	S1M	EET SAC

Client Sample ID: HFH-004-FD-S003-01232025 — **Lab Sample ID: 320-118553-4**
Date Collected: 01/23/25 11:00 — **Matrix: Solid**
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829733	01/27/25 13:46	CFR	EET SAC

Client Sample ID: HFH-004-FD-S003-01232025 — **Lab Sample ID: 320-118553-4**
Date Collected: 01/23/25 11:00 — **Matrix: Solid**
Date Received: 01/25/25 08:45 — **Percent Solids: 94.9**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.09 g	5.00 mL	830153	01/29/25 11:30	JLS	EET SAC
Total/NA	Analysis	1633		1			830527	01/31/25 01:58	S1M	EET SAC

Client Sample ID: HFH-004-N-S010-01232025 — **Lab Sample ID: 320-118553-6**
Date Collected: 01/23/25 10:40 — **Matrix: Solid**
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829733	01/27/25 13:46	CFR	EET SAC

Client Sample ID: HFH-004-N-S010-01232025 — **Lab Sample ID: 320-118553-6**
Date Collected: 01/23/25 10:40 — **Matrix: Solid**
Date Received: 01/25/25 08:45 — **Percent Solids: 93.7**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.10 g	5.00 mL	830153	01/29/25 11:30	JLS	EET SAC
Total/NA	Analysis	1633		1			830527	01/31/25 02:47	S1M	EET SAC

Client Sample ID: HFH-004-FD-S010-01232025 — **Lab Sample ID: 320-118553-7**
Date Collected: 01/23/25 11:10 — **Matrix: Solid**
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829733	01/27/25 13:46	CFR	EET SAC

Client Sample ID: HFH-004-FD-S010-01232025 — **Lab Sample ID: 320-118553-7**
Date Collected: 01/23/25 11:10 — **Matrix: Solid**
Date Received: 01/25/25 08:45 — **Percent Solids: 94.4**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.14 g	5.00 mL	830153	01/29/25 11:30	JLS	EET SAC
Total/NA	Analysis	1633		1			830527	01/31/25 03:04	S1M	EET SAC

Client Sample ID: HFH-005-N-S001-01232025 — **Lab Sample ID: 320-118553-9**
Date Collected: 01/23/25 11:20 — **Matrix: Solid**
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829733	01/27/25 13:46	CFR	EET SAC

Client Sample ID: HFH-005-N-S001-01232025 — **Lab Sample ID: 320-118553-9**
Date Collected: 01/23/25 11:20 — **Matrix: Solid**
Date Received: 01/25/25 08:45 — **Percent Solids: 94.2**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.10 g	5.00 mL	830153	01/29/25 11:30	JLS	EET SAC
Total/NA	Analysis	1633		1			830527	01/31/25 03:20	S1M	EET SAC

Client Sample ID: HFH-005-FD-S001-01232025 — **Lab Sample ID: 320-118553-10**
Date Collected: 01/23/25 11:50 — **Matrix: Solid**
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829733	01/27/25 13:46	CFR	EET SAC

Client Sample ID: HFH-005-FD-S001-01232025 — **Lab Sample ID: 320-118553-10**
Date Collected: 01/23/25 11:50 — **Matrix: Solid**
Date Received: 01/25/25 08:45 — **Percent Solids: 95.3**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.06 g	5.00 mL	830153	01/29/25 11:30	JLS	EET SAC
Total/NA	Analysis	1633		1			830527	01/31/25 03:37	S1M	EET SAC

Client Sample ID: HFH-005-N-S003-01232025 — **Lab Sample ID: 320-118553-11**
Date Collected: 01/23/25 11:25 — **Matrix: Solid**
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829733	01/27/25 13:46	CFR	EET SAC

Client Sample ID: HFH-005-N-S003-01232025 — **Lab Sample ID: 320-118553-11**
Date Collected: 01/23/25 11:25 — **Matrix: Solid**
Date Received: 01/25/25 08:45 — **Percent Solids: 91.9**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.19 g	5.00 mL	830153	01/29/25 11:30	JLS	EET SAC
Total/NA	Analysis	1633		1			830527	01/31/25 03:53	S1M	EET SAC

Client Sample ID: HFH-003-N-S001-01232025 — **Lab Sample ID: 320-118553-15**
Date Collected: 01/23/25 12:25 — **Matrix: Solid**
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829733	01/27/25 13:46	CFR	EET SAC

Client Sample ID: HFH-003-N-S001-01232025 — **Lab Sample ID: 320-118553-15**
Date Collected: 01/23/25 12:25 — **Matrix: Solid**
Date Received: 01/25/25 08:45 — **Percent Solids: 93.0**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.13 g	5.00 mL	830153	01/29/25 11:30	JLS	EET SAC
Total/NA	Analysis	1633		1			830527	01/31/25 04:10	S1M	EET SAC

Client Sample ID: HFH-003-N-S003-01232025 — **Lab Sample ID: 320-118553-16**
Date Collected: 01/23/25 12:30 — **Matrix: Solid**
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829733	01/27/25 13:46	CFR	EET SAC

Client Sample ID: HFH-003-N-S003-01232025 — **Lab Sample ID: 320-118553-16**
Date Collected: 01/23/25 12:30 — **Matrix: Solid**
Date Received: 01/25/25 08:45 — **Percent Solids: 95.2**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.06 g	5.00 mL	830153	01/29/25 11:30	JLS	EET SAC
Total/NA	Analysis	1633		1			830527	01/31/25 04:26	S1M	EET SAC

Client Sample ID: HFH-003-N-S006-01232025 — **Lab Sample ID: 320-118553-17**
Date Collected: 01/23/25 12:35 — **Matrix: Solid**
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829733	01/27/25 13:46	CFR	EET SAC

Client Sample ID: HFH-003-N-S006-01232025 — **Lab Sample ID: 320-118553-17**
Date Collected: 01/23/25 12:35 — **Matrix: Solid**
Date Received: 01/25/25 08:45 — **Percent Solids: 94.6**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.07 g	5.00 mL	830153	01/29/25 11:30	JLS	EET SAC
Total/NA	Analysis	1633		1			830527	01/31/25 04:42	S1M	EET SAC

Client Sample ID: HFH-003-FD-S006-01232025 — **Lab Sample ID: 320-118553-18**
Date Collected: 01/23/25 13:05 — **Matrix: Solid**
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829733	01/27/25 13:46	CFR	EET SAC

Client Sample ID: HFH-003-FD-S006-01232025 — **Lab Sample ID: 320-118553-18**
Date Collected: 01/23/25 13:05 — **Matrix: Solid**
Date Received: 01/25/25 08:45 — **Percent Solids: 94.8**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.15 g	5.00 mL	830153	01/29/25 11:30	JLS	EET SAC
Total/NA	Analysis	1633		1			830527	01/31/25 04:59	S1M	EET SAC

Client Sample ID: HFH-002-N-S001-01232025 — **Lab Sample ID: 320-118553-22**
Date Collected: 01/23/25 13:15 — **Matrix: Solid**
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829733	01/27/25 13:46	CFR	EET SAC

Client Sample ID: HFH-002-N-S001-01232025
Lab Sample ID: 320-118553-22

Date Collected: 01/23/25 13:15
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 95.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.13 g	5.00 mL	830153	01/29/25 11:30	JLS	EET SAC
Total/NA	Analysis	1633		1			830527	01/31/25 05:15	S1M	EET SAC

Client Sample ID: HFH-002-FD-S001-01232025
Lab Sample ID: 320-118553-23

Date Collected: 01/23/25 13:45
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829733	01/27/25 13:46	CFR	EET SAC

Client Sample ID: HFH-002-FD-S001-01232025
Lab Sample ID: 320-118553-23

Date Collected: 01/23/25 13:45
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 95.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.14 g	5.00 mL	830153	01/29/25 11:30	JLS	EET SAC
Total/NA	Analysis	1633		1			830527	01/31/25 06:05	S1M	EET SAC

Client Sample ID: HFH-002-N-S003-01232025
Lab Sample ID: 320-118553-24

Date Collected: 01/23/25 13:20
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829733	01/27/25 13:46	CFR	EET SAC

Client Sample ID: HFH-002-N-S003-01232025
Lab Sample ID: 320-118553-24

Date Collected: 01/23/25 13:20
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 93.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.05 g	5.00 mL	830153	01/29/25 11:30	JLS	EET SAC
Total/NA	Analysis	1633		1			830527	01/31/25 06:21	S1M	EET SAC
Total/NA	Prep	1633 Shake	DL		2.05 g	5.00 mL	830153	01/29/25 11:30	JLS	EET SAC
Total/NA	Analysis	1633	DL	10			830706	01/31/25 14:34	S1M	EET SAC

Client Sample ID: FMB-004-N-S001-01232025
Lab Sample ID: 320-118553-29

Date Collected: 01/23/25 15:55
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829733	01/27/25 13:46	CFR	EET SAC

Client Sample ID: FMB-004-N-S001-01232025
Lab Sample ID: 320-118553-29

Date Collected: 01/23/25 15:55
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 88.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.02 g	5.00 mL	830153	01/29/25 11:30	JLS	EET SAC
Total/NA	Analysis	1633		1			830527	01/31/25 06:38	S1M	EET SAC

Client Sample ID: FMB-004-N-S003-01232025
Lab Sample ID: 320-118553-30

Date Collected: 01/23/25 16:00
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829733	01/27/25 13:46	CFR	EET SAC

Client Sample ID: FMB-004-N-S003-01232025
Lab Sample ID: 320-118553-30

Date Collected: 01/23/25 16:00
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 84.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.04 g	5.00 mL	830153	01/29/25 11:30	JLS	EET SAC
Total/NA	Analysis	1633		1			830527	01/31/25 06:54	S1M	EET SAC

Client Sample ID: FMB-004-N-S010-01232025
Lab Sample ID: 320-118553-32

Date Collected: 01/23/25 16:10
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829733	01/27/25 13:46	CFR	EET SAC

Client Sample ID: FMB-004-N-S010-01232025
Lab Sample ID: 320-118553-32

Date Collected: 01/23/25 16:10
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 79.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.52 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633		1			830530	01/31/25 01:43	K1S	EET SAC
Total/NA	Prep	1633 Shake	RA		2.52 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830988	02/03/25 23:47	C1P	EET SAC

Client Sample ID: FMB-004-FD-S010-01232025
Lab Sample ID: 320-118553-33

Date Collected: 01/23/25 16:40
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829733	01/27/25 13:46	CFR	EET SAC

Client: GSI Environmental Inc
Job ID: 320-118553-1
Project/Site: Spokane International Airport

Client Sample ID: FMB-004-FD-S010-01232025
Lab Sample ID: 320-118553-33

Date Collected: 01/23/25 16:40
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 63.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			3.25 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633		1			830530	01/31/25 02:00	K1S	EET SAC
Total/NA	Prep	1633 Shake	RA		3.25 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830988	02/04/25 00:03	C1P	EET SAC

Client Sample ID: FMB-004-FD-S003-01232025
Lab Sample ID: 320-118553-34

Date Collected: 01/23/25 16:30
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829756	01/27/25 15:30	CFR	EET SAC

Client Sample ID: FMB-004-FD-S003-01232025
Lab Sample ID: 320-118553-34

Date Collected: 01/23/25 16:30
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 84.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.48 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633		1			830530	01/31/25 02:16	K1S	EET SAC
Total/NA	Prep	1633 Shake	RA		2.48 g	5.0 mL	830277	01/30/25 04:13	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830988	02/04/25 00:20	C1P	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118553-1
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118553-1

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Job ID: 320-118553-1
Project/Site: Spokane International Airport

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118553-2	HFH-004-N-S001-01232025	Solid	01/23/25 10:25	01/25/25 08:45
320-118553-3	HFH-004-N-S003-01232025	Solid	01/23/25 10:30	01/25/25 08:45
320-118553-4	HFH-004-FD-S003-01232025	Solid	01/23/25 11:00	01/25/25 08:45
320-118553-6	HFH-004-N-S010-01232025	Solid	01/23/25 10:40	01/25/25 08:45
320-118553-7	HFH-004-FD-S010-01232025	Solid	01/23/25 11:10	01/25/25 08:45
320-118553-9	HFH-005-N-S001-01232025	Solid	01/23/25 11:20	01/25/25 08:45
320-118553-10	HFH-005-FD-S001-01232025	Solid	01/23/25 11:50	01/25/25 08:45
320-118553-11	HFH-005-N-S003-01232025	Solid	01/23/25 11:25	01/25/25 08:45
320-118553-15	HFH-003-N-S001-01232025	Solid	01/23/25 12:25	01/25/25 08:45
320-118553-16	HFH-003-N-S003-01232025	Solid	01/23/25 12:30	01/25/25 08:45
320-118553-17	HFH-003-N-S006-01232025	Solid	01/23/25 12:35	01/25/25 08:45
320-118553-18	HFH-003-FD-S006-01232025	Solid	01/23/25 13:05	01/25/25 08:45
320-118553-22	HFH-002-N-S001-01232025	Solid	01/23/25 13:15	01/25/25 08:45
320-118553-23	HFH-002-FD-S001-01232025	Solid	01/23/25 13:45	01/25/25 08:45
320-118553-24	HFH-002-N-S003-01232025	Solid	01/23/25 13:20	01/25/25 08:45
320-118553-29	FMB-004-N-S001-01232025	Solid	01/23/25 15:55	01/25/25 08:45
320-118553-30	FMB-004-N-S003-01232025	Solid	01/23/25 16:00	01/25/25 08:45
320-118553-32	FMB-004-N-S010-01232025	Solid	01/23/25 16:10	01/25/25 08:45
320-118553-33	FMB-004-FD-S010-01232025	Solid	01/23/25 16:40	01/25/25 08:45
320-118553-34	FMB-004-FD-S003-01232025	Solid	01/23/25 16:30	01/25/25 08:45

HALEY ALDRICH

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633										HOLD	Number of Containers
HFH-004-N-S0005-01232025	1/23/2025	1020	Soil											X	1
HFH-004-N-S001-01232025	1/23/2025	1025	Soil	X											1
HFH-004-N-S003-01232025	1/23/2025	1030	Soil	X											1
HFH-004-FD-S003-01232025	1/23/2025	1100	Soil	X											1
HFH-004-N-S006-01232025	1/23/2025	1035	Soil											X	1
HFH-004-N-S010-01232025	1/23/2025	1040	Soil	X											1
HFH-004-FD-S010-01232025	1/23/2025	1110	Soil	X											1
HFH-005-N-S0005-01232025	1/23/2025	1115	Soil											X	1
HFH-005-N-S001-01232025	1/23/2025	1120	Soil	X											1
HFH-005-FD-S001-01232025	1/23/2025	1150	Soil	X											1

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118553 Chain of Custody

Sampled and Relinquished by

Sign
Print Cuy K Castillo de Sta
Firm H A
Date 1/23/25 Time 1700

Received by

Sign
Print Carbon Des mena
Firm H A
Date 23 25 1710

Relinquished by

Sign
Print Carbon Desmena
Firm H A
Date 1/24/25 Time 11:10

Received by

Sign
Print
Firm
Date 1/24/25 1110

Relinquished by

Sign
Print
Firm
Date 1/24/25 Time 1200

Received by

Sign
Print
Firm
Date 1.25.25

LIQUID

VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID

VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Form 3003

2.10C

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2/4/2025

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633										HOLD	Number of Containers
HFH-005-N-S003-01232025	1/23/2025	1125	Soil	X											1
HFH-005-N-S006-01232025	1/23/2025	1130	Soil											X	1
HFH-005-N-S010-01232025	1/23/2025	1135	Soil											X	1
HFH-003-N-S0005-01232025	1/23/2025	1220	Soil											X	1
HFH-003-N-S001-01232025	1/23/2025	1225	Soil	X											1
HFH-003-N-S003-01232025	1/23/2025	1230	Soil	X											1
HFH-003-N-S006-01232025	1/23/2025	1235	Soil	X											1
HFH-003-FD-S006-01232025	1/23/2025	1305	Soil	X											1
HFH-003-N-S010-01232025	1/23/2025	1240	Soil											X	1
HFH-003-N-S012-01232025	1/23/2025	1245	Soil											X	1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print Zack Cussen	Print Carsandes moore
Firm H+A	Firm H+A
Date 1/23/25 Time 1700	Date 1/23/25 1700
Relinquished by	**Received by**
Sign	Sign
Print Carsandes moore	Print
Firm H+A	Firm
Date 1/24/25 Time 11:10	Date 1/24/25 1110
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date 1/24/25 Time 1200	Date 1/24/25 1200

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

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Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

November 2024

Form 3003

2/4/2025

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-001
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 11922 E 1st Ave, Spokane Valley, WA 99206
CONTACT Randee Arrington

DELIVERY DATE
TURNAROUND TIME
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633										HOLD	Number of Containers
HFH-002-N-S0005-01232025	1/23/2025	1310	Soil											X	1
HFH-002-N-S001-01232025	1/23/2025	1315	Soil	X											1
HFH-002-FD-S001-01232025	1/23/2025	1345	Soil	X											1
HFH-002-N-S003-01232025	1/23/2025	1320	Soil	X											1
HFH-002-N-S006-01232025	1/23/2025	1325	Soil											X	1
HFH-002-N-S010-01232025	1/23/2025	1330	Soil											X	1
HFH-002-N-S012-01232025	1/23/2025	1335	Soil											X	1
FMB-004-N-S0005-01232025	1/23/2025	1550	Soil											X	1
FMB-004-N-S001-01232025	1/23/2025	1555	Soil	X											1
FMB-004-N-S003-01232025	1/23/2025	1600	Soil	X											1

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print
Firm	Firm
Date Time 1700	Date 1/23/25 Time 1700
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date 1/24/25 Time 1410
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date 1/24/25 Time 1700	Date 1/24/25

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
5458	Preservative
	Volume
SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled C NaOH E H_2SO_4 G Methanol
B Sample filtered D HNO_3 F HCL H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.
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_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

Form 3003

November 2024

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2/4/2025

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-001
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 11922 E 1st Ave, Spokane Valley, WA 99206
CONTACT Randee Arrington

DELIVERY DATE
TURNAROUND TIME
PROJECT MANAGER Breeyn Greer

Sample No.	Date	Time	Type	Analysis Requested: PFAS EPA 1633										HOLD	Number of Containers
FMB-004-S006-01232025	1/23/2025	1605	Soil											X	1
FMB-004-N-S010-01232025	1/23/2025	1610	Soil	X											1
FMB-004-FD-S010-01232025	1/23/2025	1640	Soil	X											1
FMB-004-FD-S003-01232025	1/23/2025	1630	Soil	X											1
															1
															1
															1
															1
															1
															1

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by
Sign
Print
Firm GAI
Date 1/23/25 Time 1700

Received by
Sign
Print Carson Desmond
Firm GAI
Date 1/23/25 Time 1700

Relinquished by
Sign
Print Carson Desmond
Firm GAI
Date 1/24/25 Time 11:10

Received by
Sign
Print McVay
Firm
Date 1110 1/24/25

Relinquished by
Sign
Print
Firm EETSPS
Date 1/24/25 Time 1200

Received by
Sign
Print
Firm
Date

LIQUID

	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID

	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty.

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_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

Form 3003

November 2024

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Sage Chas GAI 1/23/25 1700

2/4/2025

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Tracking # 420356930644

Loc: 320
Job 118553

SO / PO / FO (SAT) / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID: L11 Corr Factor: (+ / -) _____ °C

Ice 1 Wet 1 Gel _____ Other _____

Cooler Custody Seal _____

Cooler ID 2 of 2

Temp Observed: 2.1 °C Corrected 2.1 °C

From Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: _____ Date 1.25.25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☑	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials _____ Date 1.25.25

Notes:
5 containers Time 1040. COC time 1035.

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials _____ Date 1.25.25

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1 2 3 4 5 6 7 8 9 10 11 12 13 14

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 4/2/2025 10:11:43 AM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118551-4

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

myEOL

Job Notes

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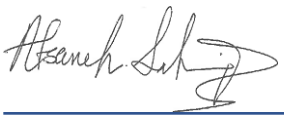
The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-4

Qualifiers

LCMS

Qualifier	Qualifier Description
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118551-4 — Eurofins Sacramento

Job Narrative
320-118551-4

Receipt
The samples were received on 1/25/2025 8:45 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.2º C.

Receipt Exceptions

The following sample was listed on the Chain of Custody (COC); however, no sample was received: SRA-010-N-S015-01222025 (320-118551-16).

LCMS
Method 1633: The low level continuing calibration verification (CCVL) associated with batch 320-843420 recovered above the upper control limit for Perfluoropentanoic acid (PFPeA). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: SRA-011-N-S014-01222025 (320-118551-22) and (CCVL 320-843420/2).

Method 1633: Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: (CCB 320-843420/1). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 1633: The transition mass ratio was outside of the established ratio limit for Perfluoropentanoic acid (PFPeA) and Perfluorooctanesulfonamide (PFOSA) in (CCVL 320-843420/2) associated to this data set. This is indicated by the "R" flag in the raw data. As the flagged data is in control in the low level continuing calibration verification (CCVL), there is no adverse impact to the data.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 28 days. The following samples in analytical batch 320-841906 were prepared and analyzed outside this time period because the request for the analysis came after 28 days had passed : SRA-011-N-S014-01222025 (320-118551-22).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-4

Client Sample ID: SRA-011-N-S014-01222025

Lab Sample ID: 320-118551-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.056	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.20		0.19	0.059	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.071	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.41		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.065	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.39		0.19	0.048	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-4

Client Sample ID: SRA-011-N-S014-01222025
Date Collected: 01/22/25 10:35
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-22
Matrix: Solid
Percent Solids: 81.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.38	0.096	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
Perfluoropentanoic acid (PFPeA)	ND	^+	0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
Perfluorohexanoic acid (PFHxA)	**0.056**	**J**	0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
Perfluorooctanoic acid (PFOA)	**0.20**		0.19	0.059	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
Perfluorononanoic acid (PFNA)	**0.071**	**J**	0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
Perfluorodecanoic acid (PFDA)	**0.41**		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
Perfluorohexanesulfonic acid (PFHxS)	**0.065**	**J**	0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
Perfluorooctanesulfonic acid (PFOS)	**0.39**		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.38	0.096	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.38	0.096	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.38	0.096	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.060	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.96	0.24	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.96	0.24	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.059	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1

Client Sample ID: SRA-011-N-S014-01222025
Date Collected: 01/22/25 10:35
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-22
Matrix: Solid
Percent Solids: 81.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.072	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.38	0.096	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	03/31/25 07:16	04/01/25 06:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*100*		*8 - 130*	*03/31/25 07:16*	*04/01/25 06:22*	*1*
13C5 PFPeA	*84.8*		*35 - 130*	*03/31/25 07:16*	*04/01/25 06:22*	*1*
13C5 PFHxA	*94.4*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:22*	*1*
13C4 PFHpA	*90.8*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:22*	*1*
13C8 PFOA	*96.8*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:22*	*1*
13C9 PFNA	*92.6*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:22*	*1*
13C6 PFDA	*88.5*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:22*	*1*
13C7 PFUnA	*76.4*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:22*	*1*
13C2 PFDoA	*66.4*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:22*	*1*
13C2 PFTeDA	*56.8*		*20 - 130*	*03/31/25 07:16*	*04/01/25 06:22*	*1*
13C3 PFBS	*86.1*		*40 - 135*	*03/31/25 07:16*	*04/01/25 06:22*	*1*
13C3 PFHxS	*83.8*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:22*	*1*
13C8 PFOS	*80.6*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:22*	*1*
13C8 FOSA	*75.8*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:22*	*1*
d3-NMeFOSAA	*74.6*		*40 - 135*	*03/31/25 07:16*	*04/01/25 06:22*	*1*
d5-NEtFOSAA	*68.8*		*40 - 150*	*03/31/25 07:16*	*04/01/25 06:22*	*1*
13C2 4:2 FTS	*68.4*		*40 - 165*	*03/31/25 07:16*	*04/01/25 06:22*	*1*
13C2 6:2 FTS	*68.6*		*40 - 215*	*03/31/25 07:16*	*04/01/25 06:22*	*1*
13C2 8:2 FTS	*74.3*		*40 - 275*	*03/31/25 07:16*	*04/01/25 06:22*	*1*
13C3 HFPO-DA	*97.2*		*40 - 130*	*03/31/25 07:16*	*04/01/25 06:22*	*1*
d7-N-MeFOSE-M	*55.5*		*20 - 130*	*03/31/25 07:16*	*04/01/25 06:22*	*1*
d9-N-EtFOSE-M	*51.0*		*15 - 130*	*03/31/25 07:16*	*04/01/25 06:22*	*1*
d5-NEtPFOSA	*50.0*		*10 - 130*	*03/31/25 07:16*	*04/01/25 06:22*	*1*
d3-NMePFOSA	*52.3*		*10 - 130*	*03/31/25 07:16*	*04/01/25 06:22*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**19**	**H**	0.10	0.10	%			03/24/25 13:12	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-4

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(8-130)	(35-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)
320-118551-22	SRA-011-N-S014-01222025	100	84.8	94.4	90.8	96.8	92.6	88.5	76.4
LCS 320-843241/3-A	Lab Control Sample	94.9	76.7	95.7	99.1	98.9	95.6	92.6	83.3
LCSD 320-843241/4-A	Lab Control Sample Dup	93.8	75.6	94.6	96.3	93.0	91.9	92.5	85.1
LLCS 320-843241/2-A	Lab Control Sample	97.8	76.3	96.9	99.5	92.7	95.3	89.7	81.2
MB 320-843241/1-A	Method Blank	97.4	75.7	94.0	103	97.1	94.2	89.8	75.6

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(40-130)	(20-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-135)	(40-150)
320-118551-22	SRA-011-N-S014-01222025	66.4	56.8	86.1	83.8	80.6	75.8	74.6	68.8
LCS 320-843241/3-A	Lab Control Sample	75.0	62.2	87.1	87.5	84.3	78.1	78.6	72.3
LCSD 320-843241/4-A	Lab Control Sample Dup	82.1	68.0	92.5	83.6	82.1	87.9	81.2	77.1
LLCS 320-843241/2-A	Lab Control Sample	85.1	70.9	83.3	83.5	84.3	87.7	82.6	79.5
MB 320-843241/1-A	Method Blank	66.7	60.5	83.8	86.1	85.6	75.2	75.1	68.9

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-165)	(40-215)	(40-275)	(40-130)	(20-130)	(15-130)	(10-130)	(10-130)
320-118551-22	SRA-011-N-S014-01222025	68.4	68.6	74.3	97.2	55.5	51.0	50.0	52.3
LCS 320-843241/3-A	Lab Control Sample	74.0	68.7	70.9	105	63.7	60.2	56.5	55.6
LCSD 320-843241/4-A	Lab Control Sample Dup	70.8	70.1	76.1	104	69.2	71.3	63.4	57.4
LLCS 320-843241/2-A	Lab Control Sample	70.9	65.6	76.9	102	80.0	76.4	58.6	58.0
MB 320-843241/1-A	Method Blank	67.7	68.5	72.0	105	58.4	60.5	54.6	52.0

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-843241/1-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 843241

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-843241/1-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 843241

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 02:32	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		03/31/25 07:16	04/01/25 02:32	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*97.4*		*8 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C5 PFPeA	*75.7*		*35 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C5 PFHxA	*94.0*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C4 PFHpA	*103*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C8 PFOA	*97.1*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C9 PFNA	*94.2*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C6 PFDA	*89.8*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C7 PFUnA	*75.6*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 PFDoA	*66.7*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 PFTeDA	*60.5*		*20 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C3 PFBS	*83.8*		*40 - 135*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C3 PFHxS	*86.1*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C8 PFOS	*85.6*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C8 FOSA	*75.2*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d3-NMeFOSAA	*75.1*		*40 - 135*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d5-NEtFOSAA	*68.9*		*40 - 150*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 4:2 FTS	*67.7*		*40 - 165*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 6:2 FTS	*68.5*		*40 - 215*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C2 8:2 FTS	*72.0*		*40 - 275*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
13C3 HFPO-DA	*105*		*40 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d7-N-MeFOSE-M	*58.4*		*20 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d9-N-EtFOSE-M	*60.5*		*15 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d5-NEtPFOSA	*54.6*		*10 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*
d3-NMePFOSA	*52.0*		*10 - 130*	*03/31/25 07:16*	*04/01/25 02:32*	*1*

Lab Sample ID: LCS 320-843241/3-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.68		ug/Kg		94	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.96		ug/Kg		118	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.31		ug/Kg		92	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.48		ug/Kg		99	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.42		ug/Kg		97	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.51		ug/Kg		101	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.51		ug/Kg		101	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-843241/3-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.63		ug/Kg		105	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.51		ug/Kg		100	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.70		ug/Kg		108	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	3.03		ug/Kg		121	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.07		ug/Kg		93	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.17		ug/Kg		92	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.03		ug/Kg		89	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.53		ug/Kg		106	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.17		ug/Kg		93	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.38		ug/Kg		99	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.09		ug/Kg		87	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	1.91		ug/Kg		79	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.09		ug/Kg		87	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.54		ug/Kg		95	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.57		ug/Kg		95	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.39		ug/Kg		96	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.45		ug/Kg		98	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.26		ug/Kg		90	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.19		ug/Kg		88	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.21		ug/Kg		88	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.1		ug/Kg		97	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.5		ug/Kg		100	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.66		ug/Kg		89	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	1.87		ug/Kg		79	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.57		ug/Kg		103	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.96		ug/Kg		118	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.17		ug/Kg		87	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-843241/3-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.07		ug/Kg		89	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.70		ug/Kg		72	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.99		ug/Kg		89	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.25		ug/Kg		105	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.8		ug/Kg		86	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.4		ug/Kg		91	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*94.9*		*8 - 130*
13C5 PFPeA	*76.7*		*35 - 130*
13C5 PFHxA	*95.7*		*40 - 130*
13C4 PFHpA	*99.1*		*40 - 130*
13C8 PFOA	*98.9*		*40 - 130*
13C9 PFNA	*95.6*		*40 - 130*
13C6 PFDA	*92.6*		*40 - 130*
13C7 PFUnA	*83.3*		*40 - 130*
13C2 PFDoA	*75.0*		*40 - 130*
13C2 PFTeDA	*62.2*		*20 - 130*
13C3 PFBS	*87.1*		*40 - 135*
13C3 PFHxS	*87.5*		*40 - 130*
13C8 PFOS	*84.3*		*40 - 130*
13C8 FOSA	*78.1*		*40 - 130*
d3-NMeFOSAA	*78.6*		*40 - 135*
d5-NEtFOSAA	*72.3*		*40 - 150*
13C2 4:2 FTS	*74.0*		*40 - 165*
13C2 6:2 FTS	*68.7*		*40 - 215*
13C2 8:2 FTS	*70.9*		*40 - 275*
13C3 HFPO-DA	*105*		*40 - 130*
d7-N-MeFOSE-M	*63.7*		*20 - 130*
d9-N-EtFOSE-M	*60.2*		*15 - 130*
d5-NEtPFOSA	*56.5*		*10 - 130*
d3-NMePFOSA	*55.6*		*10 - 130*

Lab Sample ID: LCSD 320-843241/4-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.58		ug/Kg		92	70 - 140	2	30
Perfluoropentanoic acid (PFPeA)			2.50	2.90		ug/Kg		116	60 - 150	2	30
Perfluorohexanoic acid (PFHxA)			2.50	2.30		ug/Kg		92	65 - 140	0	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.49		ug/Kg		100	65 - 145	0	30
Perfluorooctanoic acid (PFOA)			2.50	2.49		ug/Kg		99	70 - 150	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-843241/4-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.57		ug/Kg		103	70 - 155	2	30
Perfluorodecanoic acid (PFDA)	2.50	2.67		ug/Kg		107	70 - 155	6	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.64		ug/Kg		105	70 - 155	0	30
Perfluorododecanoic acid (PFDoA)	2.50	2.49		ug/Kg		100	70 - 150	1	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.57		ug/Kg		103	65 - 150	5	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.95		ug/Kg		118	65 - 150	3	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.01		ug/Kg		90	65 - 145	3	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.20		ug/Kg		94	55 - 160	1	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.11		ug/Kg		93	60 - 150	4	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.62		ug/Kg		110	65 - 155	4	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.29		ug/Kg		98	65 - 160	6	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.48		ug/Kg		103	55 - 140	4	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.24		ug/Kg		93	40 - 155	7	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.09		ug/Kg		86	25 - 160	9	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.52		ug/Kg		96	60 - 150	10	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.39		ug/Kg		92	55 - 200	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.48		ug/Kg		93	70 - 150	2	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.45		ug/Kg		98	70 - 140	2	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.54		ug/Kg		101	70 - 155	3	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.18		ug/Kg		87	70 - 140	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.28		ug/Kg		91	65 - 155	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.22		ug/Kg		89	65 - 165	0	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.6		ug/Kg		101	70 - 140	4	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	11.5		ug/Kg		92	70 - 135	8	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.63		ug/Kg		87	70 - 145	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	1.84		ug/Kg		78	70 - 160	1	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.44		ug/Kg		98	30 - 140	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.77		ug/Kg		111	60 - 150	6	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-843241/4-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.22		ug/Kg		89	60 - 155	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	1.94		ug/Kg		83	70 - 150	7	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.61		ug/Kg		68	45 - 160	5	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.97		ug/Kg		88	70 - 140	1	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.17		ug/Kg		103	45 - 130	2	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.8		ug/Kg		87	60 - 130	0	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 150	1	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*93.8*		*8 - 130*
13C5 PFPeA	*75.6*		*35 - 130*
13C5 PFHxA	*94.6*		*40 - 130*
13C4 PFHpA	*96.3*		*40 - 130*
13C8 PFOA	*93.0*		*40 - 130*
13C9 PFNA	*91.9*		*40 - 130*
13C6 PFDA	*92.5*		*40 - 130*
13C7 PFUnA	*85.1*		*40 - 130*
13C2 PFDoA	*82.1*		*40 - 130*
13C2 PFTeDA	*68.0*		*20 - 130*
13C3 PFBS	*92.5*		*40 - 135*
13C3 PFHxS	*83.6*		*40 - 130*
13C8 PFOS	*82.1*		*40 - 130*
13C8 FOSA	*87.9*		*40 - 130*
d3-NMeFOSAA	*81.2*		*40 - 135*
d5-NEtFOSAA	*77.1*		*40 - 150*
13C2 4:2 FTS	*70.8*		*40 - 165*
13C2 6:2 FTS	*70.1*		*40 - 215*
13C2 8:2 FTS	*76.1*		*40 - 275*
13C3 HFPO-DA	*104*		*40 - 130*
d7-N-MeFOSE-M	*69.2*		*20 - 130*
d9-N-EtFOSE-M	*71.3*		*15 - 130*
d5-NEtPFOSA	*63.4*		*10 - 130*
d3-NMePFOSA	*57.4*		*10 - 130*

Lab Sample ID: LLCS 320-843241/2-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.807		ug/Kg		101	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.501		ug/Kg		125	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.408		ug/Kg		102	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-843241/2-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.419		ug/Kg		105	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.447		ug/Kg		112	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.441		ug/Kg		110	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.438		ug/Kg		110	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.437		ug/Kg		109	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.423		ug/Kg		106	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.473		ug/Kg		118	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.545		ug/Kg		136	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.336		ug/Kg		94	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.372		ug/Kg		99	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.349		ug/Kg		96	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.438		ug/Kg		115	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.373		ug/Kg		100	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.414		ug/Kg		107	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.379		ug/Kg		98	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.409		ug/Kg		105	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.754		ug/Kg		101	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.726		ug/Kg		95	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.738		ug/Kg		96	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.404		ug/Kg		101	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.403		ug/Kg		101	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.394		ug/Kg		98	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.399		ug/Kg		100	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.357		ug/Kg		89	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	2.01		ug/Kg		100	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.15		ug/Kg		107	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.291		ug/Kg		97	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.334		ug/Kg		88	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.436		ug/Kg		109	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-843241/2-A
Matrix: Solid
Analysis Batch: 843420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 843241

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.484		ug/Kg		121	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.350		ug/Kg		87	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.364		ug/Kg		97	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.338		ug/Kg		90	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.319		ug/Kg		89	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.848		ug/Kg		106	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	1.81		ug/Kg		91	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	1.99		ug/Kg		100	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*97.8*		*8 - 130*
13C5 PFPeA	*76.3*		*35 - 130*
13C5 PFHxA	*96.9*		*40 - 130*
13C4 PFHpA	*99.5*		*40 - 130*
13C8 PFOA	*92.7*		*40 - 130*
13C9 PFNA	*95.3*		*40 - 130*
13C6 PFDA	*89.7*		*40 - 130*
13C7 PFUnA	*81.2*		*40 - 130*
13C2 PFDoA	*85.1*		*40 - 130*
13C2 PFTeDA	*70.9*		*20 - 130*
13C3 PFBS	*83.3*		*40 - 135*
13C3 PFHxS	*83.5*		*40 - 130*
13C8 PFOS	*84.3*		*40 - 130*
13C8 FOSA	*87.7*		*40 - 130*
d3-NMeFOSAA	*82.6*		*40 - 135*
d5-NEtFOSAA	*79.5*		*40 - 150*
13C2 4:2 FTS	*70.9*		*40 - 165*
13C2 6:2 FTS	*65.6*		*40 - 215*
13C2 8:2 FTS	*76.9*		*40 - 275*
13C3 HFPO-DA	*102*		*40 - 130*
d7-N-MeFOSE-M	*80.0*		*20 - 130*
d9-N-EtFOSE-M	*76.4*		*15 - 130*
d5-NEtPFOSA	*58.6*		*10 - 130*
d3-NMePFOSA	*58.0*		*10 - 130*

QC Association Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-4

LCMS

Prep Batch: 843241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118551-22	SRA-011-N-S014-01222025	Total/NA	Solid	1633 Shake	
MB 320-843241/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-843241/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-843241/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-843241/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 843420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118551-22	SRA-011-N-S014-01222025	Total/NA	Solid	1633	843241
MB 320-843241/1-A	Method Blank	Total/NA	Solid	1633	843241
LCS 320-843241/3-A	Lab Control Sample	Total/NA	Solid	1633	843241
LCSD 320-843241/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	843241
LLCS 320-843241/2-A	Lab Control Sample	Total/NA	Solid	1633	843241

General Chemistry

Analysis Batch: 841906

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118551-22	SRA-011-N-S014-01222025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118551-4
Project/Site: Spokane International Airport

Client Sample ID: SRA-011-N-S014-01222025
Lab Sample ID: 320-118551-22

Date Collected: 01/22/25 10:35
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			841906	03/24/25 13:12	JCB	EET SAC

Client Sample ID: SRA-011-N-S014-01222025
Lab Sample ID: 320-118551-22

Date Collected: 01/22/25 10:35
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 81.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.57 g	5.0 mL	843241	03/31/25 07:16	CGL	EET SAC
Total/NA	Analysis	1633		1			843420	04/01/25 06:22	N1K	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118551-4
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-4

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-4

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118551-22	SRA-011-N-S014-01222025	Solid	01/22/25 10:35	01/25/25 08:45

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave. Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE		TURNAROUND TIME	
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
SRA-005-N-S000-01222025	1/22/2025	7:45	Soil					X	1
SRA-005-N-S001-01222025		7:50		X					
SRA-005-N-S003-01222025		7:55		X					
SRA-005-N-S006-01222025		8:00						X	
SRA-005-N-S010-01222025		8:05						X	
SRA-005-N-S015-01222025		8:10						X	
SRA-005-N-S017-01222025		8:15						X	
SRA-005-FD-S017-01222025		8:20						X	
SRA-009-N-S000-01222025		8:45		X					
SRA-010-N-S000-01222025		9:10						X	

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118551 Chain of Custody

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date 1/23/25 1435
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date 1/24/25 Time 1200	Date 1/25/25 0917

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

5.4, 5.8
1800

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____includes _____does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY Project Manager PINK - Haley & Aldrich Laboratory

Form 3003

4.2

November 2024

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE		TURNAROUND TIME	
PROJECT MANAGER	Breeyn Greer		

Sample No. (Add 5's (LWP) ↓)	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
SRA-010-N-001-01222025	1/22/2025	9:15	Soil	X					1
SRA-010-N-003-01222025		9:20		X					
SRA-010-FD-003-01222025		9:50		X					
SRA-010-N-006-01222025		9:25						X	
SRA-010-N-010-01222025		9:30						X	
SRA-010-N-015-01222025		9:35						X	
SRA-011-N-000-01222025		10:10						X	
SRA-011-N-001-01222025		10:15		X					
SRA-011-N-003-01222025		10:20		X					
SRA-011-N-006-01222025		10:25						X	

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento
Laboratory to use applicable DEP CAM methods, unless otherwise directed.
– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print Madison
Firm	Firm
Date Time	Date 1/23/25 1430
Relinquished by	**Received by**
Sign	Sign
Print Lindsay Chuntai	Print
Firm Haley & Aldrich	Firm
Date 1/23/25 Time 1435	Date
Relinquished by	**Received by**
Sign	Sign
Print	Print Madison
Firm EGS SPK	Firm EGS SPK
Date 1/24/25 Time 1100	Date 1/25/25 0845

LIQUID	
VOA Vial	
Amber Glass	5:4, 85:2
Plastic Bottle	1806
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections·

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____includes _____does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
		DELIVERY DATE	
		TURNAROUND TIME	
		PROJECT MANAGER	Breeyn Greer

Sample No. (Add SS LWP)	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
SRA-011-N-010-01222025	1/22/2025	10:30	Soil					X	1
SRA-011-N-014-01222025		10:35						X	
SRA-008-N-000-01222025		11:15						X	
SRA-008-N-001-01222025		11:20		X					
SRA-008-FD-001-01222025		11:50		X					
SRA-008-N-003-01222025		11:25		X					
SRA-001-N-000-01222025		13:00						X	
SRA-001-N-001-01222025		13:05		X					
SRA-001-N-003-01222025		13:10		X					
SRA-001-N-006-01222025		13:15						X	

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print Madison
Firm	Firm
Date Time	Date

Relinquished by	Received by
Sign	Sign
Print Lindsay Chuntas	Print
Firm Haley & Aldrich	Firm
Date 1/23/25 Time 14 35	Date

Relinquished by	Received by
Sign	Sign
Print CET 510	Print Lucy Medelros
Firm	Firm ONTGNE
Date 1/24/25 Time 1200	Date 1/25/25 0845

LIQUID	
	VOA Vial
1439 5.4 5.8 1x001	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections.

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave. Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE		TURNAROUND TIME	
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
HFH-001-N-S000-01222025	1/22/2025	14:45	Soil					X	1
HFH-001-N-S001-01222025		14:50		X					
HFH-001-N-S003-01222025		14:55		X					
HFH-001-FD-S003-01222025		15:25		X					
HFH-001-N-S006-01222025		15:00						X	
SRA-002-N-S000-01222025		11:45		X					
TRP-001-N-S000-01222025		12:35		X					
TRP-002-N-S000-01222025		12:55		X					
HFH-006-N-S000-01222025		15:05		X					
EB-01222025		7:30	H_2O	X					3
FB-01222025			H_2O	X					2

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)
- PFAS Analysis to be conducted by Eurofins Sacramento
Laboratory to use applicable DEP CAM methods, unless otherwise directed.
- TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date 1/23/25 1430
Relinquished by	Received by
Sign Lindsay Chuntas	Sign
Print Lindsay Chuntas	Print
Firm Haley & Aldrich	Firm
Date 01/23/25 Time 14:35	Date
Relinquished by	Received by
Sign	Sign
Print	Print Leah Mickens
Firm	Firm CCTSac
Date 1/24/25 Time 9 AM	Date 1/25/25 0845

5.4, 0.8 iRob

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

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Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118551

Job _____

Tracking # 4242 5693 0633

SO / PO / FO / (SAT) / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID L12 Corr Factor: (+ / -) _____ °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: _____

Cooler ID: _____

Temp Observed: 4.2 °C Corrected: 4.2 °C

From: Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	**Yes**	**No**	**NA**
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials MN Date: 1/25/25

Unpacking/Labeling The Samples	**Yes**	**No**	**NA**
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☐
Samples w/o discrepancies?	☐	☑	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials _____ Date: 1/25/25

Notes:
16. No Sample
36. ID Container Begins Sunk.
COC ID ~~Not~~ Begins SRN

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s). _____

Login Completion	**Yes**	**No**	**NA**
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials MN Date 1/25/25

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 3/17/2025 2:49:16 PM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118551-3

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

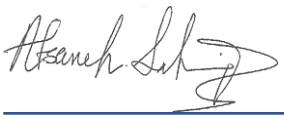
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118551-3
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118551-3 — Eurofins Sacramento

Job Narrative
320-118551-3

Receipt
The samples were received on 1/25/2025 8:45 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.2º C.

LCMS
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 28 days. The request for the analysis of the following samples in analytical batch 320-838822 occurred outside of this time period : SRA-010-N-S010-01222025 (320-118551-15) and SRA-011-N-S010-01222025 (320-118551-21).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-3

Client Sample ID: SRA-010-N-S010-01222025 — Lab Sample ID: 320-118551-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorodecanoic acid (PFDA)	0.085	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.11	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-011-N-S010-01222025 — Lab Sample ID: 320-118551-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.14	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.12	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.051	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.51		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.054	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.12	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.3		0.20	0.050	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-3

Client Sample ID: SRA-010-N-S010-01222025
Date Collected: 01/22/25 09:30
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-15
Matrix: Solid
Percent Solids: 86.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
Perfluorodecanoic acid (PFDA)	**0.085**	**J**	0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
Perfluorooctanesulfonic acid (PFOS)	**0.11**	**J**	0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1

Client Sample ID: SRA-010-N-S010-01222025

Lab Sample ID: 320-118551-15
Date Collected: 01/22/25 09:30
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 86.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	03/13/25 12:57	03/16/25 16:05	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*86.0*		*8 - 130*	*03/13/25 12:57*	*03/16/25 16:05*	*1*
13C5 PFPeA	*114*		*35 - 130*	*03/13/25 12:57*	*03/16/25 16:05*	*1*
13C5 PFHxA	*96.1*		*40 - 130*	*03/13/25 12:57*	*03/16/25 16:05*	*1*
13C4 PFHpA	*100*		*40 - 130*	*03/13/25 12:57*	*03/16/25 16:05*	*1*
13C8 PFOA	*95.9*		*40 - 130*	*03/13/25 12:57*	*03/16/25 16:05*	*1*
13C9 PFNA	*81.9*		*40 - 130*	*03/13/25 12:57*	*03/16/25 16:05*	*1*
13C6 PFDA	*95.4*		*40 - 130*	*03/13/25 12:57*	*03/16/25 16:05*	*1*
13C7 PFUnA	*91.1*		*40 - 130*	*03/13/25 12:57*	*03/16/25 16:05*	*1*
13C2 PFDoA	*92.4*		*40 - 130*	*03/13/25 12:57*	*03/16/25 16:05*	*1*
13C2 PFTeDA	*78.7*		*20 - 130*	*03/13/25 12:57*	*03/16/25 16:05*	*1*
13C3 PFBS	*73.2*		*40 - 135*	*03/13/25 12:57*	*03/16/25 16:05*	*1*
13C3 PFHxS	*77.8*		*40 - 130*	*03/13/25 12:57*	*03/16/25 16:05*	*1*
13C8 PFOS	*84.8*		*40 - 130*	*03/13/25 12:57*	*03/16/25 16:05*	*1*
13C8 FOSA	*79.6*		*40 - 130*	*03/13/25 12:57*	*03/16/25 16:05*	*1*
d3-NMeFOSAA	*97.2*		*40 - 135*	*03/13/25 12:57*	*03/16/25 16:05*	*1*
d5-NEtFOSAA	*92.0*		*40 - 150*	*03/13/25 12:57*	*03/16/25 16:05*	*1*
13C2 4:2 FTS	*102*		*40 - 165*	*03/13/25 12:57*	*03/16/25 16:05*	*1*
13C2 6:2 FTS	*100*		*40 - 215*	*03/13/25 12:57*	*03/16/25 16:05*	*1*
13C2 8:2 FTS	*106*		*40 - 275*	*03/13/25 12:57*	*03/16/25 16:05*	*1*
13C3 HFPO-DA	*105*		*40 - 130*	*03/13/25 12:57*	*03/16/25 16:05*	*1*
d7-N-MeFOSE-M	*83.7*		*20 - 130*	*03/13/25 12:57*	*03/16/25 16:05*	*1*
d9-N-EtFOSE-M	*71.3*		*15 - 130*	*03/13/25 12:57*	*03/16/25 16:05*	*1*
d5-NEtPFOSA	*67.0*		*10 - 130*	*03/13/25 12:57*	*03/16/25 16:05*	*1*
d3-NMePFOSA	*66.9*		*10 - 130*	*03/13/25 12:57*	*03/16/25 16:05*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**14**	**H**	0.10	0.10	%			03/10/25 15:22	1

Client Sample ID: SRA-011-N-S010-01222025

Lab Sample ID: 320-118551-21
Date Collected: 01/22/25 10:30
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 78.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.099	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
Perfluoropentanoic acid (PFPeA)	**0.14**	**J**	0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
Perfluorohexanoic acid (PFHxA)	**0.12**	**J**	0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
Perfluoroheptanoic acid (PFHpA)	**0.051**	**J**	0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
Perfluorooctanoic acid (PFOA)	**0.51**		0.20	0.062	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1

Client Sample ID: SRA-011-N-S010-01222025
Date Collected: 01/22/25 10:30
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-21
Matrix: Solid
Percent Solids: 78.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	**0.054**	**J**	0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
Perfluorohexanesulfonic acid (PFHxS)	**0.12**	**J**	0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
Perfluorooctanesulfonic acid (PFOS)	**1.3**		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.099	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.099	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1

Client Sample ID: SRA-011-N-S010-01222025
Date Collected: 01/22/25 10:30
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-21
Matrix: Solid
Percent Solids: 78.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.099	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	03/12/25 12:05	03/13/25 02:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*64.0*		*8 - 130*	*03/12/25 12:05*	*03/13/25 02:41*	*1*
13C5 PFPeA	*100*		*35 - 130*	*03/12/25 12:05*	*03/13/25 02:41*	*1*
13C5 PFHxA	*93.1*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:41*	*1*
13C4 PFHpA	*103*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:41*	*1*
13C8 PFOA	*82.4*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:41*	*1*
13C9 PFNA	*75.8*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:41*	*1*
13C6 PFDA	*93.1*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:41*	*1*
13C7 PFUnA	*90.4*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:41*	*1*
13C2 PFDoA	*88.1*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:41*	*1*
13C2 PFTeDA	*72.4*		*20 - 130*	*03/12/25 12:05*	*03/13/25 02:41*	*1*
13C3 PFBS	*74.9*		*40 - 135*	*03/12/25 12:05*	*03/13/25 02:41*	*1*
13C3 PFHxS	*74.2*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:41*	*1*
13C8 PFOS	*82.7*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:41*	*1*
13C8 FOSA	*78.5*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:41*	*1*
d3-NMeFOSAA	*97.9*		*40 - 135*	*03/12/25 12:05*	*03/13/25 02:41*	*1*
d5-NEtFOSAA	*87.6*		*40 - 150*	*03/12/25 12:05*	*03/13/25 02:41*	*1*
13C2 4:2 FTS	*80.4*		*40 - 165*	*03/12/25 12:05*	*03/13/25 02:41*	*1*
13C2 6:2 FTS	*87.8*		*40 - 215*	*03/12/25 12:05*	*03/13/25 02:41*	*1*
13C2 8:2 FTS	*83.2*		*40 - 275*	*03/12/25 12:05*	*03/13/25 02:41*	*1*
13C3 HFPO-DA	*94.7*		*40 - 130*	*03/12/25 12:05*	*03/13/25 02:41*	*1*
d7-N-MeFOSE-M	*76.4*		*20 - 130*	*03/12/25 12:05*	*03/13/25 02:41*	*1*
d9-N-EtFOSE-M	*64.3*		*15 - 130*	*03/12/25 12:05*	*03/13/25 02:41*	*1*
d5-NEtPFOSA	*74.7*		*10 - 130*	*03/12/25 12:05*	*03/13/25 02:41*	*1*
d3-NMePFOSA	*73.9*		*10 - 130*	*03/12/25 12:05*	*03/13/25 02:41*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**21**	**H**	0.10	0.10	%			03/10/25 15:22	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118551-3
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(8-130)	(35-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)
320-118551-15	SRA-010-N-S010-01222025	86.0	114	96.1	100	95.9	81.9	95.4	91.1
320-118551-21	SRA-011-N-S010-01222025	64.0	100	93.1	103	82.4	75.8	93.1	90.4
LCS 320-839244/3-A	Lab Control Sample	69.6	104	90.6	99.9	93.4	84.3	99.9	97.1
LCS 320-839620/3-A	Lab Control Sample	86.5	105	93.0	103	91.3	83.3	102	97.0
LCSD 320-839244/4-A	Lab Control Sample Dup	88.0	101	89.0	98.5	100	83.1	100	97.9
LCSD 320-839620/4-A	Lab Control Sample Dup	84.5	114	94.8	110	90.2	76.4	91.0	84.6
LLCS 320-839244/2-A	Lab Control Sample	76.1	92.5	90.1	92.4	89.4	83.5	102	99.6
LLCS 320-839620/2-A	Lab Control Sample	83.5	108	90.4	99.5	90.0	78.7	95.9	101
MB 320-839244/1-A	Method Blank	71.9	89.5	86.1	88.7	85.9	82.8	97.5	94.6
MB 320-839620/1-A	Method Blank	84.2	103	90.2	99.9	87.1	81.5	95.6	93.3

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(40-130)	(20-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-135)	(40-150)
320-118551-15	SRA-010-N-S010-01222025	92.4	78.7	73.2	77.8	84.8	79.6	97.2	92.0
320-118551-21	SRA-011-N-S010-01222025	88.1	72.4	74.9	74.2	82.7	78.5	97.9	87.6
LCS 320-839244/3-A	Lab Control Sample	97.6	82.8	80.1	87.1	95.7	92.7	109	104
LCS 320-839620/3-A	Lab Control Sample	93.9	85.2	85.0	88.9	90.4	78.0	96.3	90.3
LCSD 320-839244/4-A	Lab Control Sample Dup	98.9	81.8	85.7	89.9	88.1	85.9	104	90.3
LCSD 320-839620/4-A	Lab Control Sample Dup	76.7	63.3	79.8	81.5	74.3	63.8	78.1	69.0
LLCS 320-839244/2-A	Lab Control Sample	97.6	88.4	87.2	89.8	87.4	87.6	103	95.4
LLCS 320-839620/2-A	Lab Control Sample	101	87.8	82.8	84.1	88.3	80.2	96.7	90.3
MB 320-839244/1-A	Method Blank	96.7	83.5	82.0	84.5	87.9	84.7	99.8	90.9
MB 320-839620/1-A	Method Blank	90.8	83.3	74.8	73.9	83.3	77.1	97.2	89.6

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-165)	(40-215)	(40-275)	(40-130)	(20-130)	(15-130)	(10-130)	(10-130)
320-118551-15	SRA-010-N-S010-01222025	102	100	106	105	83.7	71.3	67.0	66.9
320-118551-21	SRA-011-N-S010-01222025	80.4	87.8	83.2	94.7	76.4	64.3	74.7	73.9
LCS 320-839244/3-A	Lab Control Sample	88.2	94.7	91.1	99.9	84.1	73.4	88.6	87.9
LCS 320-839620/3-A	Lab Control Sample	101	119	112	97.9	64.0	57.1	53.6	56.4
LCSD 320-839244/4-A	Lab Control Sample Dup	92.6	98.7	91.8	94.7	72.6	61.2	81.0	80.5
LCSD 320-839620/4-A	Lab Control Sample Dup	106	108	100	99.4	47.2	39.8	38.4	40.7
LLCS 320-839244/2-A	Lab Control Sample	88.6	102	92.9	93.6	78.8	68.0	82.3	82.4
LLCS 320-839620/2-A	Lab Control Sample	106	115	116	92.5	80.8	68.3	70.3	74.1
MB 320-839244/1-A	Method Blank	87.7	96.2	87.3	92.3	78.7	67.6	81.6	83.2
MB 320-839620/1-A	Method Blank	108	104	103	93.7	76.9	65.1	60.3	65.6

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118551-3
Project/Site: Spokane International Airport

C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-839244/1-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 839244

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-839244/1-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 839244

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		03/12/25 12:05	03/12/25 21:45	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		03/12/25 12:05	03/12/25 21:45	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*71.9*		*8 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C5 PFPeA	*89.5*		*35 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C5 PFHxA	*86.1*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C4 PFHpA	*88.7*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C8 PFOA	*85.9*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C9 PFNA	*82.8*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C6 PFDA	*97.5*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C7 PFUnA	*94.6*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 PFDoA	*96.7*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 PFTeDA	*83.5*		*20 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C3 PFBS	*82.0*		*40 - 135*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C3 PFHxS	*84.5*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C8 PFOS	*87.9*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C8 FOSA	*84.7*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d3-NMeFOSAA	*99.8*		*40 - 135*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d5-NEtFOSAA	*90.9*		*40 - 150*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 4:2 FTS	*87.7*		*40 - 165*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 6:2 FTS	*96.2*		*40 - 215*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C2 8:2 FTS	*87.3*		*40 - 275*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
13C3 HFPO-DA	*92.3*		*40 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d7-N-MeFOSE-M	*78.7*		*20 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d9-N-EtFOSE-M	*67.6*		*15 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d5-NEtPFOSA	*81.6*		*10 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*
d3-NMePFOSA	*83.2*		*10 - 130*	*03/12/25 12:05*	*03/12/25 21:45*	*1*

Lab Sample ID: LCS 320-839244/3-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.84		ug/Kg		97	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.13		ug/Kg		85	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.31		ug/Kg		92	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.53		ug/Kg		101	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.21		ug/Kg		88	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.48		ug/Kg		99	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.29		ug/Kg		91	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-839244/3-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.60		ug/Kg		104	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.49		ug/Kg		100	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.62		ug/Kg		105	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.68		ug/Kg		107	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	1.75		ug/Kg		79	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.05		ug/Kg		87	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.89		ug/Kg		83	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.42		ug/Kg		102	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.28		ug/Kg		98	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.36		ug/Kg		98	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.35		ug/Kg		98	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.30		ug/Kg		95	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.87		ug/Kg		104	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.83		ug/Kg		101	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.87		ug/Kg		102	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.36		ug/Kg		94	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.49		ug/Kg		100	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.47		ug/Kg		99	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.21		ug/Kg		89	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.32		ug/Kg		93	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.9		ug/Kg		95	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	13.0		ug/Kg		104	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.90		ug/Kg		102	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.17		ug/Kg		92	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	1.95		ug/Kg		78	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.15		ug/Kg		86	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.09		ug/Kg		84	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-839244/3-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.29		ug/Kg		98	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.21		ug/Kg		94	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.14		ug/Kg		96	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	2.99		ug/Kg		60	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.6		ug/Kg		93	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*69.6*		*8 - 130*
13C5 PFPeA	*104*		*35 - 130*
13C5 PFHxA	*90.6*		*40 - 130*
13C4 PFHpA	*99.9*		*40 - 130*
13C8 PFOA	*93.4*		*40 - 130*
13C9 PFNA	*84.3*		*40 - 130*
13C6 PFDA	*99.9*		*40 - 130*
13C7 PFUnA	*97.1*		*40 - 130*
13C2 PFDoA	*97.6*		*40 - 130*
13C2 PFTeDA	*82.8*		*20 - 130*
13C3 PFBS	*80.1*		*40 - 135*
13C3 PFHxS	*87.1*		*40 - 130*
13C8 PFOS	*95.7*		*40 - 130*
13C8 FOSA	*92.7*		*40 - 130*
d3-NMeFOSAA	*109*		*40 - 135*
d5-NEtFOSAA	*104*		*40 - 150*
13C2 4:2 FTS	*88.2*		*40 - 165*
13C2 6:2 FTS	*94.7*		*40 - 215*
13C2 8:2 FTS	*91.1*		*40 - 275*
13C3 HFPO-DA	*99.9*		*40 - 130*
d7-N-MeFOSE-M	*84.1*		*20 - 130*
d9-N-EtFOSE-M	*73.4*		*15 - 130*
d5-NEtPFOSA	*88.6*		*10 - 130*
d3-NMePFOSA	*87.9*		*10 - 130*

Lab Sample ID: LCSD 320-839244/4-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.82		ug/Kg		96	70 - 140	0	30
Perfluoropentanoic acid (PFPeA)			2.50	2.14		ug/Kg		86	60 - 150	0	30
Perfluorohexanoic acid (PFHxA)			2.50	2.38		ug/Kg		95	65 - 140	3	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.35		ug/Kg		94	65 - 145	7	30
Perfluorooctanoic acid (PFOA)			2.50	2.14		ug/Kg		86	70 - 150	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-839244/4-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 839244

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.33		ug/Kg		93	70 - 155	6	30
Perfluorodecanoic acid (PFDA)	2.50	2.27		ug/Kg		91	70 - 155	1	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.59		ug/Kg		104	70 - 155	0	30
Perfluorododecanoic acid (PFDoA)	2.50	2.39		ug/Kg		96	70 - 150	4	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.53		ug/Kg		101	65 - 150	3	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.57		ug/Kg		103	65 - 150	4	30
Perfluorobutanesulfonic acid (PFBS)	2.22	1.61		ug/Kg		73	65 - 145	8	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.01		ug/Kg		86	55 - 160	2	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.88		ug/Kg		83	60 - 150	1	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.39		ug/Kg		100	65 - 155	2	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.24		ug/Kg		96	65 - 160	2	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.33		ug/Kg		97	55 - 140	1	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.36		ug/Kg		98	40 - 155	0	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.10		ug/Kg		87	25 - 160	9	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	5.00		ug/Kg		107	60 - 150	3	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.84		ug/Kg		102	55 - 200	0	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.88		ug/Kg		102	70 - 150	0	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.34		ug/Kg		94	70 - 140	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.44		ug/Kg		97	70 - 155	2	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.39		ug/Kg		95	70 - 140	3	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.14		ug/Kg		85	65 - 155	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.50		ug/Kg		100	65 - 165	7	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.6		ug/Kg		93	70 - 140	3	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.6		ug/Kg		101	70 - 135	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.83		ug/Kg		97	70 - 145	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.12		ug/Kg		89	70 - 160	3	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	1.98		ug/Kg		79	30 - 140	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.04		ug/Kg		82	60 - 150	5	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-839244/4-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	1.69		ug/Kg		67	60 - 155	22	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.26		ug/Kg		97	70 - 150	1	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.11		ug/Kg		90	45 - 160	4	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.27		ug/Kg		102	70 - 140	6	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.04		ug/Kg		81	45 - 130	30	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 130	0	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 150	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*88.0*		*8 - 130*
13C5 PFPeA	*101*		*35 - 130*
13C5 PFHxA	*89.0*		*40 - 130*
13C4 PFHpA	*98.5*		*40 - 130*
13C8 PFOA	*100*		*40 - 130*
13C9 PFNA	*83.1*		*40 - 130*
13C6 PFDA	*100*		*40 - 130*
13C7 PFUnA	*97.9*		*40 - 130*
13C2 PFDoA	*98.9*		*40 - 130*
13C2 PFTeDA	*81.8*		*20 - 130*
13C3 PFBS	*85.7*		*40 - 135*
13C3 PFHxS	*89.9*		*40 - 130*
13C8 PFOS	*88.1*		*40 - 130*
13C8 FOSA	*85.9*		*40 - 130*
d3-NMeFOSAA	*104*		*40 - 135*
d5-NEtFOSAA	*90.3*		*40 - 150*
13C2 4:2 FTS	*92.6*		*40 - 165*
13C2 6:2 FTS	*98.7*		*40 - 215*
13C2 8:2 FTS	*91.8*		*40 - 275*
13C3 HFPO-DA	*94.7*		*40 - 130*
d7-N-MeFOSE-M	*72.6*		*20 - 130*
d9-N-EtFOSE-M	*61.2*		*15 - 130*
d5-NEtPFOSA	*81.0*		*10 - 130*
d3-NMePFOSA	*80.5*		*10 - 130*

Lab Sample ID: LLCS 320-839244/2-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.786		ug/Kg		98	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.364		ug/Kg		91	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.407		ug/Kg		102	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-839244/2-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.433		ug/Kg		108	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.411		ug/Kg		103	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.396		ug/Kg		99	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.394		ug/Kg		99	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.431		ug/Kg		108	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.421		ug/Kg		105	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.450		ug/Kg		113	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.439		ug/Kg		110	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.283		ug/Kg		80	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.341		ug/Kg		91	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.302		ug/Kg		83	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.392		ug/Kg		103	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.378		ug/Kg		101	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.400		ug/Kg		104	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.398		ug/Kg		103	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.340		ug/Kg		88	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.807		ug/Kg		108	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.803		ug/Kg		105	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.747		ug/Kg		97	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.396		ug/Kg		99	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.381		ug/Kg		95	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.387		ug/Kg		97	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.348		ug/Kg		87	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.364		ug/Kg		91	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.88		ug/Kg		94	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.06		ug/Kg		103	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.278		ug/Kg		93	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.361		ug/Kg		95	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.352		ug/Kg		88	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-839244/2-A
Matrix: Solid
Analysis Batch: 839392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839244

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.400	0.368		ug/Kg		92	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.400	0.367		ug/Kg		92	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	0.374	0.377		ug/Kg		101	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	0.378	0.365		ug/Kg		97	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.357	0.337		ug/Kg		95	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.800	0.587		ug/Kg		73	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	2.00	1.78		ug/Kg		89	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	2.00	1.83		ug/Kg		91	60 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*76.1*		*8 - 130*
13C5 PFPeA	*92.5*		*35 - 130*
13C5 PFHxA	*90.1*		*40 - 130*
13C4 PFHpA	*92.4*		*40 - 130*
13C8 PFOA	*89.4*		*40 - 130*
13C9 PFNA	*83.5*		*40 - 130*
13C6 PFDA	*102*		*40 - 130*
13C7 PFUnA	*99.6*		*40 - 130*
13C2 PFDoA	*97.6*		*40 - 130*
13C2 PFTeDA	*88.4*		*20 - 130*
13C3 PFBS	*87.2*		*40 - 135*
13C3 PFHxS	*89.8*		*40 - 130*
13C8 PFOS	*87.4*		*40 - 130*
13C8 FOSA	*87.6*		*40 - 130*
d3-NMeFOSAA	*103*		*40 - 135*
d5-NEtFOSAA	*95.4*		*40 - 150*
13C2 4:2 FTS	*88.6*		*40 - 165*
13C2 6:2 FTS	*102*		*40 - 215*
13C2 8:2 FTS	*92.9*		*40 - 275*
13C3 HFPO-DA	*93.6*		*40 - 130*
d7-N-MeFOSE-M	*78.8*		*20 - 130*
d9-N-EtFOSE-M	*68.0*		*15 - 130*
d5-NEtPFOSA	*82.3*		*10 - 130*
d3-NMePFOSA	*82.4*		*10 - 130*

Lab Sample ID: MB 320-839620/1-A
Matrix: Solid
Analysis Batch: 840202

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 839620

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		03/13/25 12:57	03/16/25 13:38	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-839620/1-A
Matrix: Solid
Analysis Batch: 840202

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 839620

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-839620/1-A
Matrix: Solid
Analysis Batch: 840202

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 839620

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		03/13/25 12:57	03/16/25 13:38	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		03/13/25 12:57	03/16/25 13:38	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*84.2*		*8 - 130*	*03/13/25 12:57*	*03/16/25 13:38*	*1*
13C5 PFPeA	*103*		*35 - 130*	*03/13/25 12:57*	*03/16/25 13:38*	*1*
13C5 PFHxA	*90.2*		*40 - 130*	*03/13/25 12:57*	*03/16/25 13:38*	*1*
13C4 PFHpA	*99.9*		*40 - 130*	*03/13/25 12:57*	*03/16/25 13:38*	*1*
13C8 PFOA	*87.1*		*40 - 130*	*03/13/25 12:57*	*03/16/25 13:38*	*1*
13C9 PFNA	*81.5*		*40 - 130*	*03/13/25 12:57*	*03/16/25 13:38*	*1*
13C6 PFDA	*95.6*		*40 - 130*	*03/13/25 12:57*	*03/16/25 13:38*	*1*
13C7 PFUnA	*93.3*		*40 - 130*	*03/13/25 12:57*	*03/16/25 13:38*	*1*
13C2 PFDoA	*90.8*		*40 - 130*	*03/13/25 12:57*	*03/16/25 13:38*	*1*
13C2 PFTeDA	*83.3*		*20 - 130*	*03/13/25 12:57*	*03/16/25 13:38*	*1*
13C3 PFBS	*74.8*		*40 - 135*	*03/13/25 12:57*	*03/16/25 13:38*	*1*
13C3 PFHxS	*73.9*		*40 - 130*	*03/13/25 12:57*	*03/16/25 13:38*	*1*
13C8 PFOS	*83.3*		*40 - 130*	*03/13/25 12:57*	*03/16/25 13:38*	*1*
13C8 FOSA	*77.1*		*40 - 130*	*03/13/25 12:57*	*03/16/25 13:38*	*1*
d3-NMeFOSAA	*97.2*		*40 - 135*	*03/13/25 12:57*	*03/16/25 13:38*	*1*
d5-NEtFOSAA	*89.6*		*40 - 150*	*03/13/25 12:57*	*03/16/25 13:38*	*1*
13C2 4:2 FTS	*108*		*40 - 165*	*03/13/25 12:57*	*03/16/25 13:38*	*1*
13C2 6:2 FTS	*104*		*40 - 215*	*03/13/25 12:57*	*03/16/25 13:38*	*1*
13C2 8:2 FTS	*103*		*40 - 275*	*03/13/25 12:57*	*03/16/25 13:38*	*1*
13C3 HFPO-DA	*93.7*		*40 - 130*	*03/13/25 12:57*	*03/16/25 13:38*	*1*
d7-N-MeFOSE-M	*76.9*		*20 - 130*	*03/13/25 12:57*	*03/16/25 13:38*	*1*
d9-N-EtFOSE-M	*65.1*		*15 - 130*	*03/13/25 12:57*	*03/16/25 13:38*	*1*
d5-NEtPFOSA	*60.3*		*10 - 130*	*03/13/25 12:57*	*03/16/25 13:38*	*1*
d3-NMePFOSA	*65.6*		*10 - 130*	*03/13/25 12:57*	*03/16/25 13:38*	*1*

Lab Sample ID: LCS 320-839620/3-A
Matrix: Solid
Analysis Batch: 840202

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839620

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.69		ug/Kg		94	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.18		ug/Kg		87	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.41		ug/Kg		96	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.26		ug/Kg		91	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.39		ug/Kg		96	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.47		ug/Kg		99	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.24		ug/Kg		90	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-839620/3-A
Matrix: Solid
Analysis Batch: 840202

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839620

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.57		ug/Kg		103	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.43		ug/Kg		97	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.60		ug/Kg		104	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.71		ug/Kg		108	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	1.46		ug/Kg		66	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	1.92		ug/Kg		82	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.80		ug/Kg		79	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.32		ug/Kg		97	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.21		ug/Kg		95	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.28		ug/Kg		95	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.25		ug/Kg		93	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.30		ug/Kg		95	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	5.19		ug/Kg		111	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.60		ug/Kg		97	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.94		ug/Kg		103	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.45		ug/Kg		98	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.43		ug/Kg		97	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.42		ug/Kg		97	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.20		ug/Kg		88	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.25		ug/Kg		90	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.8		ug/Kg		95	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.5		ug/Kg		100	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.75		ug/Kg		93	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.04		ug/Kg		86	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.03		ug/Kg		81	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.32		ug/Kg		93	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	1.64		ug/Kg		66	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-839620/3-A
Matrix: Solid
Analysis Batch: 840202

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839620

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.42		ug/Kg		104	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.13		ug/Kg		90	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.04		ug/Kg		91	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.01		ug/Kg		80	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.3		ug/Kg		82	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	10.2		ug/Kg		81	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*86.5*		*8 - 130*
13C5 PFPeA	*105*		*35 - 130*
13C5 PFHxA	*93.0*		*40 - 130*
13C4 PFHpA	*103*		*40 - 130*
13C8 PFOA	*91.3*		*40 - 130*
13C9 PFNA	*83.3*		*40 - 130*
13C6 PFDA	*102*		*40 - 130*
13C7 PFUnA	*97.0*		*40 - 130*
13C2 PFDoA	*93.9*		*40 - 130*
13C2 PFTeDA	*85.2*		*20 - 130*
13C3 PFBS	*85.0*		*40 - 135*
13C3 PFHxS	*88.9*		*40 - 130*
13C8 PFOS	*90.4*		*40 - 130*
13C8 FOSA	*78.0*		*40 - 130*
d3-NMeFOSAA	*96.3*		*40 - 135*
d5-NEtFOSAA	*90.3*		*40 - 150*
13C2 4:2 FTS	*101*		*40 - 165*
13C2 6:2 FTS	*119*		*40 - 215*
13C2 8:2 FTS	*112*		*40 - 275*
13C3 HFPO-DA	*97.9*		*40 - 130*
d7-N-MeFOSE-M	*64.0*		*20 - 130*
d9-N-EtFOSE-M	*57.1*		*15 - 130*
d5-NEtPFOSA	*53.6*		*10 - 130*
d3-NMePFOSA	*56.4*		*10 - 130*

Lab Sample ID: LCSD 320-839620/4-A
Matrix: Solid
Analysis Batch: 840202

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 839620

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.81		ug/Kg		96	70 - 140	3	30
Perfluoropentanoic acid (PFPeA)			2.50	2.10		ug/Kg		84	60 - 150	4	30
Perfluorohexanoic acid (PFHxA)			2.50	2.17		ug/Kg		87	65 - 140	10	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.18		ug/Kg		87	65 - 145	4	30
Perfluorooctanoic acid (PFOA)			2.50	2.37		ug/Kg		95	70 - 150	1	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-839620/4-A
Matrix: Solid
Analysis Batch: 840202

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 839620

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.37		ug/Kg		95	70 - 155	4	30
Perfluorodecanoic acid (PFDA)	2.50	2.39		ug/Kg		96	70 - 155	6	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.61		ug/Kg		104	70 - 155	2	30
Perfluorododecanoic acid (PFDoA)	2.50	2.41		ug/Kg		97	70 - 150	1	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.41		ug/Kg		96	65 - 150	7	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.69		ug/Kg		107	65 - 150	1	30
Perfluorobutanesulfonic acid (PFBS)	2.22	1.57		ug/Kg		71	65 - 145	7	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.07		ug/Kg		88	55 - 160	8	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	1.90		ug/Kg		83	60 - 150	5	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.61		ug/Kg		109	65 - 155	12	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.38		ug/Kg		102	65 - 160	7	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.30		ug/Kg		96	55 - 140	1	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.16		ug/Kg		90	40 - 155	4	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	1.83		ug/Kg		75	25 - 160	23	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.35		ug/Kg		93	60 - 150	18	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.55		ug/Kg		96	55 - 200	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.74		ug/Kg		99	70 - 150	4	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.66		ug/Kg		106	70 - 140	8	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.50		ug/Kg		100	70 - 155	3	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.44		ug/Kg		98	70 - 140	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.36		ug/Kg		94	65 - 155	7	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.42		ug/Kg		97	65 - 165	7	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.7		ug/Kg		94	70 - 140	1	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.8		ug/Kg		103	70 - 135	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.90		ug/Kg		101	70 - 145	8	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.01		ug/Kg		85	70 - 160	2	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	1.92		ug/Kg		77	30 - 140	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.00		ug/Kg		80	60 - 150	14	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-839620/4-A
Matrix: Solid
Analysis Batch: 840202

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 839620

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	1.60		ug/Kg		64	60 - 155	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.18		ug/Kg		93	70 - 150	11	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	1.63		ug/Kg		69	45 - 160	26	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	1.95		ug/Kg		87	70 - 140	5	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	3.94		ug/Kg		79	45 - 130	2	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.6		ug/Kg		84	60 - 130	3	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	9.19		ug/Kg		74	60 - 150	10	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*84.5*		*8 - 130*
13C5 PFPeA	*114*		*35 - 130*
13C5 PFHxA	*94.8*		*40 - 130*
13C4 PFHpA	*110*		*40 - 130*
13C8 PFOA	*90.2*		*40 - 130*
13C9 PFNA	*76.4*		*40 - 130*
13C6 PFDA	*91.0*		*40 - 130*
13C7 PFUnA	*84.6*		*40 - 130*
13C2 PFDoA	*76.7*		*40 - 130*
13C2 PFTeDA	*63.3*		*20 - 130*
13C3 PFBS	*79.8*		*40 - 135*
13C3 PFHxS	*81.5*		*40 - 130*
13C8 PFOS	*74.3*		*40 - 130*
13C8 FOSA	*63.8*		*40 - 130*
d3-NMeFOSAA	*78.1*		*40 - 135*
d5-NEtFOSAA	*69.0*		*40 - 150*
13C2 4:2 FTS	*106*		*40 - 165*
13C2 6:2 FTS	*108*		*40 - 215*
13C2 8:2 FTS	*100*		*40 - 275*
13C3 HFPO-DA	*99.4*		*40 - 130*
d7-N-MeFOSE-M	*47.2*		*20 - 130*
d9-N-EtFOSE-M	*39.8*		*15 - 130*
d5-NEtPFOSA	*38.4*		*10 - 130*
d3-NMePFOSA	*40.7*		*10 - 130*

Lab Sample ID: LLCS 320-839620/2-A
Matrix: Solid
Analysis Batch: 840202

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839620

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.759		ug/Kg		95	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.334		ug/Kg		84	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.366		ug/Kg		92	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-839620/2-A
Matrix: Solid
Analysis Batch: 840202

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839620

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.369		ug/Kg		92	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.391		ug/Kg		98	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.397		ug/Kg		99	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.370		ug/Kg		93	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.400		ug/Kg		100	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.367		ug/Kg		92	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.400		ug/Kg		100	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.445		ug/Kg		111	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.252		ug/Kg		71	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.324		ug/Kg		86	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.302		ug/Kg		83	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.372		ug/Kg		98	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.368		ug/Kg		99	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.358		ug/Kg		93	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.372		ug/Kg		96	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.352		ug/Kg		91	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.770		ug/Kg		103	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.748		ug/Kg		98	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.726		ug/Kg		94	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.385		ug/Kg		96	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.403		ug/Kg		101	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.381		ug/Kg		95	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.367		ug/Kg		92	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.379		ug/Kg		95	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.86		ug/Kg		93	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.09		ug/Kg		104	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.278		ug/Kg		93	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.327		ug/Kg		86	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.307		ug/Kg		77	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-839620/2-A
Matrix: Solid
Analysis Batch: 840202

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 839620

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-4-methoxybutanoic acid (PFMBA)			0.400	0.322		ug/Kg		80	60 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			0.400	0.274		ug/Kg		69	60 - 155		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			0.374	0.396		ug/Kg		106	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			0.378	0.373		ug/Kg		99	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			0.357	0.318		ug/Kg		89	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			0.800	0.600		ug/Kg		75	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			2.00	1.70		ug/Kg		85	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			2.00	1.71		ug/Kg		85	60 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*83.5*		*8 - 130*
13C5 PFPeA	*108*		*35 - 130*
13C5 PFHxA	*90.4*		*40 - 130*
13C4 PFHpA	*99.5*		*40 - 130*
13C8 PFOA	*90.0*		*40 - 130*
13C9 PFNA	*78.7*		*40 - 130*
13C6 PFDA	*95.9*		*40 - 130*
13C7 PFUnA	*101*		*40 - 130*
13C2 PFDoA	*101*		*40 - 130*
13C2 PFTeDA	*87.8*		*20 - 130*
13C3 PFBS	*82.8*		*40 - 135*
13C3 PFHxS	*84.1*		*40 - 130*
13C8 PFOS	*88.3*		*40 - 130*
13C8 FOSA	*80.2*		*40 - 130*
d3-NMeFOSAA	*96.7*		*40 - 135*
d5-NEtFOSAA	*90.3*		*40 - 150*
13C2 4:2 FTS	*106*		*40 - 165*
13C2 6:2 FTS	*115*		*40 - 215*
13C2 8:2 FTS	*116*		*40 - 275*
13C3 HFPO-DA	*92.5*		*40 - 130*
d7-N-MeFOSE-M	*80.8*		*20 - 130*
d9-N-EtFOSE-M	*68.3*		*15 - 130*
d5-NEtPFOSA	*70.3*		*10 - 130*
d3-NMePFOSA	*74.1*		*10 - 130*

LCMS

Prep Batch: 839244

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118551-21	SRA-011-N-S010-01222025	Total/NA	Solid	1633 Shake	
MB 320-839244/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-839244/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-839244/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-839244/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 839392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118551-21	SRA-011-N-S010-01222025	Total/NA	Solid	1633	839244
MB 320-839244/1-A	Method Blank	Total/NA	Solid	1633	839244
LCS 320-839244/3-A	Lab Control Sample	Total/NA	Solid	1633	839244
LCSD 320-839244/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	839244
LLCS 320-839244/2-A	Lab Control Sample	Total/NA	Solid	1633	839244

Prep Batch: 839620

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118551-15	SRA-010-N-S010-01222025	Total/NA	Solid	1633 Shake	
MB 320-839620/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-839620/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-839620/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-839620/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 840202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118551-15	SRA-010-N-S010-01222025	Total/NA	Solid	1633	839620
MB 320-839620/1-A	Method Blank	Total/NA	Solid	1633	839620
LCS 320-839620/3-A	Lab Control Sample	Total/NA	Solid	1633	839620
LCSD 320-839620/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	839620
LLCS 320-839620/2-A	Lab Control Sample	Total/NA	Solid	1633	839620

General Chemistry

Analysis Batch: 838822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118551-15	SRA-010-N-S010-01222025	Total/NA	Solid	1633	
320-118551-21	SRA-011-N-S010-01222025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-3

Client Sample ID: SRA-010-N-S010-01222025
Lab Sample ID: 320-118551-15
Date Collected: 01/22/25 09:30
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			838822	03/10/25 15:22	CFR	EET SAC

Client Sample ID: SRA-010-N-S010-01222025
Lab Sample ID: 320-118551-15
Date Collected: 01/22/25 09:30
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 86.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.31 g	5.0 mL	839620	03/13/25 12:57	JLS	EET SAC
Total/NA	Analysis	1633		1			840202	03/16/25 16:05	K1D	EET SAC

Client Sample ID: SRA-011-N-S010-01222025
Lab Sample ID: 320-118551-21
Date Collected: 01/22/25 10:30
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			838822	03/10/25 15:22	CFR	EET SAC

Client Sample ID: SRA-011-N-S010-01222025
Lab Sample ID: 320-118551-21
Date Collected: 01/22/25 10:30
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 78.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.56 g	5.0 mL	839244	03/12/25 12:05	MKC	EET SAC
Total/NA	Analysis	1633		1			839392	03/13/25 02:41	C1P	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118551-3
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-3

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118551-15	SRA-010-N-S010-01222025	Solid	01/22/25 09:30	01/25/25 08:45
320-118551-21	SRA-011-N-S010-01222025	Solid	01/22/25 10:30	01/25/25 08:45

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave. Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE		TURNAROUND TIME	
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
SRA-005-N-S000-01222025	1/22/2025	7:45	Soil					X	1
SRA-005-N-S001-01222025		7:50		X					
SRA-005-N-S003-01222025		7:55		X					
SRA-005-N-S006-01222025		8:00						X	
SRA-005-N-S010-01222025		8:05						X	
SRA-005-N-S015-01222025		8:10						X	
SRA-005-N-S017-01222025		8:15						X	
SRA-005-FD-S017-01222025		8:20						X	
SRA-009-N-S000-01222025		8:45		X					
SRA-010-N-S000-01222025		9:10						X	

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118551 Chain of Custody

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date 1/23/25 1435
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date 1/24/25 Time 1200	Date 1/25/25 0917

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

5.4, 5.8
1800

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____includes _____does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY Project Manager PINK - Haley & Aldrich Laboratory

Form 3003

4.2

November 2024

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE		TURNAROUND TIME	
PROJECT MANAGER	Breeyn Greer		

Sample No. (Add 5's (LWP) ↓)	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
SRA-010-N-001-01222025	1/22/2025	9:15	Soil	X					1
SRA-010-N-003-01222025		9:20		X					
SRA-010-FD-003-01222025		9:50		X					
SRA-010-N-006-01222025		9:25						X	
SRA-010-N-010-01222025		9:30						X	
SRA-010-N-015-01222025		9:35						X	
SRA-011-N-000-01222025		10:10						X	
SRA-011-N-001-01222025		10:15		X					
SRA-011-N-003-01222025		10:20		X					
SRA-011-N-006-01222025		10:25						X	

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento
Laboratory to use applicable DEP CAM methods, unless otherwise directed.
– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date
Relinquished by	Received by
Sign Lindsay Chuntai	Sign
Print Lindsay Chuntai	Print
Firm Haley & Aldrich	Firm
Date 1/23/25 Time 14:35	Date
Relinquished by	Received by
Sign	Sign
Print	Print
Firm	Firm
Date 1/24/25 Time 1100	Date 1/25/25 0845

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections·

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____includes _____does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

Form 3003 November 2024

4 2

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO. 0209800-001
PROJECT NAME Geiger Field PFAS Support
H&A CONTACT Breeyn Greer

LABORATORY Eurofins Environmental Testing
ADDRESS 11922 E 1st Ave, Spokane Valley WA 99206
CONTACT Randee Arrington

DELIVERY DATE
TURNAROUND TIME
PROJECT MANAGER Breeyn Greer

Sample No. (Add SS (WP) ↓)	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
SRA-011-N-010-01222025	1/22/2025	10:30	Soil					X	1
SRA-011-N-014-01222025		10:35						X	
SRA-008-N-000-01222025		11:15						X	
SRA-008-N-001-01222025		11:20		X					
SRA-008-FD-001-01222025		11:50		X					
SRA-008-N-003-01222025		11:25		X					
SRA-001-N-000-01222025		13:00						X	
SRA-001-N-001-01222025		13:05		X					
SRA-001-N-003-01222025		13:10		X					
SRA-001-N-006-01222025		13:15						X	

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento
Laboratory to use applicable DEP CAM methods, unless otherwise directed.
– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print Madison
Firm	Firm
Date Time	Date

Relinquished by	Received by
Sign	Sign
Print Lindsay Chuntas	Print
Firm Haley & Aldrich	Firm
Date 1/23/25 Time 14 35	Date

Relinquished by	Received by
Sign	Sign
Print CET 510	Print Lucy Medelson
Firm	Firm ONTSHE
Date 1/24/25 Time 1200	Date 1/25/25 0845

LIQUID

1439 5.4 5.8 1x001	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID

	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A Sample chilled	C NaOH	E H_2SO_4	G Methanol
B Sample filtered	D HNO_3	F HCL	H Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections.

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty
_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.
_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.
_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave. Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE		TURNAROUND TIME	
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
HFH-001-N-S000-01222025	1/22/2025	14:45	Soil					X	1
HFH-001-N-S001-01222025		14:50		X					
HFH-001-N-S003-01222025		14:55		X					
HFH-001-FD-S003-01222025		15:25		X					
HFH-001-N-S006-01222025		15:00						X	
SRA-002-N-S000-01222025		11:45		X					
TRP-001-N-S000-01222025		12:35		X					
TRP-002-N-S000-01222025		12:55		X					
HFH-006-N-S000-01222025		15:05		X					
EB-01222025		7:30	H_2O	X					3
FB-01222025			H_2O	X					2

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)
- PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

- TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date 1/23/25 1430
Relinquished by	**Received by**
Sign Lindsay Chuntas	Sign
Print Lindsay Chuntas	Print
Firm Haley & Aldrich	Firm
Date 01/23/25 Time 14:35	Date
Relinquished by	**Received by**
Sign	Sign
Print	Print Leah Medrano
Firm	Firm CCTSL
Date 1/24/25 Time 9 AM	Date 1/25/25 0845

5.4, 0.8
iRob

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume
SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

Form 3003

November 2024

4.

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118551

Job _____

Tracking # 4242 5693 0633

SO / PO / FO / (SAT) / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID L12 Corr Factor: (+ / -) _____ °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: _____

Cooler ID: _____

Temp Observed: 4.2 °C Corrected: 4.2 °C

From: Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	**Yes**	**No**	**NA**
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials MN Date: 1/25/25

Unpacking/Labeling The Samples	**Yes**	**No**	**NA**
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☐
Samples w/o discrepancies?	☐	☑	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials _____ Date: 1/25/25

Notes:
16. No Sample
36. ID Container Begins Sw.
COC ID ~~Not~~ Begins SRN

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s). _____

Login Completion	**Yes**	**No**	**NA**
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials MN Date 1/25/25

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1 2 3 4 5 6 7 8 9 10 11 12 13 14

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

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JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118551-2

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

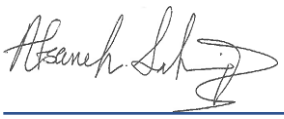
myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Definitions/Glossary

Client: GSI Environmental Inc
Job ID: 320-118551-2
Project/Site: Spokane International Airport

Qualifiers

LCMS

Qualifier	Qualifier Description
*3	ISTD response or retention time outside acceptable limits.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-118551-2 — Eurofins Sacramento

Job Narrative
320-118551-2

Receipt
The samples were received on 1/25/2025 8:45 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.2º C.

LCMS
Method 1633: Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: SRA-008-N-S000-01222025 (320-118551-23) and HFH-001-N-S006-01222025 (320-118551-35). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 1633: Results for samples SRA-008-N-S000-01222025 (320-118551-23) and HFH-001-N-S006-01222025 (320-118551-35) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method Moisture: The reference method does not list a specific holding time for this procedure; therefore, the laboratory defaults to an in-house holding time of 14 days. The following samples in analytical batch 320-834905 were prepared and analyzed outside this time period : SRA-005-N-S000-01222025 (320-118551-1), SRA-010-N-S000-01222025 (320-118551-10), SRA-010-N-S006-01222025 (320-118551-14), SRA-011-N-S000-01222025 (320-118551-17), SRA-011-N-S006-01222025 (320-118551-20), SRA-008-N-S000-01222025 (320-118551-23), SRA-001-N-S000-01222025 (320-118551-27), SRA-001-N-S006-01222025 (320-118551-30), HFH-001-N-S000-01222025 (320-118551-31) and HFH-001-N-S006-01222025 (320-118551-35).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-2

Client Sample ID: SRA-005-N-S000-01222025 — Lab Sample ID: 320-118551-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorononanoic acid (PFNA)	0.056	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.098	J	0.20	0.051	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-010-N-S000-01222025 — Lab Sample ID: 320-118551-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.10	J	0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.11	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	2.2		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.34		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.42		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.076	J	0.20	0.057	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.13	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.87		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	0.35	J	0.98	0.24	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-010-N-S006-01222025 — Lab Sample ID: 320-118551-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.070	J	0.19	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.094	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	2.6		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.13	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.070	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.13	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.0		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	0.48	J	0.97	0.24	ug/Kg	1	☼	1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	0.53	J	0.97	0.24	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-011-N-S000-01222025 — Lab Sample ID: 320-118551-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.19	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.097	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.050	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.25		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.070	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.14	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.078	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.16	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-011-N-S006-01222025 — Lab Sample ID: 320-118551-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.23		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.22		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.076	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.61		0.19	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.18	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.74		0.19	0.049	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-2

Client Sample ID: SRA-008-N-S000-01222025 — Lab Sample ID: 320-118551-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.13	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	1.1		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.86		0.19	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.20		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	2.7		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.51		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.95		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.053	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.10	J	0.19	0.056	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.051	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.6		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.37		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.16	J	0.19	0.061	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	0.28	J	0.97	0.24	ug/Kg	1	☼	1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	0.66	J	0.97	0.24	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	49		1.9	0.49	ug/Kg	10	☼	1633	Total/NA

Client Sample ID: SRA-001-N-S000-01222025 — Lab Sample ID: 320-118551-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.18	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	1.3		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.10	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	1.4		0.19	0.059	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.28		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	1.1		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.19		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.71		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.10	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.25		0.19	0.056	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.3		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.067	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	7.5		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.061	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.29		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanesulfonic acid (PFDoS)	0.34		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	3.8		0.19	0.060	ug/Kg	1	☼	1633	Total/NA
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.067	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-001-N-S006-01222025 — Lab Sample ID: 320-118551-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.18	J	0.39	0.097	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.12	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	2.3		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.095	J	0.19	0.060	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Client Sample ID: SRA-001-N-S006-01222025 (Continued) — Lab Sample ID: 320-118551-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.12	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.12	J	0.19	0.061	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: HFH-001-N-S000-01222025 — Lab Sample ID: 320-118551-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.061	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.20		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.20		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.25		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.29		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.24		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.15	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.094	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.070	J	0.20	0.057	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.17	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.4		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.049	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.17	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.26	J	0.39	0.098	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.090	J	0.20	0.062	ug/Kg	1	☼	1633	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.14	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: HFH-001-N-S006-01222025 — Lab Sample ID: 320-118551-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.23	J	0.39	0.098	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.66		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	1.9		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.62		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	3.7		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.74		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.12	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.12	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.46		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	11		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.99		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	27		0.39	0.098	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	9.5		0.39	0.098	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.26		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	180		9.8	2.4	ug/Kg	50	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-2

Client Sample ID: SRA-005-N-S000-01222025
Date Collected: 01/22/25 07:45
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-1
Matrix: Solid
Percent Solids: 88.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.063	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
Perfluorononanoic acid (PFNA)	**0.056**	**J**	0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.059	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
Perfluorooctanesulfonic acid (PFOS)	**0.098**	**J**	0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.064	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.063	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1

Client Sample ID: SRA-005-N-S000-01222025

Lab Sample ID: 320-118551-1
Date Collected: 01/22/25 07:45
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 88.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.076	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.051	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 18:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*70.3*		*8 - 130*	*02/27/25 04:51*	*02/27/25 18:51*	*1*
13C5 PFPeA	*91.2*		*35 - 130*	*02/27/25 04:51*	*02/27/25 18:51*	*1*
13C5 PFHxA	*88.2*		*40 - 130*	*02/27/25 04:51*	*02/27/25 18:51*	*1*
13C4 PFHpA	*96.6*		*40 - 130*	*02/27/25 04:51*	*02/27/25 18:51*	*1*
13C8 PFOA	*90.9*		*40 - 130*	*02/27/25 04:51*	*02/27/25 18:51*	*1*
13C9 PFNA	*93.5*		*40 - 130*	*02/27/25 04:51*	*02/27/25 18:51*	*1*
13C6 PFDA	*77.8*		*40 - 130*	*02/27/25 04:51*	*02/27/25 18:51*	*1*
13C7 PFUnA	*83.7*		*40 - 130*	*02/27/25 04:51*	*02/27/25 18:51*	*1*
13C2 PFDoA	*87.8*		*40 - 130*	*02/27/25 04:51*	*02/27/25 18:51*	*1*
13C2 PFTeDA	*99.3*		*20 - 130*	*02/27/25 04:51*	*02/27/25 18:51*	*1*
13C3 PFBS	*80.0*		*40 - 135*	*02/27/25 04:51*	*02/27/25 18:51*	*1*
13C3 PFHxS	*83.6*		*40 - 130*	*02/27/25 04:51*	*02/27/25 18:51*	*1*
13C8 PFOS	*81.8*		*40 - 130*	*02/27/25 04:51*	*02/27/25 18:51*	*1*
13C8 FOSA	*75.6*		*40 - 130*	*02/27/25 04:51*	*02/27/25 18:51*	*1*
d3-NMeFOSAA	*80.9*		*40 - 135*	*02/27/25 04:51*	*02/27/25 18:51*	*1*
d5-NEtFOSAA	*93.7*		*40 - 150*	*02/27/25 04:51*	*02/27/25 18:51*	*1*
13C2 4:2 FTS	*159*		*40 - 165*	*02/27/25 04:51*	*02/27/25 18:51*	*1*
13C2 6:2 FTS	*115*		*40 - 215*	*02/27/25 04:51*	*02/27/25 18:51*	*1*
13C2 8:2 FTS	*103*		*40 - 275*	*02/27/25 04:51*	*02/27/25 18:51*	*1*
13C3 HFPO-DA	*90.1*		*40 - 130*	*02/27/25 04:51*	*02/27/25 18:51*	*1*
d7-N-MeFOSE-M	*79.2*		*20 - 130*	*02/27/25 04:51*	*02/27/25 18:51*	*1*
d9-N-EtFOSE-M	*54.3*		*15 - 130*	*02/27/25 04:51*	*02/27/25 18:51*	*1*
d5-NEtPFOSA	*76.3*		*10 - 130*	*02/27/25 04:51*	*02/27/25 18:51*	*1*
d3-NMePFOSA	*86.0*		*10 - 130*	*02/27/25 04:51*	*02/27/25 18:51*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**11**	**H**	0.10	0.10	%			02/21/25 13:16	1

Client Sample ID: SRA-010-N-S000-01222025

Lab Sample ID: 320-118551-10
Date Collected: 01/22/25 09:10
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 87.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
Perfluorooctanoic acid (PFOA)	**0.10**	**J**	0.20	0.061	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-2

Client Sample ID: SRA-010-N-S000-01222025
Date Collected: 01/22/25 09:10
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-10
Matrix: Solid
Percent Solids: 87.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	**0.11**	**J**	0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
Perfluorodecanoic acid (PFDA)	**2.2**		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
Perfluoroundecanoic acid (PFUnA)	**0.34**		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
Perfluorododecanoic acid (PFDoA)	**0.42**		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
Perfluorotetradecanoic acid (PFTeDA)	**0.076**	**J**	0.20	0.057	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
Perfluorohexanesulfonic acid (PFHxS)	**0.13**	**J**	0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
Perfluorooctanesulfonic acid (PFOS)	**0.87**		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.061	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.073	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1

Client Sample ID: SRA-010-N-S000-01222025

Lab Sample ID: 320-118551-10
Date Collected: 01/22/25 09:10
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 87.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	**0.35**	**J**	0.98	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 19:07	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*74.2*		*8 - 130*	*02/27/25 04:51*	*02/27/25 19:07*	*1*
13C5 PFPeA	*83.5*		*35 - 130*	*02/27/25 04:51*	*02/27/25 19:07*	*1*
13C5 PFHxA	*87.0*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:07*	*1*
13C4 PFHpA	*89.0*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:07*	*1*
13C8 PFOA	*92.0*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:07*	*1*
13C9 PFNA	*87.2*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:07*	*1*
13C6 PFDA	*80.4*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:07*	*1*
13C7 PFUnA	*90.3*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:07*	*1*
13C2 PFDoA	*90.7*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:07*	*1*
13C2 PFTeDA	*98.9*		*20 - 130*	*02/27/25 04:51*	*02/27/25 19:07*	*1*
13C3 PFBS	*88.6*		*40 - 135*	*02/27/25 04:51*	*02/27/25 19:07*	*1*
13C3 PFHxS	*82.3*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:07*	*1*
13C8 PFOS	*88.1*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:07*	*1*
13C8 FOSA	*87.1*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:07*	*1*
d3-NMeFOSAA	*88.3*		*40 - 135*	*02/27/25 04:51*	*02/27/25 19:07*	*1*
d5-NEtFOSAA	*112*		*40 - 150*	*02/27/25 04:51*	*02/27/25 19:07*	*1*
13C2 4:2 FTS	*149*		*40 - 165*	*02/27/25 04:51*	*02/27/25 19:07*	*1*
13C2 6:2 FTS	*121*		*40 - 215*	*02/27/25 04:51*	*02/27/25 19:07*	*1*
13C2 8:2 FTS	*113*		*40 - 275*	*02/27/25 04:51*	*02/27/25 19:07*	*1*
13C3 HFPO-DA	*83.8*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:07*	*1*
d7-N-MeFOSE-M	*83.7*		*20 - 130*	*02/27/25 04:51*	*02/27/25 19:07*	*1*
d9-N-EtFOSE-M	*56.4*		*15 - 130*	*02/27/25 04:51*	*02/27/25 19:07*	*1*
d5-NEtPFOSA	*86.8*		*10 - 130*	*02/27/25 04:51*	*02/27/25 19:07*	*1*
d3-NMePFOSA	*90.1*		*10 - 130*	*02/27/25 04:51*	*02/27/25 19:07*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**13**	**H**	0.10	0.10	%			02/21/25 13:16	1

Client Sample ID: SRA-010-N-S006-01222025

Lab Sample ID: 320-118551-14
Date Collected: 01/22/25 09:25
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 85.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
Perfluorooctanoic acid (PFOA)	**0.070**	**J**	0.19	0.060	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
Perfluorononanoic acid (PFNA)	**0.094**	**J**	0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
Perfluorodecanoic acid (PFDA)	**2.6**		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1

Client Sample ID: SRA-010-N-S006-01222025
Date Collected: 01/22/25 09:25
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-14
Matrix: Solid
Percent Solids: 85.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	**0.13**	**J**	0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
Perfluorododecanoic acid (PFDoA)	**0.070**	**J**	0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
Perfluorohexanesulfonic acid (PFHxS)	**0.13**	**J**	0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
Perfluorooctanesulfonic acid (PFOS)	**1.0**		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.073	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1

Client Sample ID: SRA-010-N-S006-01222025

Lab Sample ID: 320-118551-14

Date Collected: 01/22/25 09:25
Date Received: 01/25/25 08:45

Matrix: Solid
Percent Solids: 85.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	0.48	J	0.97	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	0.53	J	0.97	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 19:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*93.0*		*8 - 130*	*02/27/25 04:51*	*02/27/25 19:24*	*1*
13C5 PFPeA	*87.4*		*35 - 130*	*02/27/25 04:51*	*02/27/25 19:24*	*1*
13C5 PFHxA	*87.9*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:24*	*1*
13C4 PFHpA	*91.0*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:24*	*1*
13C8 PFOA	*90.3*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:24*	*1*
13C9 PFNA	*89.8*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:24*	*1*
13C6 PFDA	*80.6*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:24*	*1*
13C7 PFUnA	*85.7*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:24*	*1*
13C2 PFDoA	*83.8*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:24*	*1*
13C2 PFTeDA	*86.7*		*20 - 130*	*02/27/25 04:51*	*02/27/25 19:24*	*1*
13C3 PFBS	*80.4*		*40 - 135*	*02/27/25 04:51*	*02/27/25 19:24*	*1*
13C3 PFHxS	*78.7*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:24*	*1*
13C8 PFOS	*83.3*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:24*	*1*
13C8 FOSA	*76.7*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:24*	*1*
d3-NMeFOSAA	*84.2*		*40 - 135*	*02/27/25 04:51*	*02/27/25 19:24*	*1*
d5-NEtFOSAA	*98.6*		*40 - 150*	*02/27/25 04:51*	*02/27/25 19:24*	*1*
13C2 4:2 FTS	*133*		*40 - 165*	*02/27/25 04:51*	*02/27/25 19:24*	*1*
13C2 6:2 FTS	*108*		*40 - 215*	*02/27/25 04:51*	*02/27/25 19:24*	*1*
13C2 8:2 FTS	*102*		*40 - 275*	*02/27/25 04:51*	*02/27/25 19:24*	*1*
13C3 HFPO-DA	*85.0*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:24*	*1*
d7-N-MeFOSE-M	*82.3*		*20 - 130*	*02/27/25 04:51*	*02/27/25 19:24*	*1*
d9-N-EtFOSE-M	*53.2*		*15 - 130*	*02/27/25 04:51*	*02/27/25 19:24*	*1*
d5-NEtPFOSA	*71.9*		*10 - 130*	*02/27/25 04:51*	*02/27/25 19:24*	*1*
d3-NMePFOSA	*78.9*		*10 - 130*	*02/27/25 04:51*	*02/27/25 19:24*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	15	H	0.10	0.10	%			02/21/25 13:16	1

Client Sample ID: SRA-011-N-S000-01222025

Lab Sample ID: 320-118551-17

Date Collected: 01/22/25 10:10
Date Received: 01/25/25 08:45

Matrix: Solid
Percent Solids: 68.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.19	J	0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
Perfluorohexanoic acid (PFHxA)	0.097	J	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
Perfluoroheptanoic acid (PFHpA)	0.050	J	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
Perfluorooctanoic acid (PFOA)	0.25		0.20	0.062	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
Perfluorononanoic acid (PFNA)	0.070	J	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1

Client Sample ID: SRA-011-N-S000-01222025
Date Collected: 01/22/25 10:10
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-17
Matrix: Solid
Percent Solids: 68.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
Perfluorobutanesulfonic acid (PFBS)	**0.14**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
Perfluorohexanesulfonic acid (PFHxS)	**0.078**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
Perfluorooctanesulfonic acid (PFOS)	**0.16**	**J**	0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	02/27/25 04:51	02/27/25 19:40	1

Client Sample ID: SRA-011-N-S000-01222025

Lab Sample ID: 320-118551-17

Date Collected: 01/22/25 10:10
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 68.1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	77.3		8 - 130	02/27/25 04:51	02/27/25 19:40	1
13C5 PFPeA	80.7		35 - 130	02/27/25 04:51	02/27/25 19:40	1
13C5 PFHxA	78.3		40 - 130	02/27/25 04:51	02/27/25 19:40	1
13C4 PFHpA	90.2		40 - 130	02/27/25 04:51	02/27/25 19:40	1
13C8 PFOA	77.5		40 - 130	02/27/25 04:51	02/27/25 19:40	1
13C9 PFNA	82.5		40 - 130	02/27/25 04:51	02/27/25 19:40	1
13C6 PFDA	77.5		40 - 130	02/27/25 04:51	02/27/25 19:40	1
13C7 PFUnA	87.6		40 - 130	02/27/25 04:51	02/27/25 19:40	1
13C2 PFDoA	93.9		40 - 130	02/27/25 04:51	02/27/25 19:40	1
13C2 PFTeDA	95.9		20 - 130	02/27/25 04:51	02/27/25 19:40	1
13C3 PFBS	80.5		40 - 135	02/27/25 04:51	02/27/25 19:40	1
13C3 PFHxS	82.3		40 - 130	02/27/25 04:51	02/27/25 19:40	1
13C8 PFOS	79.9		40 - 130	02/27/25 04:51	02/27/25 19:40	1
13C8 FOSA	75.7		40 - 130	02/27/25 04:51	02/27/25 19:40	1
d3-NMeFOSAA	79.4		40 - 135	02/27/25 04:51	02/27/25 19:40	1
d5-NEtFOSAA	93.7		40 - 150	02/27/25 04:51	02/27/25 19:40	1
13C2 4:2 FTS	161		40 - 165	02/27/25 04:51	02/27/25 19:40	1
13C2 6:2 FTS	137		40 - 215	02/27/25 04:51	02/27/25 19:40	1
13C2 8:2 FTS	109		40 - 275	02/27/25 04:51	02/27/25 19:40	1
13C3 HFPO-DA	81.9		40 - 130	02/27/25 04:51	02/27/25 19:40	1
d7-N-MeFOSE-M	76.0		20 - 130	02/27/25 04:51	02/27/25 19:40	1
d9-N-EtFOSE-M	44.3		15 - 130	02/27/25 04:51	02/27/25 19:40	1
d5-NEtPFOSA	76.9		10 - 130	02/27/25 04:51	02/27/25 19:40	1
d3-NMePFOSA	80.3		10 - 130	02/27/25 04:51	02/27/25 19:40	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**32**	**H**	0.10	0.10	%			02/21/25 13:16	1

Client Sample ID: SRA-011-N-S006-01222025

Lab Sample ID: 320-118551-20

Date Collected: 01/22/25 10:25
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 84.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
Perfluoropentanoic acid (PFPeA)	**0.23**		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
Perfluorohexanoic acid (PFHxA)	**0.22**		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
Perfluoroheptanoic acid (PFHpA)	**0.076**	**J**	0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
Perfluorooctanoic acid (PFOA)	**0.61**		0.19	0.060	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
Perfluorohexanesulfonic acid (PFHxS)	**0.18**	**J**	0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1

Client Sample ID: SRA-011-N-S006-01222025
Date Collected: 01/22/25 10:25
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-20
Matrix: Solid
Percent Solids: 84.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
Perfluorooctanesulfonic acid (PFOS)	**0.74**		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.073	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 19:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*96.9*		*8 - 130*	*02/27/25 04:51*	*02/27/25 19:57*	*1*
13C5 PFPeA	*102*		*35 - 130*	*02/27/25 04:51*	*02/27/25 19:57*	*1*
13C5 PFHxA	*91.3*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:57*	*1*
13C4 PFHpA	*96.5*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:57*	*1*
13C8 PFOA	*92.4*		*40 - 130*	*02/27/25 04:51*	*02/27/25 19:57*	*1*

Client Sample ID: SRA-011-N-S006-01222025

Lab Sample ID: 320-118551-20
Date Collected: 01/22/25 10:25
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 84.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C9 PFNA	84.4		40 - 130	02/27/25 04:51	02/27/25 19:57	1
13C6 PFDA	77.9		40 - 130	02/27/25 04:51	02/27/25 19:57	1
13C7 PFUnA	86.4		40 - 130	02/27/25 04:51	02/27/25 19:57	1
13C2 PFDoA	84.4		40 - 130	02/27/25 04:51	02/27/25 19:57	1
13C2 PFTeDA	86.7		20 - 130	02/27/25 04:51	02/27/25 19:57	1
13C3 PFBS	84.0		40 - 135	02/27/25 04:51	02/27/25 19:57	1
13C3 PFHxS	82.9		40 - 130	02/27/25 04:51	02/27/25 19:57	1
13C8 PFOS	88.1		40 - 130	02/27/25 04:51	02/27/25 19:57	1
13C8 FOSA	74.2		40 - 130	02/27/25 04:51	02/27/25 19:57	1
d3-NMeFOSAA	88.6		40 - 135	02/27/25 04:51	02/27/25 19:57	1
d5-NEtFOSAA	96.2		40 - 150	02/27/25 04:51	02/27/25 19:57	1
13C2 4:2 FTS	103		40 - 165	02/27/25 04:51	02/27/25 19:57	1
13C2 6:2 FTS	95.8		40 - 215	02/27/25 04:51	02/27/25 19:57	1
13C2 8:2 FTS	98.4		40 - 275	02/27/25 04:51	02/27/25 19:57	1
13C3 HFPO-DA	91.4		40 - 130	02/27/25 04:51	02/27/25 19:57	1
d7-N-MeFOSE-M	83.9		20 - 130	02/27/25 04:51	02/27/25 19:57	1
d9-N-EtFOSE-M	56.9		15 - 130	02/27/25 04:51	02/27/25 19:57	1
d5-NEtPFOSA	62.0		10 - 130	02/27/25 04:51	02/27/25 19:57	1
d3-NMePFOSA	61.9		10 - 130	02/27/25 04:51	02/27/25 19:57	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	15	H	0.10	0.10	%			02/21/25 13:16	1

Client Sample ID: SRA-008-N-S000-01222025

Lab Sample ID: 320-118551-23
Date Collected: 01/22/25 11:15
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 80.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
Perfluoropentanoic acid (PFPeA)	0.13	J	0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
Perfluorohexanoic acid (PFHxA)	1.1		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
Perfluorooctanoic acid (PFOA)	0.86		0.19	0.060	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
Perfluorononanoic acid (PFNA)	0.20		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
Perfluorodecanoic acid (PFDA)	2.7		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
Perfluoroundecanoic acid (PFUnA)	0.51		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
Perfluorododecanoic acid (PFDoA)	0.95		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
Perfluorotridecanoic acid (PFTrDA)	0.053	J	0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
Perfluorotetradecanoic acid (PFTeDA)	0.10	J	0.19	0.056	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
Perfluoropentanesulfonic acid (PFPeS)	0.051	J	0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
Perfluorohexanesulfonic acid (PFHxS)	1.6		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
Perfluoroheptanesulfonic acid (PFHpS)	0.37		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1

Client Sample ID: SRA-008-N-S000-01222025
Date Collected: 01/22/25 11:15
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-23
Matrix: Solid
Percent Solids: 80.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
Perfluorooctanesulfonamide (PFOSA)	**0.16**	**J**	0.19	0.061	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.073	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**0.28**	**J**	0.97	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	**0.66**	**J**	0.97	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 20:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*77.8*		*8 - 130*	*02/27/25 04:51*	*02/27/25 20:13*	*1*
13C5 PFPeA	*82.4*		*35 - 130*	*02/27/25 04:51*	*02/27/25 20:13*	*1*
13C5 PFHxA	*75.8*		*40 - 130*	*02/27/25 04:51*	*02/27/25 20:13*	*1*
13C4 PFHpA	*92.6*		*40 - 130*	*02/27/25 04:51*	*02/27/25 20:13*	*1*
13C8 PFOA	*88.6*		*40 - 130*	*02/27/25 04:51*	*02/27/25 20:13*	*1*
13C9 PFNA	*82.4*		*40 - 130*	*02/27/25 04:51*	*02/27/25 20:13*	*1*
13C6 PFDA	*81.4*		*40 - 130*	*02/27/25 04:51*	*02/27/25 20:13*	*1*
13C7 PFUnA	*81.8*		*40 - 130*	*02/27/25 04:51*	*02/27/25 20:13*	*1*

Client Sample ID: SRA-008-N-S000-01222025

Lab Sample ID: 320-118551-23

Date Collected: 01/22/25 11:15
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 80.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDoA	*85.3*		*40 - 130*	*02/27/25 04:51*	*02/27/25 20:13*	*1*
13C2 PFTeDA	*104*		*20 - 130*	*02/27/25 04:51*	*02/27/25 20:13*	*1*
13C3 PFBS	*79.0*		*40 - 135*	*02/27/25 04:51*	*02/27/25 20:13*	*1*
13C3 PFHxS	*80.3*		*40 - 130*	*02/27/25 04:51*	*02/27/25 20:13*	*1*
13C8 PFOS	*100*		*40 - 130*	*02/27/25 04:51*	*02/27/25 20:13*	*1*
13C8 FOSA	*96.3*		*40 - 130*	*02/27/25 04:51*	*02/27/25 20:13*	*1*
d3-NMeFOSAA	*102*		*40 - 135*	*02/27/25 04:51*	*02/27/25 20:13*	*1*
d5-NEtFOSAA	*114*		*40 - 150*	*02/27/25 04:51*	*02/27/25 20:13*	*1*
13C2 4:2 FTS	*187*	**5+*	*40 - 165*	*02/27/25 04:51*	*02/27/25 20:13*	*1*
13C2 6:2 FTS	*148*		*40 - 215*	*02/27/25 04:51*	*02/27/25 20:13*	*1*
13C2 8:2 FTS	*131*		*40 - 275*	*02/27/25 04:51*	*02/27/25 20:13*	*1*
13C3 HFPO-DA	*93.8*		*40 - 130*	*02/27/25 04:51*	*02/27/25 20:13*	*1*
d7-N-MeFOSE-M	*108*		*20 - 130*	*02/27/25 04:51*	*02/27/25 20:13*	*1*
d9-N-EtFOSE-M	*67.5*		*15 - 130*	*02/27/25 04:51*	*02/27/25 20:13*	*1*
d5-NEtPFOSA	*93.2*		*10 - 130*	*02/27/25 04:51*	*02/27/25 20:13*	*1*
d3-NMePFOSA	*99.7*		*10 - 130*	*02/27/25 04:51*	*02/27/25 20:13*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**49**		1.9	0.49	ug/Kg	☼	02/27/25 04:51	02/28/25 15:45	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*84.2*	**3*	*40 - 130*	*02/27/25 04:51*	*02/28/25 15:45*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**20**	**H**	0.10	0.10	%			02/21/25 13:16	1

Client Sample ID: SRA-001-N-S000-01222025

Lab Sample ID: 320-118551-27

Date Collected: 01/22/25 13:00
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 91.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.38	0.096	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
Perfluoropentanoic acid (PFPeA)	**0.18**	**J**	0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
Perfluorohexanoic acid (PFHxA)	**1.3**		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
Perfluoroheptanoic acid (PFHpA)	**0.10**	**J**	0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
Perfluorooctanoic acid (PFOA)	**1.4**		0.19	0.059	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
Perfluorononanoic acid (PFNA)	**0.28**		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
Perfluorodecanoic acid (PFDA)	**1.1**		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
Perfluoroundecanoic acid (PFUnA)	**0.19**		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
Perfluorododecanoic acid (PFDoA)	**0.71**		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
Perfluorotridecanoic acid (PFTrDA)	**0.10**	**J**	0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
Perfluorotetradecanoic acid (PFTeDA)	**0.25**		0.19	0.056	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1

Client Sample ID: SRA-001-N-S000-01222025
Date Collected: 01/22/25 13:00
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-27
Matrix: Solid
Percent Solids: 91.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**3.3**		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.067**	**J**	0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
Perfluorooctanesulfonic acid (PFOS)	**7.5**		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
Perfluorononanesulfonic acid (PFNS)	**0.061**	**J**	0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
Perfluorodecanesulfonic acid (PFDS)	**0.29**		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
Perfluorododecanesulfonic acid (PFDoS)	**0.34**		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.38	0.096	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.38	0.096	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.38	0.096	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
Perfluorooctanesulfonamide (PFOSA)	**3.8**		0.19	0.060	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	**0.067**	**J**	0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.96	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.96	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.059	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.072	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.38	0.096	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 20:30	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*78.2*		*8 - 130*	*02/27/25 04:51*	*02/27/25 20:30*	*1*

Client Sample ID: SRA-001-N-S000-01222025

Lab Sample ID: 320-118551-27

Date Collected: 01/22/25 13:00
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 91.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	90.8		35 - 130	02/27/25 04:51	02/27/25 20:30	1
13C5 PFHxA	79.5		40 - 130	02/27/25 04:51	02/27/25 20:30	1
13C4 PFHpA	97.4		40 - 130	02/27/25 04:51	02/27/25 20:30	1
13C8 PFOA	84.7		40 - 130	02/27/25 04:51	02/27/25 20:30	1
13C9 PFNA	88.3		40 - 130	02/27/25 04:51	02/27/25 20:30	1
13C6 PFDA	81.2		40 - 130	02/27/25 04:51	02/27/25 20:30	1
13C7 PFUnA	88.3		40 - 130	02/27/25 04:51	02/27/25 20:30	1
13C2 PFDoA	81.8		40 - 130	02/27/25 04:51	02/27/25 20:30	1
13C2 PFTeDA	96.8		20 - 130	02/27/25 04:51	02/27/25 20:30	1
13C3 PFBS	80.5		40 - 135	02/27/25 04:51	02/27/25 20:30	1
13C3 PFHxS	81.4		40 - 130	02/27/25 04:51	02/27/25 20:30	1
13C8 PFOS	92.8		40 - 130	02/27/25 04:51	02/27/25 20:30	1
13C8 FOSA	87.4		40 - 130	02/27/25 04:51	02/27/25 20:30	1
d3-NMeFOSAA	85.6		40 - 135	02/27/25 04:51	02/27/25 20:30	1
d5-NEtFOSAA	95.2		40 - 150	02/27/25 04:51	02/27/25 20:30	1
13C2 4:2 FTS	137		40 - 165	02/27/25 04:51	02/27/25 20:30	1
13C2 6:2 FTS	137		40 - 215	02/27/25 04:51	02/27/25 20:30	1
13C2 8:2 FTS	146		40 - 275	02/27/25 04:51	02/27/25 20:30	1
13C3 HFPO-DA	96.3		40 - 130	02/27/25 04:51	02/27/25 20:30	1
d7-N-MeFOSE-M	92.7		20 - 130	02/27/25 04:51	02/27/25 20:30	1
d9-N-EtFOSE-M	64.6		15 - 130	02/27/25 04:51	02/27/25 20:30	1
d5-NEtPFOSA	80.5		10 - 130	02/27/25 04:51	02/27/25 20:30	1
d3-NMePFOSA	92.9		10 - 130	02/27/25 04:51	02/27/25 20:30	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**8.9**	**H**	0.10	0.10	%			02/21/25 13:16	1

Client Sample ID: SRA-001-N-S006-01222025

Lab Sample ID: 320-118551-30

Date Collected: 01/22/25 13:15
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 91.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.18**	**J**	0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
Perfluoropentanoic acid (PFPeA)	**0.12**	**J**	0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
Perfluorohexanoic acid (PFHxA)	**2.3**		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
Perfluorooctanoic acid (PFOA)	**0.095**	**J**	0.19	0.060	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
Perfluorohexanesulfonic acid (PFHxS)	**0.12**	**J**	0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1

Client Sample ID: SRA-001-N-S006-01222025
Date Collected: 01/22/25 13:15
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-30
Matrix: Solid
Percent Solids: 91.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
Perfluorooctanesulfonamide (PFOSA)	**0.12**	**J**	0.19	0.061	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.073	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 20:46	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*81.7*		*8 - 130*	*02/27/25 04:51*	*02/27/25 20:46*	*1*
13C5 PFPeA	*86.0*		*35 - 130*	*02/27/25 04:51*	*02/27/25 20:46*	*1*
13C5 PFHxA	*69.9*		*40 - 130*	*02/27/25 04:51*	*02/27/25 20:46*	*1*
13C4 PFHpA	*84.7*		*40 - 130*	*02/27/25 04:51*	*02/27/25 20:46*	*1*
13C8 PFOA	*81.4*		*40 - 130*	*02/27/25 04:51*	*02/27/25 20:46*	*1*

Client Sample ID: SRA-001-N-S006-01222025

Lab Sample ID: 320-118551-30

Date Collected: 01/22/25 13:15
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 91.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C9 PFNA	75.4		40 - 130	02/27/25 04:51	02/27/25 20:46	1
13C6 PFDA	78.8		40 - 130	02/27/25 04:51	02/27/25 20:46	1
13C7 PFUnA	81.2		40 - 130	02/27/25 04:51	02/27/25 20:46	1
13C2 PFDoA	89.3		40 - 130	02/27/25 04:51	02/27/25 20:46	1
13C2 PFTeDA	91.1		20 - 130	02/27/25 04:51	02/27/25 20:46	1
13C3 PFBS	67.7		40 - 135	02/27/25 04:51	02/27/25 20:46	1
13C3 PFHxS	72.6		40 - 130	02/27/25 04:51	02/27/25 20:46	1
13C8 PFOS	74.4		40 - 130	02/27/25 04:51	02/27/25 20:46	1
13C8 FOSA	71.9		40 - 130	02/27/25 04:51	02/27/25 20:46	1
d3-NMeFOSAA	68.0		40 - 135	02/27/25 04:51	02/27/25 20:46	1
d5-NEtFOSAA	79.8		40 - 150	02/27/25 04:51	02/27/25 20:46	1
13C2 4:2 FTS	85.7		40 - 165	02/27/25 04:51	02/27/25 20:46	1
13C2 6:2 FTS	70.8		40 - 215	02/27/25 04:51	02/27/25 20:46	1
13C2 8:2 FTS	78.4		40 - 275	02/27/25 04:51	02/27/25 20:46	1
13C3 HFPO-DA	77.2		40 - 130	02/27/25 04:51	02/27/25 20:46	1
d7-N-MeFOSE-M	80.7		20 - 130	02/27/25 04:51	02/27/25 20:46	1
d9-N-EtFOSE-M	61.9		15 - 130	02/27/25 04:51	02/27/25 20:46	1
d5-NEtPFOSA	71.9		10 - 130	02/27/25 04:51	02/27/25 20:46	1
d3-NMePFOSA	75.2		10 - 130	02/27/25 04:51	02/27/25 20:46	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	8.1	H	0.10	0.10	%			02/21/25 13:16	1

Client Sample ID: HFH-001-N-S000-01222025

Lab Sample ID: 320-118551-31

Date Collected: 01/22/25 14:45
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 84.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
Perfluoropentanoic acid (PFPeA)	0.061	J	0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
Perfluorohexanoic acid (PFHxA)	0.20		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
Perfluorooctanoic acid (PFOA)	0.20		0.20	0.061	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
Perfluorononanoic acid (PFNA)	0.25		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
Perfluorodecanoic acid (PFDA)	0.29		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
Perfluoroundecanoic acid (PFUnA)	0.24		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
Perfluorododecanoic acid (PFDoA)	0.15	J	0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
Perfluorotridecanoic acid (PFTrDA)	0.094	J	0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
Perfluorotetradecanoic acid (PFTeDA)	0.070	J	0.20	0.057	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
Perfluorohexanesulfonic acid (PFHxS)	0.17	J	0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1

Client Sample ID: HFH-001-N-S000-01222025
Date Collected: 01/22/25 14:45
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-31
Matrix: Solid
Percent Solids: 84.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**3.4**		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
Perfluorononanesulfonic acid (PFNS)	**0.049**	**J**	0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
Perfluorodecanesulfonic acid (PFDS)	**0.17**	**J**	0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**0.26**	**J**	0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
Perfluorooctanesulfonamide (PFOSA)	**0.090**	**J**	0.20	0.062	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**0.14**	**J**	0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.073	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 21:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*85.3*		*8 - 130*	*02/27/25 04:51*	*02/27/25 21:03*	*1*
13C5 PFPeA	*85.2*		*35 - 130*	*02/27/25 04:51*	*02/27/25 21:03*	*1*
13C5 PFHxA	*80.6*		*40 - 130*	*02/27/25 04:51*	*02/27/25 21:03*	*1*
13C4 PFHpA	*90.5*		*40 - 130*	*02/27/25 04:51*	*02/27/25 21:03*	*1*

Client Sample ID: HFH-001-N-S000-01222025

Lab Sample ID: 320-118551-31
Date Collected: 01/22/25 14:45
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 84.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOA	90.0		40 - 130	02/27/25 04:51	02/27/25 21:03	1
13C9 PFNA	80.8		40 - 130	02/27/25 04:51	02/27/25 21:03	1
13C6 PFDA	76.5		40 - 130	02/27/25 04:51	02/27/25 21:03	1
13C7 PFUnA	86.6		40 - 130	02/27/25 04:51	02/27/25 21:03	1
13C2 PFDoA	90.8		40 - 130	02/27/25 04:51	02/27/25 21:03	1
13C2 PFTeDA	93.1		20 - 130	02/27/25 04:51	02/27/25 21:03	1
13C3 PFBS	80.0		40 - 135	02/27/25 04:51	02/27/25 21:03	1
13C3 PFHxS	80.1		40 - 130	02/27/25 04:51	02/27/25 21:03	1
13C8 PFOS	85.3		40 - 130	02/27/25 04:51	02/27/25 21:03	1
13C8 FOSA	79.2		40 - 130	02/27/25 04:51	02/27/25 21:03	1
d3-NMeFOSAA	82.7		40 - 135	02/27/25 04:51	02/27/25 21:03	1
d5-NEtFOSAA	92.8		40 - 150	02/27/25 04:51	02/27/25 21:03	1
13C2 4:2 FTS	161		40 - 165	02/27/25 04:51	02/27/25 21:03	1
13C2 6:2 FTS	127		40 - 215	02/27/25 04:51	02/27/25 21:03	1
13C2 8:2 FTS	115		40 - 275	02/27/25 04:51	02/27/25 21:03	1
13C3 HFPO-DA	80.4		40 - 130	02/27/25 04:51	02/27/25 21:03	1
d7-N-MeFOSE-M	81.3		20 - 130	02/27/25 04:51	02/27/25 21:03	1
d9-N-EtFOSE-M	51.4		15 - 130	02/27/25 04:51	02/27/25 21:03	1
d5-NEtPFOSA	72.1		10 - 130	02/27/25 04:51	02/27/25 21:03	1
d3-NMePFOSA	78.8		10 - 130	02/27/25 04:51	02/27/25 21:03	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	15	H	0.10	0.10	%			02/21/25 13:16	1

Client Sample ID: HFH-001-N-S006-01222025

Lab Sample ID: 320-118551-35
Date Collected: 01/22/25 15:00
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 95.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.23	J	0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
Perfluoropentanoic acid (PFPeA)	0.66		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
Perfluorohexanoic acid (PFHxA)	1.9		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
Perfluoroheptanoic acid (PFHpA)	0.62		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
Perfluorooctanoic acid (PFOA)	3.7		0.20	0.061	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
Perfluorononanoic acid (PFNA)	0.74		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
Perfluorodecanoic acid (PFDA)	0.12	J	0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
Perfluorobutanesulfonic acid (PFBS)	0.12	J	0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
Perfluoropentanesulfonic acid (PFPeS)	0.46		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
Perfluorohexanesulfonic acid (PFHxS)	11		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
Perfluoroheptanesulfonic acid (PFHpS)	0.99		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-2

Client Sample ID: HFH-001-N-S006-01222025
Date Collected: 01/22/25 15:00
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-35
Matrix: Solid
Percent Solids: 95.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**27**		0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**9.5**		0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
Perfluorooctanesulfonamide (PFOSA)	**0.26**		0.20	0.062	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.073	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	02/27/25 04:51	02/27/25 21:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*96.7*		*8 - 130*	*02/27/25 04:51*	*02/27/25 21:19*	*1*
13C5 PFPeA	*89.2*		*35 - 130*	*02/27/25 04:51*	*02/27/25 21:19*	*1*
13C5 PFHxA	*86.6*		*40 - 130*	*02/27/25 04:51*	*02/27/25 21:19*	*1*
13C4 PFHpA	*95.6*		*40 - 130*	*02/27/25 04:51*	*02/27/25 21:19*	*1*
13C8 PFOA	*99.0*		*40 - 130*	*02/27/25 04:51*	*02/27/25 21:19*	*1*
13C9 PFNA	*84.0*		*40 - 130*	*02/27/25 04:51*	*02/27/25 21:19*	*1*
13C6 PFDA	*83.0*		*40 - 130*	*02/27/25 04:51*	*02/27/25 21:19*	*1*
13C7 PFUnA	*83.0*		*40 - 130*	*02/27/25 04:51*	*02/27/25 21:19*	*1*
13C2 PFDoA	*91.5*		*40 - 130*	*02/27/25 04:51*	*02/27/25 21:19*	*1*

Client Sample ID: HFH-001-N-S006-01222025
Date Collected: 01/22/25 15:00
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-35
Matrix: Solid
Percent Solids: 95.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFTeDA	94.3		20 - 130	02/27/25 04:51	02/27/25 21:19	1
13C3 PFBS	86.9		40 - 135	02/27/25 04:51	02/27/25 21:19	1
13C3 PFHxS	79.8		40 - 130	02/27/25 04:51	02/27/25 21:19	1
13C8 PFOS	113		40 - 130	02/27/25 04:51	02/27/25 21:19	1
13C8 FOSA	138	*5+	40 - 130	02/27/25 04:51	02/27/25 21:19	1
d3-NMeFOSAA	163	*5+	40 - 135	02/27/25 04:51	02/27/25 21:19	1
d5-NEtFOSAA	172	*5+	40 - 150	02/27/25 04:51	02/27/25 21:19	1
13C2 4:2 FTS	106		40 - 165	02/27/25 04:51	02/27/25 21:19	1
13C2 6:2 FTS	86.4		40 - 215	02/27/25 04:51	02/27/25 21:19	1
13C2 8:2 FTS	93.0		40 - 275	02/27/25 04:51	02/27/25 21:19	1
13C3 HFPO-DA	81.0		40 - 130	02/27/25 04:51	02/27/25 21:19	1
d7-N-MeFOSE-M	159	*5+	20 - 130	02/27/25 04:51	02/27/25 21:19	1
d9-N-EtFOSE-M	114		15 - 130	02/27/25 04:51	02/27/25 21:19	1
d5-NEtPFOSA	125		10 - 130	02/27/25 04:51	02/27/25 21:19	1
d3-NMePFOSA	123		10 - 130	02/27/25 04:51	02/27/25 21:19	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	180		9.8	2.4	ug/Kg	☼	02/27/25 04:51	02/28/25 16:02	50

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	92.5	*3	40 - 130	02/27/25 04:51	02/28/25 16:02	50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	4.8	H	0.10	0.10	%			02/21/25 13:16	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-2

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (8-130)	PFPeA (35-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (40-130)
320-118551-1	SRA-005-N-S000-01222025	70.3	91.2	88.2	96.6	90.9	93.5	77.8	83.7
320-118551-10	SRA-010-N-S000-01222025	74.2	83.5	87.0	89.0	92.0	87.2	80.4	90.3
320-118551-14	SRA-010-N-S006-01222025	93.0	87.4	87.9	91.0	90.3	89.8	80.6	85.7
320-118551-17	SRA-011-N-S000-01222025	77.3	80.7	78.3	90.2	77.5	82.5	77.5	87.6
320-118551-20	SRA-011-N-S006-01222025	96.9	102	91.3	96.5	92.4	84.4	77.9	86.4
320-118551-23	SRA-008-N-S000-01222025	77.8	82.4	75.8	92.6	88.6	82.4	81.4	81.8
320-118551-23 - DL	SRA-008-N-S000-01222025								
320-118551-27	SRA-001-N-S000-01222025	78.2	90.8	79.5	97.4	84.7	88.3	81.2	88.3
320-118551-30	SRA-001-N-S006-01222025	81.7	86.0	69.9	84.7	81.4	75.4	78.8	81.2
320-118551-31	HFH-001-N-S000-01222025	85.3	85.2	80.6	90.5	90.0	80.8	76.5	86.6
320-118551-35	HFH-001-N-S006-01222025	96.7	89.2	86.6	95.6	99.0	84.0	83.0	83.0
320-118551-35 - DL	HFH-001-N-S006-01222025								
LCS 320-836121/3-A	Lab Control Sample	102	85.3	89.8	94.7	91.0	93.2	80.5	90.0
LCSD 320-836121/4-A	Lab Control Sample Dup	98.8	99.6	94.1	97.4	92.0	91.3	83.9	88.5
LLCS 320-836121/2-A	Lab Control Sample	73.9	96.8	86.1	91.9	87.8	93.5	88.2	102
MB 320-836121/1-A	Method Blank	99.9	96.6	93.2	89.5	91.2	91.5	87.4	90.4

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (40-130)	PFTDA (20-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-135)	d5NEFOS (40-150)
320-118551-1	SRA-005-N-S000-01222025	87.8	99.3	80.0	83.6	81.8	75.6	80.9	93.7
320-118551-10	SRA-010-N-S000-01222025	90.7	98.9	88.6	82.3	88.1	87.1	88.3	112
320-118551-14	SRA-010-N-S006-01222025	83.8	86.7	80.4	78.7	83.3	76.7	84.2	98.6
320-118551-17	SRA-011-N-S000-01222025	93.9	95.9	80.5	82.3	79.9	75.7	79.4	93.7
320-118551-20	SRA-011-N-S006-01222025	84.4	86.7	84.0	82.9	88.1	74.2	88.6	96.2
320-118551-23	SRA-008-N-S000-01222025	85.3	104	79.0	80.3	100	96.3	102	114
320-118551-23 - DL	SRA-008-N-S000-01222025					84.2 *3			
320-118551-27	SRA-001-N-S000-01222025	81.8	96.8	80.5	81.4	92.8	87.4	85.6	95.2
320-118551-30	SRA-001-N-S006-01222025	89.3	91.1	67.7	72.6	74.4	71.9	68.0	79.8
320-118551-31	HFH-001-N-S000-01222025	90.8	93.1	80.0	80.1	85.3	79.2	82.7	92.8
320-118551-35	HFH-001-N-S006-01222025	91.5	94.3	86.9	79.8	113	138 *5+	163 *5+	172 *5+
320-118551-35 - DL	HFH-001-N-S006-01222025					92.5 *3			
LCS 320-836121/3-A	Lab Control Sample	92.2	92.3	93.3	93.4	92.7	77.9	87.3	99.3
LCSD 320-836121/4-A	Lab Control Sample Dup	93.1	88.9	81.3	90.4	87.7	80.8	94.4	95.4
LLCS 320-836121/2-A	Lab Control Sample	98.1	99.3	87.5	93.6	94.9	81.3	92.6	97.8
MB 320-836121/1-A	Method Blank	90.9	94.4	79.0	91.1	100	78.8	98.8	102

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118551-1	SRA-005-N-S000-01222025	159	115	103	90.1	79.2	54.3	76.3	86.0
320-118551-10	SRA-010-N-S000-01222025	149	121	113	83.8	83.7	56.4	86.8	90.1
320-118551-14	SRA-010-N-S006-01222025	133	108	102	85.0	82.3	53.2	71.9	78.9
320-118551-17	SRA-011-N-S000-01222025	161	137	109	81.9	76.0	44.3	76.9	80.3
320-118551-20	SRA-011-N-S006-01222025	103	95.8	98.4	91.4	83.9	56.9	62.0	61.9
320-118551-23	SRA-008-N-S000-01222025	187 *5+	148	131	93.8	108	67.5	93.2	99.7
320-118551-23 - DL	SRA-008-N-S000-01222025								
320-118551-27	SRA-001-N-S000-01222025	137	137	146	96.3	92.7	64.6	80.5	92.9
320-118551-30	SRA-001-N-S006-01222025	85.7	70.8	78.4	77.2	80.7	61.9	71.9	75.2
320-118551-31	HFH-001-N-S000-01222025	161	127	115	80.4	81.3	51.4	72.1	78.8
320-118551-35	HFH-001-N-S006-01222025	106	86.4	93.0	81.0	159 *5+	114	125	123

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118551-2
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Solid
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118551-35 - DL	HFH-001-N-S006-01222025								
LCS 320-836121/3-A	Lab Control Sample	113	95.1	110	89.1	87.0	59.5	58.8	60.5
LCSD 320-836121/4-A	Lab Control Sample Dup	95.6	99.7	96.7	93.8	77.7	54.6	58.1	59.0
LLCS 320-836121/2-A	Lab Control Sample	113	100	101	85.5	89.4	62.8	81.7	82.9
MB 320-836121/1-A	Method Blank	112	91.5	101	88.4	85.3	60.8	55.7	56.2

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-836121/1-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 836121

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-836121/1-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 836121

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		02/27/25 04:51	02/27/25 15:50	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		02/27/25 04:51	02/27/25 15:50	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99.9*		*8 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C5 PFPeA	*96.6*		*35 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C5 PFHxA	*93.2*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C4 PFHpA	*89.5*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C8 PFOA	*91.2*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C9 PFNA	*91.5*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C6 PFDA	*87.4*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C7 PFUnA	*90.4*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C2 PFDoA	*90.9*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C2 PFTeDA	*94.4*		*20 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C3 PFBS	*79.0*		*40 - 135*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C3 PFHxS	*91.1*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C8 PFOS	*100*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C8 FOSA	*78.8*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
d3-NMeFOSAA	*98.8*		*40 - 135*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
d5-NEtFOSAA	*102*		*40 - 150*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C2 4:2 FTS	*112*		*40 - 165*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C2 6:2 FTS	*91.5*		*40 - 215*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C2 8:2 FTS	*101*		*40 - 275*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
13C3 HFPO-DA	*88.4*		*40 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
d7-N-MeFOSE-M	*85.3*		*20 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
d9-N-EtFOSE-M	*60.8*		*15 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
d5-NEtPFOSA	*55.7*		*10 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*
d3-NMePFOSA	*56.2*		*10 - 130*	*02/27/25 04:51*	*02/27/25 15:50*	*1*

Lab Sample ID: LCS 320-836121/3-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836121

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	5.18		ug/Kg		104	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.78		ug/Kg		111	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.78		ug/Kg		111	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.82		ug/Kg		113	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.70		ug/Kg		108	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.61		ug/Kg		104	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	3.06		ug/Kg		122	70 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-836121/3-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836121

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.50	2.75		ug/Kg		110	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.67		ug/Kg		107	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.57		ug/Kg		103	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.56		ug/Kg		102	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.10		ug/Kg		95	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.61		ug/Kg		111	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.52		ug/Kg		110	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.25		ug/Kg		94	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.26		ug/Kg		97	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.27		ug/Kg		94	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.38		ug/Kg		99	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.29		ug/Kg		95	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.00		ug/Kg		85	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	5.09		ug/Kg		107	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.65		ug/Kg		97	70 - 150
Perfluorooctanesulfonamide (PFOSA)	2.50	2.61		ug/Kg		104	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.85		ug/Kg		114	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.71		ug/Kg		108	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.88		ug/Kg		115	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.58		ug/Kg		103	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.2		ug/Kg		90	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	14.3		ug/Kg		114	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.91		ug/Kg		102	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.63		ug/Kg		111	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.72		ug/Kg		109	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.91		ug/Kg		116	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.38		ug/Kg		95	60 - 155

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-836121/3-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836121

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.56		ug/Kg		110	70 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.46		ug/Kg		104	45 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.20		ug/Kg		99	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.21		ug/Kg		104	45 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.7		ug/Kg		93	60 - 130		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*102*		*8 - 130*
13C5 PFPeA	*85.3*		*35 - 130*
13C5 PFHxA	*89.8*		*40 - 130*
13C4 PFHpA	*94.7*		*40 - 130*
13C8 PFOA	*91.0*		*40 - 130*
13C9 PFNA	*93.2*		*40 - 130*
13C6 PFDA	*80.5*		*40 - 130*
13C7 PFUnA	*90.0*		*40 - 130*
13C2 PFDoA	*92.2*		*40 - 130*
13C2 PFTeDA	*92.3*		*20 - 130*
13C3 PFBS	*93.3*		*40 - 135*
13C3 PFHxS	*93.4*		*40 - 130*
13C8 PFOS	*92.7*		*40 - 130*
13C8 FOSA	*77.9*		*40 - 130*
d3-NMeFOSAA	*87.3*		*40 - 135*
d5-NEtFOSAA	*99.3*		*40 - 150*
13C2 4:2 FTS	*113*		*40 - 165*
13C2 6:2 FTS	*95.1*		*40 - 215*
13C2 8:2 FTS	*110*		*40 - 275*
13C3 HFPO-DA	*89.1*		*40 - 130*
d7-N-MeFOSE-M	*87.0*		*20 - 130*
d9-N-EtFOSE-M	*59.5*		*15 - 130*
d5-NEtPFOSA	*58.8*		*10 - 130*
d3-NMePFOSA	*60.5*		*10 - 130*

Lab Sample ID: LCSD 320-836121/4-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 836121

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	5.25		ug/Kg		105	70 - 140	1	30
Perfluoropentanoic acid (PFPeA)			2.50	2.86		ug/Kg		115	60 - 150	3	30
Perfluorohexanoic acid (PFHxA)			2.50	2.93		ug/Kg		117	65 - 140	5	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.87		ug/Kg		115	65 - 145	2	30
Perfluorooctanoic acid (PFOA)			2.50	2.57		ug/Kg		103	70 - 150	5	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-836121/4-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 836121

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)	2.50	2.62		ug/Kg		105	70 - 155	0	30
Perfluorodecanoic acid (PFDA)	2.50	2.86		ug/Kg		115	70 - 155	7	30
Perfluoroundecanoic acid (PFUnA)	2.50	2.74		ug/Kg		110	70 - 155	0	30
Perfluorododecanoic acid (PFDoA)	2.50	2.55		ug/Kg		102	70 - 150	4	30
Perfluorotridecanoic acid (PFTrDA)	2.50	2.59		ug/Kg		103	65 - 150	1	30
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.70		ug/Kg		108	65 - 150	5	30
Perfluorobutanesulfonic acid (PFBS)	2.22	2.36		ug/Kg		107	65 - 145	12	30
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.56		ug/Kg		109	55 - 160	2	30
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.38		ug/Kg		104	60 - 150	6	30
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.35		ug/Kg		99	65 - 155	5	30
Perfluorooctanesulfonic acid (PFOS)	2.33	2.35		ug/Kg		101	65 - 160	4	30
Perfluorononanesulfonic acid (PFNS)	2.41	2.25		ug/Kg		94	55 - 140	0	30
Perfluorodecanesulfonic acid (PFDS)	2.41	2.49		ug/Kg		103	40 - 155	5	30
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.44		ug/Kg		101	25 - 160	6	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	5.21		ug/Kg		111	60 - 150	26	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.91		ug/Kg		103	55 - 200	4	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.64		ug/Kg		97	70 - 150	0	30
Perfluorooctanesulfonamide (PFOSA)	2.50	2.45		ug/Kg		98	70 - 140	6	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.72		ug/Kg		109	70 - 155	5	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.59		ug/Kg		104	70 - 140	5	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.69		ug/Kg		108	65 - 155	7	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.55		ug/Kg		102	65 - 165	1	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	11.6		ug/Kg		93	70 - 140	3	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	14.8		ug/Kg		119	70 - 135	4	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	2.04		ug/Kg		109	70 - 145	7	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.46		ug/Kg		104	70 - 160	7	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.59		ug/Kg		103	30 - 140	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.64		ug/Kg		105	60 - 150	10	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-836121/4-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 836121

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.94		ug/Kg		117	60 - 155	21	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.51		ug/Kg		108	70 - 150	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.40		ug/Kg		102	45 - 160	3	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.06		ug/Kg		92	70 - 140	7	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.62		ug/Kg		92	45 - 130	12	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	12.0		ug/Kg		96	60 - 130	3	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	11.5		ug/Kg		92	60 - 150	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*98.8*		*8 - 130*
13C5 PFPeA	*99.6*		*35 - 130*
13C5 PFHxA	*94.1*		*40 - 130*
13C4 PFHpA	*97.4*		*40 - 130*
13C8 PFOA	*92.0*		*40 - 130*
13C9 PFNA	*91.3*		*40 - 130*
13C6 PFDA	*83.9*		*40 - 130*
13C7 PFUnA	*88.5*		*40 - 130*
13C2 PFDoA	*93.1*		*40 - 130*
13C2 PFTeDA	*88.9*		*20 - 130*
13C3 PFBS	*81.3*		*40 - 135*
13C3 PFHxS	*90.4*		*40 - 130*
13C8 PFOS	*87.7*		*40 - 130*
13C8 FOSA	*80.8*		*40 - 130*
d3-NMeFOSAA	*94.4*		*40 - 135*
d5-NEtFOSAA	*95.4*		*40 - 150*
13C2 4:2 FTS	*95.6*		*40 - 165*
13C2 6:2 FTS	*99.7*		*40 - 215*
13C2 8:2 FTS	*96.7*		*40 - 275*
13C3 HFPO-DA	*93.8*		*40 - 130*
d7-N-MeFOSE-M	*77.7*		*20 - 130*
d9-N-EtFOSE-M	*54.6*		*15 - 130*
d5-NEtPFOSA	*58.1*		*10 - 130*
d3-NMePFOSA	*59.0*		*10 - 130*

Lab Sample ID: LLCS 320-836121/2-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836121

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			0.800	0.882		ug/Kg		110	70 - 140
Perfluoropentanoic acid (PFPeA)			0.400	0.390		ug/Kg		97	60 - 150
Perfluorohexanoic acid (PFHxA)			0.400	0.486		ug/Kg		121	65 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-836121/2-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836121

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	0.400	0.426		ug/Kg		107	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.445		ug/Kg		111	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.390		ug/Kg		97	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.514		ug/Kg		128	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.455		ug/Kg		114	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.470		ug/Kg		117	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.460		ug/Kg		115	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.446		ug/Kg		112	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.336		ug/Kg		95	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.388		ug/Kg		103	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.399		ug/Kg		109	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.367		ug/Kg		96	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.384		ug/Kg		103	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.373		ug/Kg		97	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.376		ug/Kg		97	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.356		ug/Kg		92	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.580		ug/Kg		77	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.907		ug/Kg		119	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.801		ug/Kg		104	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.423		ug/Kg		106	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.442		ug/Kg		111	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.420		ug/Kg		105	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.438		ug/Kg		110	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.422		ug/Kg		106	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.78		ug/Kg		89	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	2.33		ug/Kg		116	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.343		ug/Kg		114	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.416		ug/Kg		110	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.356		ug/Kg		89	30 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-836121/2-A
Matrix: Solid
Analysis Batch: 836290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 836121

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.400	0.376		ug/Kg		94	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.400	0.436		ug/Kg		109	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	0.374	0.413		ug/Kg		111	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	0.378	0.430		ug/Kg		114	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.357	0.382		ug/Kg		107	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.800	0.504		ug/Kg		63	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	2.00	2.01		ug/Kg		101	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	2.00	1.97		ug/Kg		98	60 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*73.9*		*8 - 130*
13C5 PFPeA	*96.8*		*35 - 130*
13C5 PFHxA	*86.1*		*40 - 130*
13C4 PFHpA	*91.9*		*40 - 130*
13C8 PFOA	*87.8*		*40 - 130*
13C9 PFNA	*93.5*		*40 - 130*
13C6 PFDA	*88.2*		*40 - 130*
13C7 PFUnA	*102*		*40 - 130*
13C2 PFDoA	*98.1*		*40 - 130*
13C2 PFTeDA	*99.3*		*20 - 130*
13C3 PFBS	*87.5*		*40 - 135*
13C3 PFHxS	*93.6*		*40 - 130*
13C8 PFOS	*94.9*		*40 - 130*
13C8 FOSA	*81.3*		*40 - 130*
d3-NMeFOSAA	*92.6*		*40 - 135*
d5-NEtFOSAA	*97.8*		*40 - 150*
13C2 4:2 FTS	*113*		*40 - 165*
13C2 6:2 FTS	*100*		*40 - 215*
13C2 8:2 FTS	*101*		*40 - 275*
13C3 HFPO-DA	*85.5*		*40 - 130*
d7-N-MeFOSE-M	*89.4*		*20 - 130*
d9-N-EtFOSE-M	*62.8*		*15 - 130*
d5-NEtPFOSA	*81.7*		*10 - 130*
d3-NMePFOSA	*82.9*		*10 - 130*

LCMS

Prep Batch: 836121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118551-1	SRA-005-N-S000-01222025	Total/NA	Solid	1633 Shake	
320-118551-10	SRA-010-N-S000-01222025	Total/NA	Solid	1633 Shake	
320-118551-14	SRA-010-N-S006-01222025	Total/NA	Solid	1633 Shake	
320-118551-17	SRA-011-N-S000-01222025	Total/NA	Solid	1633 Shake	
320-118551-20	SRA-011-N-S006-01222025	Total/NA	Solid	1633 Shake	
320-118551-23 - DL	SRA-008-N-S000-01222025	Total/NA	Solid	1633 Shake	
320-118551-23	SRA-008-N-S000-01222025	Total/NA	Solid	1633 Shake	
320-118551-27	SRA-001-N-S000-01222025	Total/NA	Solid	1633 Shake	
320-118551-30	SRA-001-N-S006-01222025	Total/NA	Solid	1633 Shake	
320-118551-31	HFH-001-N-S000-01222025	Total/NA	Solid	1633 Shake	
320-118551-35 - DL	HFH-001-N-S006-01222025	Total/NA	Solid	1633 Shake	
320-118551-35	HFH-001-N-S006-01222025	Total/NA	Solid	1633 Shake	
MB 320-836121/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-836121/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-836121/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-836121/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 836290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118551-1	SRA-005-N-S000-01222025	Total/NA	Solid	1633	836121
320-118551-10	SRA-010-N-S000-01222025	Total/NA	Solid	1633	836121
320-118551-14	SRA-010-N-S006-01222025	Total/NA	Solid	1633	836121
320-118551-17	SRA-011-N-S000-01222025	Total/NA	Solid	1633	836121
320-118551-20	SRA-011-N-S006-01222025	Total/NA	Solid	1633	836121
320-118551-23	SRA-008-N-S000-01222025	Total/NA	Solid	1633	836121
320-118551-27	SRA-001-N-S000-01222025	Total/NA	Solid	1633	836121
320-118551-30	SRA-001-N-S006-01222025	Total/NA	Solid	1633	836121
320-118551-31	HFH-001-N-S000-01222025	Total/NA	Solid	1633	836121
320-118551-35	HFH-001-N-S006-01222025	Total/NA	Solid	1633	836121
MB 320-836121/1-A	Method Blank	Total/NA	Solid	1633	836121
LCS 320-836121/3-A	Lab Control Sample	Total/NA	Solid	1633	836121
LCSD 320-836121/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	836121
LLCS 320-836121/2-A	Lab Control Sample	Total/NA	Solid	1633	836121

Analysis Batch: 836607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118551-23 - DL	SRA-008-N-S000-01222025	Total/NA	Solid	1633	836121
320-118551-35 - DL	HFH-001-N-S006-01222025	Total/NA	Solid	1633	836121

General Chemistry

Analysis Batch: 834905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118551-1	SRA-005-N-S000-01222025	Total/NA	Solid	1633	
320-118551-10	SRA-010-N-S000-01222025	Total/NA	Solid	1633	
320-118551-14	SRA-010-N-S006-01222025	Total/NA	Solid	1633	
320-118551-17	SRA-011-N-S000-01222025	Total/NA	Solid	1633	
320-118551-20	SRA-011-N-S006-01222025	Total/NA	Solid	1633	
320-118551-23	SRA-008-N-S000-01222025	Total/NA	Solid	1633	
320-118551-27	SRA-001-N-S000-01222025	Total/NA	Solid	1633	
320-118551-30	SRA-001-N-S006-01222025	Total/NA	Solid	1633	

General Chemistry (Continued)

Analysis Batch: 834905 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118551-31	HFH-001-N-S000-01222025	Total/NA	Solid	1633	
320-118551-35	HFH-001-N-S006-01222025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-2

Client Sample ID: SRA-005-N-S000-01222025
Lab Sample ID: 320-118551-1
Date Collected: 01/22/25 07:45
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834905	02/21/25 13:16	JCB	EET SAC

Client Sample ID: SRA-005-N-S000-01222025
Lab Sample ID: 320-118551-1
Date Collected: 01/22/25 07:45
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 88.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.23 g	5.0 mL	836121	02/27/25 04:51	SJ	EET SAC
Total/NA	Analysis	1633		1			836290	02/27/25 18:51	C1P	EET SAC

Client Sample ID: SRA-010-N-S000-01222025
Lab Sample ID: 320-118551-10
Date Collected: 01/22/25 09:10
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834905	02/21/25 13:16	JCB	EET SAC

Client Sample ID: SRA-010-N-S000-01222025
Lab Sample ID: 320-118551-10
Date Collected: 01/22/25 09:10
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 87.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.35 g	5.0 mL	836121	02/27/25 04:51	SJ	EET SAC
Total/NA	Analysis	1633		1			836290	02/27/25 19:07	C1P	EET SAC

Client Sample ID: SRA-010-N-S006-01222025
Lab Sample ID: 320-118551-14
Date Collected: 01/22/25 09:25
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834905	02/21/25 13:16	JCB	EET SAC

Client Sample ID: SRA-010-N-S006-01222025
Lab Sample ID: 320-118551-14
Date Collected: 01/22/25 09:25
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 85.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.41 g	5.0 mL	836121	02/27/25 04:51	SJ	EET SAC
Total/NA	Analysis	1633		1			836290	02/27/25 19:24	C1P	EET SAC

Client Sample ID: SRA-011-N-S000-01222025
Lab Sample ID: 320-118551-17
Date Collected: 01/22/25 10:10
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834905	02/21/25 13:16	JCB	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-2

Client Sample ID: SRA-011-N-S000-01222025
Lab Sample ID: 320-118551-17
Date Collected: 01/22/25 10:10
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 68.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.92 g	5.0 mL	836121	02/27/25 04:51	SJ	EET SAC
Total/NA	Analysis	1633		1			836290	02/27/25 19:40	C1P	EET SAC

Client Sample ID: SRA-011-N-S006-01222025
Lab Sample ID: 320-118551-20
Date Collected: 01/22/25 10:25
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834905	02/21/25 13:16	JCB	EET SAC

Client Sample ID: SRA-011-N-S006-01222025
Lab Sample ID: 320-118551-20
Date Collected: 01/22/25 10:25
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 84.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.42 g	5.0 mL	836121	02/27/25 04:51	SJ	EET SAC
Total/NA	Analysis	1633		1			836290	02/27/25 19:57	C1P	EET SAC

Client Sample ID: SRA-008-N-S000-01222025
Lab Sample ID: 320-118551-23
Date Collected: 01/22/25 11:15
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834905	02/21/25 13:16	JCB	EET SAC

Client Sample ID: SRA-008-N-S000-01222025
Lab Sample ID: 320-118551-23
Date Collected: 01/22/25 11:15
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 80.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.57 g	5.0 mL	836121	02/27/25 04:51	SJ	EET SAC
Total/NA	Analysis	1633		1			836290	02/27/25 20:13	C1P	EET SAC
Total/NA	Prep	1633 Shake	DL		2.57 g	5.0 mL	836121	02/27/25 04:51	SJ	EET SAC
Total/NA	Analysis	1633	DL	10			836607	02/28/25 15:45	K1S	EET SAC

Client Sample ID: SRA-001-N-S000-01222025
Lab Sample ID: 320-118551-27
Date Collected: 01/22/25 13:00
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834905	02/21/25 13:16	JCB	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-2

Client Sample ID: SRA-001-N-S000-01222025
Lab Sample ID: 320-118551-27
Date Collected: 01/22/25 13:00
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 91.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.29 g	5.0 mL	836121	02/27/25 04:51	SJ	EET SAC
Total/NA	Analysis	1633		1			836290	02/27/25 20:30	C1P	EET SAC

Client Sample ID: SRA-001-N-S006-01222025
Lab Sample ID: 320-118551-30
Date Collected: 01/22/25 13:15
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834905	02/21/25 13:16	JCB	EET SAC

Client Sample ID: SRA-001-N-S006-01222025
Lab Sample ID: 320-118551-30
Date Collected: 01/22/25 13:15
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 91.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.25 g	5.0 mL	836121	02/27/25 04:51	SJ	EET SAC
Total/NA	Analysis	1633		1			836290	02/27/25 20:46	C1P	EET SAC

Client Sample ID: HFH-001-N-S000-01222025
Lab Sample ID: 320-118551-31
Date Collected: 01/22/25 14:45
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834905	02/21/25 13:16	JCB	EET SAC

Client Sample ID: HFH-001-N-S000-01222025
Lab Sample ID: 320-118551-31
Date Collected: 01/22/25 14:45
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 84.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.42 g	5.0 mL	836121	02/27/25 04:51	SJ	EET SAC
Total/NA	Analysis	1633		1			836290	02/27/25 21:03	C1P	EET SAC

Client Sample ID: HFH-001-N-S006-01222025
Lab Sample ID: 320-118551-35
Date Collected: 01/22/25 15:00
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			834905	02/21/25 13:16	JCB	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Job ID: 320-118551-2
Project/Site: Spokane International Airport

Client Sample ID: HFH-001-N-S006-01222025
Lab Sample ID: 320-118551-35
Date Collected: 01/22/25 15:00
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 95.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.15 g	5.0 mL	836121	02/27/25 04:51	SJ	EET SAC
Total/NA	Analysis	1633		1			836290	02/27/25 21:19	C1P	EET SAC
Total/NA	Prep	1633 Shake	DL		2.15 g	5.0 mL	836121	02/27/25 04:51	SJ	EET SAC
Total/NA	Analysis	1633	DL	50			836607	02/28/25 16:02	K1S	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118551-2
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-2

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118551-1	SRA-005-N-S000-01222025	Solid	01/22/25 07:45	01/25/25 08:45
320-118551-10	SRA-010-N-S000-01222025	Solid	01/22/25 09:10	01/25/25 08:45
320-118551-14	SRA-010-N-S006-01222025	Solid	01/22/25 09:25	01/25/25 08:45
320-118551-17	SRA-011-N-S000-01222025	Solid	01/22/25 10:10	01/25/25 08:45
320-118551-20	SRA-011-N-S006-01222025	Solid	01/22/25 10:25	01/25/25 08:45
320-118551-23	SRA-008-N-S000-01222025	Solid	01/22/25 11:15	01/25/25 08:45
320-118551-27	SRA-001-N-S000-01222025	Solid	01/22/25 13:00	01/25/25 08:45
320-118551-30	SRA-001-N-S006-01222025	Solid	01/22/25 13:15	01/25/25 08:45
320-118551-31	HFH-001-N-S000-01222025	Solid	01/22/25 14:45	01/25/25 08:45
320-118551-35	HFH-001-N-S006-01222025	Solid	01/22/25 15:00	01/25/25 08:45

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave. Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE		TURNAROUND TIME	
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
SRA-005-N-S000-01222025	1/22/2025	7:45	Soil					X	1
SRA-005-N-S001-01222025		7:50		X					
SRA-005-N-S003-01222025		7:55		X					
SRA-005-N-S006-01222025		8:00						X	
SRA-005-N-S010-01222025		8:05						X	
SRA-005-N-S015-01222025		8:10						X	
SRA-005-N-S017-01222025		8:15						X	
SRA-005-FD-S017-01222025		8:20						X	
SRA-009-N-S000-01222025		8:45		X					
SRA-010-N-S000-01222025		9:10						X	

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118551 Chain of Custody

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date 1/23/25 1435
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date 1/24/25 Time 1200	Date 1/25/25 0917

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

5.4, 5.8
1800

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____includes _____does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY Project Manager PINK - Haley & Aldrich Laboratory

Form 3003

4.2

November 2024

Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513

Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE		TURNAROUND TIME	
PROJECT MANAGER	Breeyn Greer		

Sample No. (Add 5's (LWP) ↓)	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
SRA-010-N-001-01222025	1/22/2025	9:15	Soil	X					1
SRA-010-N-003-01222025		9:20		X					
SRA-010-FD-003-01222025		9:50		X					
SRA-010-N-006-01222025		9:25						X	
SRA-010-N-010-01222025		9:30						X	
SRA-010-N-015-01222025		9:35						X	
SRA-011-N-000-01222025		10:10						X	
SRA-011-N-001-01222025		10:15		X					
SRA-011-N-003-01222025		10:20		X					
SRA-011-N-006-01222025		10:25						X	

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date 1/23/25 1430
Relinquished by	**Received by**
Sign	Sign
Print Lindsay Chuntai	Print
Firm Haley & Aldrich	Firm
Date 1/23/25 Time 1435	Date
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm EGS SPK	Firm EGS SPK
Date 1/24/25 Time 1100	Date 1/25/25 0845

LIQUID	
VOA Vial	
Amber Glass	5 4,85 cf
Plastic Bottle	1 poly
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections·

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____includes _____does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
		DELIVERY DATE	
		TURNAROUND TIME	
		PROJECT MANAGER	Breeyn Greer

Sample No. (Add SS (LWP) ↓)	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
SRA-011-N-010-01222025	1/22/2025	10:30	Soil					X	1
SRA-011-N-014-01222025		10:35						X	
SRA-008-N-000-01222025		11:15						X	
SRA-008-N-001-01222025		11:20		X					
SRA-008-FD-001-01222025		11:50		X					
SRA-008-N-003-01222025		11:25		X					
SRA-001-N-000-01222025		13:00						X	
SRA-001-N-001-01222025		13:05		X					
SRA-001-N-003-01222025		13:10		X					
SRA-001-N-006-01222025		13:15						X	

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print Madison
Firm	Firm
Date Time	Date

Relinquished by	Received by
Sign	Sign
Print Lindsay Chuntas	Print
Firm Haley & Aldrich	Firm
Date 1/23/25 Time 14 35	Date

Relinquished by	Received by
Sign	Sign
Print CET 510	Print Lucy Medelros
Firm	Firm ONTGNE
Date 1/24/25 Time 1200	Date 1/25/25 0845

LIQUID	
	VOA Vial
1439 5.4 5.8 1x001	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections.

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave. Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE		TURNAROUND TIME	
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
HFH-001-N-S000-01222025	1/22/2025	14:45	Soil					X	1
HFH-001-N-S001-01222025		14:50		X					
HFH-001-N-S003-01222025		14:55		X					
HFH-001-FD-S003-01222025		15:25		X					
HFH-001-N-S006-01222025		15:00						X	
SRA-002-N-S000-01222025		11:45		X					
TRP-001-N-S000-01222025		12:35		X					
TRP-002-N-S000-01222025		12:55		X					
HFH-006-N-S000-01222025		15:05		X					
EB-01222025		7:30	H_2O	X					3
FB-01222025			H_2O	X					2

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)
- PFAS Analysis to be conducted by Eurofins Sacramento
Laboratory to use applicable DEP CAM methods, unless otherwise directed.
- TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date 1/23/25 1430
Relinquished by	Received by
Sign Lindsay Chuntas	Sign
Print Lindsay Chuntas	Print
Firm Haley & Aldrich	Firm
Date 01/23/25 Time 14:35	Date
Relinquished by	Received by
Sign	Sign
Print	Print Lacey Mickens
Firm	Firm CCTSAC
Date 1/24/25 Time 9 AM	Date 1/25/25 0845

5.4, 0.8 iRob

LIQUID	
VOA Vial	
Amber Glass	
Plastic Bottle	
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

Form 3003

November 2024

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118551

Job _____ _____

Tracking # 4242 5693 0633

SO / PO / FO / (SAT) / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID L12 Corr Factor: (+ / -) _____ °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: _____

Cooler ID: _____

Temp Observed: 4.2 °C Corrected: 4.2 °C

From: Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials MN Date: 1/25/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☐
Samples w/o discrepancies?	☐	☑	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials _____ Date: 1/25/25

Notes:
16. No Sample
36. ID Container Begins Sw.
COC ID ~~Not~~ Begins SRN

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s). _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials MN Date 1/25/25

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kenia Whitehead
GSI Environmental Inc
1115 West Bay Drive NW
Suite 202
Olympia, Washington 98502

Generated 2/6/2025 7:44:02 AM

JOB DESCRIPTION

Spokane International Airport

JOB NUMBER

320-118551-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

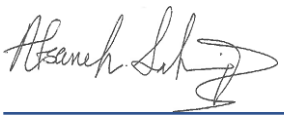
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Authorized for release by
Afsaneh Salimpour, Senior Project Manager
Afsaneh.Salimpour@et.eurofinsus.com
(925)484-1919

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Qualifiers

LCMS

Qualifier	Qualifier Description
*3	ISTD response or retention time outside acceptable limits.
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-118551-1

Receipt
The samples were received on 1/25/2025 8:45 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.2º C.

Receipt Exceptions

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): SRA-002-N-S000-01222025 (320-118551-36).
Container ID begins with SWR. COC ID begins with SRA. Labeled according to COC.The following sample was listed on the Chain of Custody (COC); however, no sample was received: SRA-010-N-S015-01222025 (320-118551-16).

LCMS
Method 1633: The low level continuing calibration verification (CCVL) associated with batch 320-830077 recovered above the upper control limit for Perfluorohexanoic acid (PFHxA) and Nonafluoro-3,6-dioxaheptanoic acid (NFDHA). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported: SRA-009-N-S000-01222025 (320-118551-9), SRA-010-N-S001-01222025 (320-118551-11), SRA-010-N-S003-01222025 (320-118551-12), SRA-010-FD-S003-01222025 (320-118551-13), SRA-011-N-S001-01222025 (320-118551-18) and (CCVL 320-830077/2).

Method 1633: The continuing calibration verification (CCV) associated with batch 320-830248 recovered above the upper control limit for NFDHA. The method blank and samples associated with this CCV were non-detects for the affected analyte and the laboratory control samples were within control lmits; therefore, the data have been reported. The associated samples are impacted: SRA-009-N-S000-01222025 (320-118551-9), SRA-010-N-S001-01222025 (320-118551-11), SRA-010-N-S003-01222025 (320-118551-12), (CCV 320-830248/1), (LCS 320-830064/3-A), (LCSD 320-830064/4-A), (LLCS 320-830064/2-A) and (MB 320-830064/1-A).

Method 1633: Results for sample SRA-008-FD-S001-01222025 (320-118551-25) was reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

Method 1633: Results for samples HFH-001-N-S003-01222025 (320-118551-33) and HFH-001-FD-S003-01222025 (320-118551-34) were reported from the analysis of a diluted extract due to high concentration and matrix interference of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

Method 1633: The continuing calibration verification (CCV) associated with analytical batch 320-830314 recovered marginally below the established control limits for the following isotope dilution analyte (IDA): 13C2 8:2 FTS. The associated client samples, preparation batch quality control samples, and other CCVs in the analytical sequence recovered within limits; therefore, the data have been reported. The following samples are impacted: SRA-009-N-S000-01222025 (320-118551-9), SRA-010-N-S001-01222025 (320-118551-11), SRA-010-N-S003-01222025 (320-118551-12), SRA-010-FD-S003-01222025 (320-118551-13), SRA-011-N-S001-01222025 (320-118551-18), (CCV 320-830314/16), (LCS 320-830064/3-A), (LCSD 320-830064/4-A), (LLCS 320-830064/2-A) and (MB 320-830064/1-A).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 1633 Shake: The following sample in preparation batch 320-830064 was light yellow in color prior to extraction: SRA-002-N-S000-01222025 (320-118551-36).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-1

Client Sample ID: SRA-005-N-S001-01222025 — Lab Sample ID: 320-118551-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorononanoic acid (PFNA)	0.060	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.10	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-005-N-S003-01222025 — Lab Sample ID: 320-118551-3

No Detections.

Client Sample ID: SRA-009-N-S000-01222025 — Lab Sample ID: 320-118551-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.054	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.16	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-010-N-S001-01222025 — Lab Sample ID: 320-118551-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.061	J	0.19	0.059	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.059	J	0.19	0.047	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	1.2		0.19	0.047	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.19		0.19	0.047	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.12	J	0.19	0.047	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.084	J	0.19	0.047	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.53		0.19	0.047	ug/Kg	1	☼	1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	0.35	J	0.95	0.24	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-010-N-S003-01222025 — Lab Sample ID: 320-118551-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorononanoic acid (PFNA)	0.093	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	1.4		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.062	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.79		0.20	0.050	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-010-FD-S003-01222025 — Lab Sample ID: 320-118551-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.089	J	0.19	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.14	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	1.8		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.091	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.1		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA) - RA	0.059	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-011-N-S001-01222025 — Lab Sample ID: 320-118551-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.14	J	0.39	0.097	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.24		0.19	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.30		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.17	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA) - RA	0.084	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-1

Client Sample ID: SRA-011-N-S003-01222025 — Lab Sample ID: 320-118551-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.35		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.34		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.12	J	0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	1.4		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.29		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.8		0.20	0.050	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-008-N-S001-01222025 — Lab Sample ID: 320-118551-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.47		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.40		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.21		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.90		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.056	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.60		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.12	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	16		0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-008-FD-S001-01222025 — Lab Sample ID: 320-118551-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.098	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.74		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.64		0.19	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.26		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	1.3		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.084	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.14	J	0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.0		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.29		0.19	0.048	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.16	J	0.19	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	47		1.9	0.48	ug/Kg	10	☼	1633	Total/NA

Client Sample ID: SRA-008-N-S003-01222025 — Lab Sample ID: 320-118551-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.096	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.084	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.060	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.58		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.14	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.095	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.22		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.2		0.20	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-001-N-S001-01222025 — Lab Sample ID: 320-118551-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.19	J	0.39	0.097	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanoic acid (PFPeA)	0.37		0.19	0.049	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Client Sample ID: SRA-001-N-S001-01222025 (Continued) — Lab Sample ID: 320-118551-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	2.2		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.29		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	2.9		0.19	0.060	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.28		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.32		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.061	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.22		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.087	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.090	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	12		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.13	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.3		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.47		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanesulfonic acid (PFDoS)	0.40		0.19	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	2.1		0.19	0.061	ug/Kg	1	☼	1633	Total/NA
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.050	J	0.19	0.049	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: SRA-001-N-S003-01222025 — Lab Sample ID: 320-118551-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.14	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.66		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.071	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.28		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.051	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.070	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.053	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.0		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.77		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanesulfonic acid (PFDoS)	0.085	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.49		0.20	0.062	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: HFH-001-N-S001-01222025 — Lab Sample ID: 320-118551-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.12	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.17	J	0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.082	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	0.45		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	1.1		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.55		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.50		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.13	J	0.20	0.057	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.32		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.8		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS)	0.23		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.59		0.20	0.049	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: HFH-001-N-S001-01222025 (Continued) — Lab Sample ID: 320-118551-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorododecanesulfonic acid (PFDoS)	0.34		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.56		0.39	0.098	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.1		0.39	0.098	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA)	0.67		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.095	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	0.28	J	0.98	0.25	ug/Kg	1	☼	1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	0.67	J	0.98	0.25	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: HFH-001-N-S003-01222025 — Lab Sample ID: 320-118551-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.079	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanoic acid (PFHxA)	0.31		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.054	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	1.7		0.20	0.061	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.93		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	3.1		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.1		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	6.6		0.39	0.098	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.17	J	0.39	0.098	ug/Kg	1	☼	1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	0.86	J	0.98	0.25	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS) - DL	1.1	J	2.0	0.49	ug/Kg	10	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS) - DL	0.68	J	2.0	0.49	ug/Kg	10	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - DL	150		3.9	0.98	ug/Kg	10	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA) - DL	12		2.0	0.62	ug/Kg	10	☼	1633	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) - DL	0.59	J	2.0	0.49	ug/Kg	10	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL2	330		3.9	0.98	ug/Kg	20	☼	1633	Total/NA

Client Sample ID: HFH-001-FD-S003-01222025 — Lab Sample ID: 320-118551-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.24		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanoic acid (PFOA)	0.60		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.66		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	3.0		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.55		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.9		0.40	0.10	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.14	J	0.40	0.10	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: HFH-001-FD-S003-01222025 (Continued) — Lab Sample ID: 320-118551-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	0.86	J	1.0	0.25	ug/Kg	1	☼	1633	Total/NA
Perfluoroheptanesulfonic acid (PFHpS) - DL	0.68	J	2.0	0.50	ug/Kg	10	☼	1633	Total/NA
Perfluorononanesulfonic acid (PFNS) - DL	0.61	J	2.0	0.50	ug/Kg	10	☼	1633	Total/NA
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - DL	150		4.0	1.0	ug/Kg	10	☼	1633	Total/NA
Perfluorooctanesulfonamide (PFOSA) - DL	13		2.0	0.63	ug/Kg	10	☼	1633	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) - DL	0.59	J	2.0	0.50	ug/Kg	10	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL2	320		4.0	1.0	ug/Kg	20	☼	1633	Total/NA

Client Sample ID: SRA-002-N-S000-01222025 — Lab Sample ID: 320-118551-36

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.26		0.20	0.062	ug/Kg	1	☼	1633	Total/NA
Perfluorononanoic acid (PFNA)	0.44		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorodecanoic acid (PFDA)	1.7		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.74		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	3.7		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.62		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	2.0		0.20	0.058	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.43		0.20	0.050	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	0.38	J	1.0	0.25	ug/Kg	1	☼	1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	0.70	J	1.0	0.25	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: TRP-001-N-S000-01222025 — Lab Sample ID: 320-118551-37

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorodecanoic acid (PFDA)	0.49		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.23		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorododecanoic acid (PFDoA)	0.57		0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.14	J	0.20	0.049	ug/Kg	1	☼	1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.54		0.20	0.057	ug/Kg	1	☼	1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	0.33	J	0.99	0.25	ug/Kg	1	☼	1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	0.89	J	0.99	0.25	ug/Kg	1	☼	1633	Total/NA

Client Sample ID: TRP-002-N-S000-01222025 — Lab Sample ID: 320-118551-38

No Detections.

Client Sample ID: HFH-006-N-S000-01222025 — Lab Sample ID: 320-118551-39

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorodecanoic acid (PFDA)	0.11	J	0.23	0.058	ug/Kg	1	☼	1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.55		0.23	0.058	ug/Kg	1	☼	1633	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.059	J	0.23	0.058	ug/Kg	1	☼	1633	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-1

Client Sample ID: EB-01222025 — Lab Sample ID: 320-118551-40

No Detections.

Client Sample ID: FB-01222025 — Lab Sample ID: 320-118551-41

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.43	J	1.6	0.39	ng/L	1		1633	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-1

Client Sample ID: SRA-005-N-S001-01222025
Date Collected: 01/22/25 07:50
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-2
Matrix: Solid
Percent Solids: 90.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.099	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
Perfluorononanoic acid (PFNA)	**0.060**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
Perfluorooctanesulfonic acid (PFOS)	**0.10**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.099	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.099	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.099	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1

Client Sample ID: SRA-005-N-S001-01222025
Lab Sample ID: 320-118551-2
Date Collected: 01/22/25 07:50
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 90.9

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.099	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/29/25 11:30	01/31/25 00:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99.9*		*8 - 130*	*01/29/25 11:30*	*01/31/25 00:36*	*1*
13C5 PFPeA	*88.7*		*35 - 130*	*01/29/25 11:30*	*01/31/25 00:36*	*1*
13C5 PFHxA	*82.4*		*40 - 130*	*01/29/25 11:30*	*01/31/25 00:36*	*1*
13C4 PFHpA	*85.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 00:36*	*1*
13C8 PFOA	*81.5*		*40 - 130*	*01/29/25 11:30*	*01/31/25 00:36*	*1*
13C9 PFNA	*89.6*		*40 - 130*	*01/29/25 11:30*	*01/31/25 00:36*	*1*
13C6 PFDA	*84.1*		*40 - 130*	*01/29/25 11:30*	*01/31/25 00:36*	*1*
13C7 PFUnA	*75.6*		*40 - 130*	*01/29/25 11:30*	*01/31/25 00:36*	*1*
13C2 PFDoA	*70.7*		*40 - 130*	*01/29/25 11:30*	*01/31/25 00:36*	*1*
13C2 PFTeDA	*65.0*		*20 - 130*	*01/29/25 11:30*	*01/31/25 00:36*	*1*
13C3 PFBS	*82.8*		*40 - 135*	*01/29/25 11:30*	*01/31/25 00:36*	*1*
13C3 PFHxS	*83.7*		*40 - 130*	*01/29/25 11:30*	*01/31/25 00:36*	*1*
13C8 PFOS	*77.8*		*40 - 130*	*01/29/25 11:30*	*01/31/25 00:36*	*1*
13C8 FOSA	*68.3*		*40 - 130*	*01/29/25 11:30*	*01/31/25 00:36*	*1*
d3-NMeFOSAA	*79.7*		*40 - 135*	*01/29/25 11:30*	*01/31/25 00:36*	*1*
d5-NEtFOSAA	*75.7*		*40 - 150*	*01/29/25 11:30*	*01/31/25 00:36*	*1*
13C2 4:2 FTS	*83.8*		*40 - 165*	*01/29/25 11:30*	*01/31/25 00:36*	*1*
13C2 6:2 FTS	*76.4*		*40 - 215*	*01/29/25 11:30*	*01/31/25 00:36*	*1*
13C2 8:2 FTS	*60.3*		*40 - 275*	*01/29/25 11:30*	*01/31/25 00:36*	*1*
13C3 HFPO-DA	*80.4*		*40 - 130*	*01/29/25 11:30*	*01/31/25 00:36*	*1*
d7-N-MeFOSE-M	*57.4*		*20 - 130*	*01/29/25 11:30*	*01/31/25 00:36*	*1*
d9-N-EtFOSE-M	*57.0*		*15 - 130*	*01/29/25 11:30*	*01/31/25 00:36*	*1*
d5-NEtPFOSA	*53.2*		*10 - 130*	*01/29/25 11:30*	*01/31/25 00:36*	*1*
d3-NMePFOSA	*55.2*		*10 - 130*	*01/29/25 11:30*	*01/31/25 00:36*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**9.1**		0.10	0.10	%			01/27/25 15:30	1

Client Sample ID: SRA-005-N-S003-01222025
Lab Sample ID: 320-118551-3
Date Collected: 01/22/25 07:55
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 93.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.38	0.096	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.059	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-1

Client Sample ID: SRA-005-N-S003-01222025
Date Collected: 01/22/25 07:55
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-3
Matrix: Solid
Percent Solids: 93.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.055	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.38	0.096	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.38	0.096	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.38	0.096	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.060	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.96	0.24	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.96	0.24	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.059	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.072	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.38	0.096	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1

Client Sample ID: SRA-005-N-S003-01222025

Lab Sample ID: 320-118551-3

Date Collected: 01/22/25 07:55
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 93.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	01/29/25 11:30	01/31/25 00:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*95.5*		*8 - 130*	*01/29/25 11:30*	*01/31/25 00:52*	*1*
13C5 PFPeA	*88.6*		*35 - 130*	*01/29/25 11:30*	*01/31/25 00:52*	*1*
13C5 PFHxA	*78.4*		*40 - 130*	*01/29/25 11:30*	*01/31/25 00:52*	*1*
13C4 PFHpA	*81.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 00:52*	*1*
13C8 PFOA	*84.5*		*40 - 130*	*01/29/25 11:30*	*01/31/25 00:52*	*1*
13C9 PFNA	*97.6*		*40 - 130*	*01/29/25 11:30*	*01/31/25 00:52*	*1*
13C6 PFDA	*90.0*		*40 - 130*	*01/29/25 11:30*	*01/31/25 00:52*	*1*
13C7 PFUnA	*84.1*		*40 - 130*	*01/29/25 11:30*	*01/31/25 00:52*	*1*
13C2 PFDoA	*87.9*		*40 - 130*	*01/29/25 11:30*	*01/31/25 00:52*	*1*
13C2 PFTeDA	*82.3*		*20 - 130*	*01/29/25 11:30*	*01/31/25 00:52*	*1*
13C3 PFBS	*86.3*		*40 - 135*	*01/29/25 11:30*	*01/31/25 00:52*	*1*
13C3 PFHxS	*86.5*		*40 - 130*	*01/29/25 11:30*	*01/31/25 00:52*	*1*
13C8 PFOS	*84.3*		*40 - 130*	*01/29/25 11:30*	*01/31/25 00:52*	*1*
13C8 FOSA	*83.7*		*40 - 130*	*01/29/25 11:30*	*01/31/25 00:52*	*1*
d3-NMeFOSAA	*85.2*		*40 - 135*	*01/29/25 11:30*	*01/31/25 00:52*	*1*
d5-NEtFOSAA	*81.8*		*40 - 150*	*01/29/25 11:30*	*01/31/25 00:52*	*1*
13C2 4:2 FTS	*72.3*		*40 - 165*	*01/29/25 11:30*	*01/31/25 00:52*	*1*
13C2 6:2 FTS	*71.7*		*40 - 215*	*01/29/25 11:30*	*01/31/25 00:52*	*1*
13C2 8:2 FTS	*64.6*		*40 - 275*	*01/29/25 11:30*	*01/31/25 00:52*	*1*
13C3 HFPO-DA	*78.8*		*40 - 130*	*01/29/25 11:30*	*01/31/25 00:52*	*1*
d7-N-MeFOSE-M	*72.3*		*20 - 130*	*01/29/25 11:30*	*01/31/25 00:52*	*1*
d9-N-EtFOSE-M	*72.9*		*15 - 130*	*01/29/25 11:30*	*01/31/25 00:52*	*1*
d5-NEtPFOSA	*59.5*		*10 - 130*	*01/29/25 11:30*	*01/31/25 00:52*	*1*
d3-NMePFOSA	*64.3*		*10 - 130*	*01/29/25 11:30*	*01/31/25 00:52*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**7.0**		0.10	0.10	%			01/27/25 15:30	1

Client Sample ID: SRA-009-N-S000-01222025

Lab Sample ID: 320-118551-9

Date Collected: 01/22/25 08:45
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 90.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.099	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
Perfluorohexanoic acid (PFHxA)	ND	^+	0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-1

Client Sample ID: SRA-009-N-S000-01222025
Date Collected: 01/22/25 08:45
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-9
Matrix: Solid
Percent Solids: 90.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
Perfluorohexanesulfonic acid (PFHxS)	**0.054**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
Perfluorooctanesulfonic acid (PFOS)	**0.16**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.099	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.099	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	^+	0.20	0.061	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.099	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.99	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 03:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*105*		*8 - 130*	*01/29/25 03:50*	*01/30/25 03:57*	*1*

Client Sample ID: SRA-009-N-S000-01222025

Lab Sample ID: 320-118551-9
Date Collected: 01/22/25 08:45
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 90.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*83.1*		*35 - 130*	*01/29/25 03:50*	*01/30/25 03:57*	*1*
13C5 PFHxA	*85.4*		*40 - 130*	*01/29/25 03:50*	*01/30/25 03:57*	*1*
13C4 PFHpA	*87.1*		*40 - 130*	*01/29/25 03:50*	*01/30/25 03:57*	*1*
13C8 PFOA	*86.2*		*40 - 130*	*01/29/25 03:50*	*01/30/25 03:57*	*1*
13C9 PFNA	*93.2*		*40 - 130*	*01/29/25 03:50*	*01/30/25 03:57*	*1*
13C6 PFDA	*91.3*		*40 - 130*	*01/29/25 03:50*	*01/30/25 03:57*	*1*
13C7 PFUnA	*84.3*		*40 - 130*	*01/29/25 03:50*	*01/30/25 03:57*	*1*
13C2 PFDoA	*89.0*		*40 - 130*	*01/29/25 03:50*	*01/30/25 03:57*	*1*
13C2 PFTeDA	*79.0*		*20 - 130*	*01/29/25 03:50*	*01/30/25 03:57*	*1*
13C3 PFBS	*92.2*		*40 - 135*	*01/29/25 03:50*	*01/30/25 03:57*	*1*
13C3 PFHxS	*85.4*		*40 - 130*	*01/29/25 03:50*	*01/30/25 03:57*	*1*
13C8 PFOS	*85.2*		*40 - 130*	*01/29/25 03:50*	*01/30/25 03:57*	*1*
13C8 FOSA	*79.4*		*40 - 130*	*01/29/25 03:50*	*01/30/25 03:57*	*1*
d3-NMeFOSAA	*83.9*		*40 - 135*	*01/29/25 03:50*	*01/30/25 03:57*	*1*
d5-NEtFOSAA	*81.4*		*40 - 150*	*01/29/25 03:50*	*01/30/25 03:57*	*1*
13C2 4:2 FTS	*75.3*		*40 - 165*	*01/29/25 03:50*	*01/30/25 03:57*	*1*
13C2 6:2 FTS	*71.8*		*40 - 215*	*01/29/25 03:50*	*01/30/25 03:57*	*1*
13C3 HFPO-DA	*81.4*		*40 - 130*	*01/29/25 03:50*	*01/30/25 03:57*	*1*
d7-N-MeFOSE-M	*75.4*		*20 - 130*	*01/29/25 03:50*	*01/30/25 03:57*	*1*
d9-N-EtFOSE-M	*77.3*		*15 - 130*	*01/29/25 03:50*	*01/30/25 03:57*	*1*
d5-NEtPFOSA	*67.4*		*10 - 130*	*01/29/25 03:50*	*01/30/25 03:57*	*1*
d3-NMePFOSA	*75.8*		*10 - 130*	*01/29/25 03:50*	*01/30/25 03:57*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.099	ug/Kg	☼	01/29/25 03:50	01/30/25 11:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 8:2 FTS	*58.1*		*40 - 275*	*01/29/25 03:50*	*01/30/25 11:53*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**9.9**		0.10	0.10	%			01/27/25 15:30	1

Client Sample ID: SRA-010-N-S001-01222025

Lab Sample ID: 320-118551-11
Date Collected: 01/22/25 09:15
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 88.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.38	0.095	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
Perfluorohexanoic acid (PFHxA)	ND	^+	0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
Perfluorooctanoic acid (PFOA)	**0.061**	**J**	0.19	0.059	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
Perfluorononanoic acid (PFNA)	**0.059**	**J**	0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
Perfluorodecanoic acid (PFDA)	**1.2**		0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
Perfluoroundecanoic acid (PFUnA)	**0.19**		0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
Perfluorododecanoic acid (PFDoA)	**0.12**	**J**	0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-1

Client Sample ID: SRA-010-N-S001-01222025
Date Collected: 01/22/25 09:15
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-11
Matrix: Solid
Percent Solids: 88.3

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.055	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
Perfluorohexanesulfonic acid (PFHxS)	**0.084**	**J**	0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
Perfluorooctanesulfonic acid (PFOS)	**0.53**		0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.38	0.095	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.38	0.095	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.060	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.95	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.95	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	^+	0.19	0.059	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.071	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.047	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.38	0.095	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.95	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	**0.35**	**J**	0.95	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 04:13	1

Client Sample ID: SRA-010-N-S001-01222025

Lab Sample ID: 320-118551-11

Date Collected: 01/22/25 09:15
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 88.3

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*103*		*8 - 130*	*01/29/25 03:50*	*01/30/25 04:13*	*1*
13C5 PFPeA	*84.8*		*35 - 130*	*01/29/25 03:50*	*01/30/25 04:13*	*1*
13C5 PFHxA	*87.2*		*40 - 130*	*01/29/25 03:50*	*01/30/25 04:13*	*1*
13C4 PFHpA	*86.9*		*40 - 130*	*01/29/25 03:50*	*01/30/25 04:13*	*1*
13C8 PFOA	*83.7*		*40 - 130*	*01/29/25 03:50*	*01/30/25 04:13*	*1*
13C9 PFNA	*94.4*		*40 - 130*	*01/29/25 03:50*	*01/30/25 04:13*	*1*
13C6 PFDA	*92.4*		*40 - 130*	*01/29/25 03:50*	*01/30/25 04:13*	*1*
13C7 PFUnA	*91.1*		*40 - 130*	*01/29/25 03:50*	*01/30/25 04:13*	*1*
13C2 PFDoA	*97.3*		*40 - 130*	*01/29/25 03:50*	*01/30/25 04:13*	*1*
13C2 PFTeDA	*86.9*		*20 - 130*	*01/29/25 03:50*	*01/30/25 04:13*	*1*
13C3 PFBS	*87.4*		*40 - 135*	*01/29/25 03:50*	*01/30/25 04:13*	*1*
13C3 PFHxS	*92.1*		*40 - 130*	*01/29/25 03:50*	*01/30/25 04:13*	*1*
13C8 PFOS	*87.6*		*40 - 130*	*01/29/25 03:50*	*01/30/25 04:13*	*1*
13C8 FOSA	*83.2*		*40 - 130*	*01/29/25 03:50*	*01/30/25 04:13*	*1*
d3-NMeFOSAA	*91.6*		*40 - 135*	*01/29/25 03:50*	*01/30/25 04:13*	*1*
d5-NEtFOSAA	*92.0*		*40 - 150*	*01/29/25 03:50*	*01/30/25 04:13*	*1*
13C2 4:2 FTS	*81.5*		*40 - 165*	*01/29/25 03:50*	*01/30/25 04:13*	*1*
13C2 6:2 FTS	*82.5*		*40 - 215*	*01/29/25 03:50*	*01/30/25 04:13*	*1*
13C3 HFPO-DA	*76.1*		*40 - 130*	*01/29/25 03:50*	*01/30/25 04:13*	*1*
d7-N-MeFOSE-M	*79.6*		*20 - 130*	*01/29/25 03:50*	*01/30/25 04:13*	*1*
d9-N-EtFOSE-M	*84.0*		*15 - 130*	*01/29/25 03:50*	*01/30/25 04:13*	*1*
d5-NEtPFOSA	*69.8*		*10 - 130*	*01/29/25 03:50*	*01/30/25 04:13*	*1*
d3-NMePFOSA	*74.5*		*10 - 130*	*01/29/25 03:50*	*01/30/25 04:13*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.38	0.095	ug/Kg	☼	01/29/25 03:50	01/30/25 12:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 8:2 FTS	*63.8*		*40 - 275*	*01/29/25 03:50*	*01/30/25 12:10*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**12**		0.10	0.10	%			01/27/25 15:30	1

Client Sample ID: SRA-010-N-S003-01222025

Lab Sample ID: 320-118551-12

Date Collected: 01/22/25 09:20
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 86.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
Perfluorohexanoic acid (PFHxA)	ND	^+	0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
Perfluorononanoic acid (PFNA)	**0.093**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
Perfluorodecanoic acid (PFDA)	**1.4**		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-1

Client Sample ID: SRA-010-N-S003-01222025
Date Collected: 01/22/25 09:20
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-12
Matrix: Solid
Percent Solids: 86.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
Perfluorohexanesulfonic acid (PFHxS)	**0.062**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
Perfluorooctanesulfonic acid (PFOS)	**0.79**		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	^+	0.20	0.062	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 04:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*105*		*8 - 130*	*01/29/25 03:50*	*01/30/25 04:29*	*1*

Client Sample ID: SRA-010-N-S003-01222025

Lab Sample ID: 320-118551-12
Date Collected: 01/22/25 09:20
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 86.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	81.7		35 - 130	01/29/25 03:50	01/30/25 04:29	1
13C5 PFHxA	86.3		40 - 130	01/29/25 03:50	01/30/25 04:29	1
13C4 PFHpA	82.8		40 - 130	01/29/25 03:50	01/30/25 04:29	1
13C8 PFOA	88.8		40 - 130	01/29/25 03:50	01/30/25 04:29	1
13C9 PFNA	100		40 - 130	01/29/25 03:50	01/30/25 04:29	1
13C6 PFDA	93.9		40 - 130	01/29/25 03:50	01/30/25 04:29	1
13C7 PFUnA	90.6		40 - 130	01/29/25 03:50	01/30/25 04:29	1
13C2 PFDoA	93.3		40 - 130	01/29/25 03:50	01/30/25 04:29	1
13C2 PFTeDA	79.3		20 - 130	01/29/25 03:50	01/30/25 04:29	1
13C3 PFBS	94.9		40 - 135	01/29/25 03:50	01/30/25 04:29	1
13C3 PFHxS	92.5		40 - 130	01/29/25 03:50	01/30/25 04:29	1
13C8 PFOS	88.1		40 - 130	01/29/25 03:50	01/30/25 04:29	1
13C8 FOSA	81.9		40 - 130	01/29/25 03:50	01/30/25 04:29	1
d3-NMeFOSAA	93.2		40 - 135	01/29/25 03:50	01/30/25 04:29	1
d5-NEtFOSAA	90.6		40 - 150	01/29/25 03:50	01/30/25 04:29	1
13C2 4:2 FTS	71.3		40 - 165	01/29/25 03:50	01/30/25 04:29	1
13C2 6:2 FTS	76.0		40 - 215	01/29/25 03:50	01/30/25 04:29	1
13C3 HFPO-DA	80.7		40 - 130	01/29/25 03:50	01/30/25 04:29	1
d7-N-MeFOSE-M	78.8		20 - 130	01/29/25 03:50	01/30/25 04:29	1
d9-N-EtFOSE-M	81.2		15 - 130	01/29/25 03:50	01/30/25 04:29	1
d5-NEtPFOSA	65.8		10 - 130	01/29/25 03:50	01/30/25 04:29	1
d3-NMePFOSA	69.8		10 - 130	01/29/25 03:50	01/30/25 04:29	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/29/25 03:50	01/30/25 12:26	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 8:2 FTS	56.1		40 - 275	01/29/25 03:50	01/30/25 12:26	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**13**		0.10	0.10	%			01/27/25 15:30	1

Client Sample ID: SRA-010-FD-S003-01222025

Lab Sample ID: 320-118551-13
Date Collected: 01/22/25 09:50
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 80.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.097	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
Perfluorooctanoic acid (PFOA)	**0.089**	**J**	0.19	0.060	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
Perfluorononanoic acid (PFNA)	**0.14**	**J**	0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
Perfluorodecanoic acid (PFDA)	**1.8**		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-1

Client Sample ID: SRA-010-FD-S003-01222025
Date Collected: 01/22/25 09:50
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-13
Matrix: Solid
Percent Solids: 80.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
Perfluorohexanesulfonic acid (PFHxS)	**0.091**	**J**	0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
Perfluorooctanesulfonic acid (PFOS)	**1.1**		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	^+	0.19	0.060	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.073	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 05:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*109*		*8 - 130*	*01/29/25 03:50*	*01/30/25 05:19*	*1*
13C5 PFPeA	*79.4*		*35 - 130*	*01/29/25 03:50*	*01/30/25 05:19*	*1*

Client Sample ID: SRA-010-FD-S003-01222025

Lab Sample ID: 320-118551-13
Date Collected: 01/22/25 09:50
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 80.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFHxA	87.3		40 - 130	01/29/25 03:50	01/30/25 05:19	1
13C4 PFHpA	82.0		40 - 130	01/29/25 03:50	01/30/25 05:19	1
13C8 PFOA	87.7		40 - 130	01/29/25 03:50	01/30/25 05:19	1
13C9 PFNA	95.4		40 - 130	01/29/25 03:50	01/30/25 05:19	1
13C6 PFDA	96.1		40 - 130	01/29/25 03:50	01/30/25 05:19	1
13C7 PFUnA	92.9		40 - 130	01/29/25 03:50	01/30/25 05:19	1
13C2 PFDoA	99.4		40 - 130	01/29/25 03:50	01/30/25 05:19	1
13C2 PFTeDA	79.1		20 - 130	01/29/25 03:50	01/30/25 05:19	1
13C3 PFBS	92.9		40 - 135	01/29/25 03:50	01/30/25 05:19	1
13C3 PFHxS	97.3		40 - 130	01/29/25 03:50	01/30/25 05:19	1
13C8 PFOS	91.0		40 - 130	01/29/25 03:50	01/30/25 05:19	1
13C8 FOSA	85.0		40 - 130	01/29/25 03:50	01/30/25 05:19	1
d3-NMeFOSAA	91.8		40 - 135	01/29/25 03:50	01/30/25 05:19	1
d5-NEtFOSAA	90.4		40 - 150	01/29/25 03:50	01/30/25 05:19	1
13C2 4:2 FTS	81.7		40 - 165	01/29/25 03:50	01/30/25 05:19	1
13C2 6:2 FTS	79.3		40 - 215	01/29/25 03:50	01/30/25 05:19	1
13C3 HFPO-DA	81.9		40 - 130	01/29/25 03:50	01/30/25 05:19	1
d7-N-MeFOSE-M	78.3		20 - 130	01/29/25 03:50	01/30/25 05:19	1
d9-N-EtFOSE-M	82.3		15 - 130	01/29/25 03:50	01/30/25 05:19	1
d5-NEtPFOSA	65.4		10 - 130	01/29/25 03:50	01/30/25 05:19	1
d3-NMePFOSA	72.8		10 - 130	01/29/25 03:50	01/30/25 05:19	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.059**	**J**	0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 13:15	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/29/25 03:50	01/30/25 13:15	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFHxA	86.4		40 - 130	01/29/25 03:50	01/30/25 13:15	1
13C2 8:2 FTS	60.6		40 - 275	01/29/25 03:50	01/30/25 13:15	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**19**		0.10	0.10	%			01/27/25 15:30	1

Client Sample ID: SRA-011-N-S001-01222025

Lab Sample ID: 320-118551-18
Date Collected: 01/22/25 10:15
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 72.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.14**	**J**	0.39	0.097	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
Perfluorooctanoic acid (PFOA)	**0.24**		0.19	0.060	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-1

Client Sample ID: SRA-011-N-S001-01222025
Date Collected: 01/22/25 10:15
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-18
Matrix: Solid
Percent Solids: 72.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.057	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
Perfluorobutanesulfonic acid (PFBS)	**0.30**		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
Perfluorohexanesulfonic acid (PFHxS)	**0.17**	**J**	0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.19	0.061	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND	^+	0.19	0.060	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.073	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 05:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*8 - 130*	*01/29/25 03:50*	*01/30/25 05:35*	*1*

Client Sample ID: SRA-011-N-S001-01222025

Lab Sample ID: 320-118551-18
Date Collected: 01/22/25 10:15
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 72.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*82.1*		*35 - 130*	*01/29/25 03:50*	*01/30/25 05:35*	*1*
13C5 PFHxA	*83.9*		*40 - 130*	*01/29/25 03:50*	*01/30/25 05:35*	*1*
13C4 PFHpA	*82.3*		*40 - 130*	*01/29/25 03:50*	*01/30/25 05:35*	*1*
13C8 PFOA	*82.9*		*40 - 130*	*01/29/25 03:50*	*01/30/25 05:35*	*1*
13C9 PFNA	*92.4*		*40 - 130*	*01/29/25 03:50*	*01/30/25 05:35*	*1*
13C6 PFDA	*88.8*		*40 - 130*	*01/29/25 03:50*	*01/30/25 05:35*	*1*
13C7 PFUnA	*88.5*		*40 - 130*	*01/29/25 03:50*	*01/30/25 05:35*	*1*
13C2 PFDoA	*92.6*		*40 - 130*	*01/29/25 03:50*	*01/30/25 05:35*	*1*
13C2 PFTeDA	*75.7*		*20 - 130*	*01/29/25 03:50*	*01/30/25 05:35*	*1*
13C3 PFBS	*85.1*		*40 - 135*	*01/29/25 03:50*	*01/30/25 05:35*	*1*
13C3 PFHxS	*85.8*		*40 - 130*	*01/29/25 03:50*	*01/30/25 05:35*	*1*
13C8 PFOS	*82.8*		*40 - 130*	*01/29/25 03:50*	*01/30/25 05:35*	*1*
13C8 FOSA	*76.5*		*40 - 130*	*01/29/25 03:50*	*01/30/25 05:35*	*1*
d3-NMeFOSAA	*87.6*		*40 - 135*	*01/29/25 03:50*	*01/30/25 05:35*	*1*
d5-NEtFOSAA	*82.5*		*40 - 150*	*01/29/25 03:50*	*01/30/25 05:35*	*1*
13C2 4:2 FTS	*74.0*		*40 - 165*	*01/29/25 03:50*	*01/30/25 05:35*	*1*
13C2 6:2 FTS	*72.1*		*40 - 215*	*01/29/25 03:50*	*01/30/25 05:35*	*1*
13C3 HFPO-DA	*74.3*		*40 - 130*	*01/29/25 03:50*	*01/30/25 05:35*	*1*
d7-N-MeFOSE-M	*73.2*		*20 - 130*	*01/29/25 03:50*	*01/30/25 05:35*	*1*
d9-N-EtFOSE-M	*73.2*		*15 - 130*	*01/29/25 03:50*	*01/30/25 05:35*	*1*
d5-NEtPFOSA	*57.9*		*10 - 130*	*01/29/25 03:50*	*01/30/25 05:35*	*1*
d3-NMePFOSA	*66.0*		*10 - 130*	*01/29/25 03:50*	*01/30/25 05:35*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**0.084**	**J**	0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 13:32	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/29/25 03:50	01/30/25 13:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFHxA	*86.2*		*40 - 130*	*01/29/25 03:50*	*01/30/25 13:32*	*1*
13C2 8:2 FTS	*57.3*		*40 - 275*	*01/29/25 03:50*	*01/30/25 13:32*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**28**		0.10	0.10	%			01/27/25 15:30	1

Client Sample ID: SRA-011-N-S003-01222025

Lab Sample ID: 320-118551-19
Date Collected: 01/22/25 10:20
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 82.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
Perfluoropentanoic acid (PFPeA)	**0.35**		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
Perfluorohexanoic acid (PFHxA)	**0.34**		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
Perfluoroheptanoic acid (PFHpA)	**0.12**	**J**	0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
Perfluorooctanoic acid (PFOA)	**1.4**		0.20	0.062	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-1

Client Sample ID: SRA-011-N-S003-01222025
Date Collected: 01/22/25 10:20
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-19
Matrix: Solid
Percent Solids: 82.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
Perfluorohexanesulfonic acid (PFHxS)	**0.29**		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
Perfluorooctanesulfonic acid (PFOS)	**3.8**		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1

Client Sample ID: SRA-011-N-S003-01222025

Lab Sample ID: 320-118551-19
Date Collected: 01/22/25 10:20
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 82.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 15:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*8 - 130*	*01/29/25 03:50*	*01/30/25 15:17*	*1*
13C5 PFPeA	*95.0*		*35 - 130*	*01/29/25 03:50*	*01/30/25 15:17*	*1*
13C5 PFHxA	*86.7*		*40 - 130*	*01/29/25 03:50*	*01/30/25 15:17*	*1*
13C4 PFHpA	*85.8*		*40 - 130*	*01/29/25 03:50*	*01/30/25 15:17*	*1*
13C8 PFOA	*85.9*		*40 - 130*	*01/29/25 03:50*	*01/30/25 15:17*	*1*
13C9 PFNA	*93.7*		*40 - 130*	*01/29/25 03:50*	*01/30/25 15:17*	*1*
13C6 PFDA	*92.7*		*40 - 130*	*01/29/25 03:50*	*01/30/25 15:17*	*1*
13C7 PFUnA	*88.7*		*40 - 130*	*01/29/25 03:50*	*01/30/25 15:17*	*1*
13C2 PFDoA	*96.2*		*40 - 130*	*01/29/25 03:50*	*01/30/25 15:17*	*1*
13C2 PFTeDA	*89.8*		*20 - 130*	*01/29/25 03:50*	*01/30/25 15:17*	*1*
13C3 PFBS	*94.6*		*40 - 135*	*01/29/25 03:50*	*01/30/25 15:17*	*1*
13C3 PFHxS	*90.7*		*40 - 130*	*01/29/25 03:50*	*01/30/25 15:17*	*1*
13C8 PFOS	*88.5*		*40 - 130*	*01/29/25 03:50*	*01/30/25 15:17*	*1*
13C8 FOSA	*79.8*		*40 - 130*	*01/29/25 03:50*	*01/30/25 15:17*	*1*
d3-NMeFOSAA	*86.4*		*40 - 135*	*01/29/25 03:50*	*01/30/25 15:17*	*1*
d5-NEtFOSAA	*80.6*		*40 - 150*	*01/29/25 03:50*	*01/30/25 15:17*	*1*
13C2 4:2 FTS	*72.1*		*40 - 165*	*01/29/25 03:50*	*01/30/25 15:17*	*1*
13C2 6:2 FTS	*66.7*		*40 - 215*	*01/29/25 03:50*	*01/30/25 15:17*	*1*
13C2 8:2 FTS	*59.3*		*40 - 275*	*01/29/25 03:50*	*01/30/25 15:17*	*1*
13C3 HFPO-DA	*81.2*		*40 - 130*	*01/29/25 03:50*	*01/30/25 15:17*	*1*
d7-N-MeFOSE-M	*76.0*		*20 - 130*	*01/29/25 03:50*	*01/30/25 15:17*	*1*
d9-N-EtFOSE-M	*74.6*		*15 - 130*	*01/29/25 03:50*	*01/30/25 15:17*	*1*
d5-NEtPFOSA	*62.0*		*10 - 130*	*01/29/25 03:50*	*01/30/25 15:17*	*1*
d3-NMePFOSA	*61.4*		*10 - 130*	*01/29/25 03:50*	*01/30/25 15:17*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**18**		0.10	0.10	%			01/27/25 15:30	1

Client Sample ID: SRA-008-N-S001-01222025

Lab Sample ID: 320-118551-24
Date Collected: 01/22/25 11:20
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 86.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
Perfluorohexanoic acid (PFHxA)	**0.47**		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
Perfluorooctanoic acid (PFOA)	**0.40**		0.20	0.061	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
Perfluorononanoic acid (PFNA)	**0.21**		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
Perfluorodecanoic acid (PFDA)	**0.90**		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
Perfluorododecanoic acid (PFDoA)	**0.056**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-1

Client Sample ID: SRA-008-N-S001-01222025
Date Collected: 01/22/25 11:20
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-24
Matrix: Solid
Percent Solids: 86.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
Perfluorohexanesulfonic acid (PFHxS)	**0.60**		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.12**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
Perfluorooctanesulfonic acid (PFOS)	**16**		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.073	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 15:33	1

Client Sample ID: SRA-008-N-S001-01222025
Lab Sample ID: 320-118551-24

Date Collected: 01/22/25 11:20
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 86.7

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	100		8 - 130	01/29/25 03:50	01/30/25 15:33	1
13C5 PFPeA	89.6		35 - 130	01/29/25 03:50	01/30/25 15:33	1
13C5 PFHxA	85.3		40 - 130	01/29/25 03:50	01/30/25 15:33	1
13C4 PFHpA	81.3		40 - 130	01/29/25 03:50	01/30/25 15:33	1
13C8 PFOA	86.3		40 - 130	01/29/25 03:50	01/30/25 15:33	1
13C9 PFNA	92.6		40 - 130	01/29/25 03:50	01/30/25 15:33	1
13C6 PFDA	92.4		40 - 130	01/29/25 03:50	01/30/25 15:33	1
13C7 PFUnA	86.4		40 - 130	01/29/25 03:50	01/30/25 15:33	1
13C2 PFDoA	91.9		40 - 130	01/29/25 03:50	01/30/25 15:33	1
13C2 PFTeDA	102		20 - 130	01/29/25 03:50	01/30/25 15:33	1
13C3 PFBS	83.3		40 - 135	01/29/25 03:50	01/30/25 15:33	1
13C3 PFHxS	83.3		40 - 130	01/29/25 03:50	01/30/25 15:33	1
13C8 PFOS	86.2		40 - 130	01/29/25 03:50	01/30/25 15:33	1
13C8 FOSA	82.6		40 - 130	01/29/25 03:50	01/30/25 15:33	1
d3-NMeFOSAA	82.2		40 - 135	01/29/25 03:50	01/30/25 15:33	1
d5-NEtFOSAA	84.0		40 - 150	01/29/25 03:50	01/30/25 15:33	1
13C2 4:2 FTS	70.6		40 - 165	01/29/25 03:50	01/30/25 15:33	1
13C2 6:2 FTS	65.7		40 - 215	01/29/25 03:50	01/30/25 15:33	1
13C2 8:2 FTS	59.0		40 - 275	01/29/25 03:50	01/30/25 15:33	1
13C3 HFPO-DA	82.3		40 - 130	01/29/25 03:50	01/30/25 15:33	1
d7-N-MeFOSE-M	79.2		20 - 130	01/29/25 03:50	01/30/25 15:33	1
d9-N-EtFOSE-M	78.9		15 - 130	01/29/25 03:50	01/30/25 15:33	1
d5-NEtPFOSA	74.2		10 - 130	01/29/25 03:50	01/30/25 15:33	1
d3-NMePFOSA	72.7		10 - 130	01/29/25 03:50	01/30/25 15:33	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**13**		0.10	0.10	%			01/27/25 15:30	1

Client Sample ID: SRA-008-FD-S001-01222025
Lab Sample ID: 320-118551-25

Date Collected: 01/22/25 11:50
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 88.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.096	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
Perfluoropentanoic acid (PFPeA)	**0.098**	**J**	0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
Perfluorohexanoic acid (PFHxA)	**0.74**		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
Perfluorooctanoic acid (PFOA)	**0.64**		0.19	0.060	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
Perfluorononanoic acid (PFNA)	**0.26**		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
Perfluorodecanoic acid (PFDA)	**1.3**		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
Perfluoroundecanoic acid (PFUnA)	**0.084**	**J**	0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
Perfluorododecanoic acid (PFDoA)	**0.14**	**J**	0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1

Client Sample ID: SRA-008-FD-S001-01222025
Date Collected: 01/22/25 11:50
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-25
Matrix: Solid
Percent Solids: 88.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**1.0**		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.29**		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.096	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.096	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.096	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
Perfluorooctanesulfonamide (PFOSA)	**0.16**	**J**	0.19	0.061	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.96	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.96	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.072	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.048	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.096	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.96	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 15:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99.4*		*8 - 130*	*01/29/25 03:50*	*01/30/25 15:50*	*1*
13C5 PFPeA	*93.9*		*35 - 130*	*01/29/25 03:50*	*01/30/25 15:50*	*1*
13C5 PFHxA	*87.3*		*40 - 130*	*01/29/25 03:50*	*01/30/25 15:50*	*1*
13C4 PFHpA	*84.0*		*40 - 130*	*01/29/25 03:50*	*01/30/25 15:50*	*1*

Client Sample ID: SRA-008-FD-S001-01222025

Lab Sample ID: 320-118551-25
Date Collected: 01/22/25 11:50
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 88.4

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOA	*84.3*		*40 - 130*	*01/29/25 03:50*	*01/30/25 15:50*	*1*
13C9 PFNA	*92.5*		*40 - 130*	*01/29/25 03:50*	*01/30/25 15:50*	*1*
13C6 PFDA	*89.7*		*40 - 130*	*01/29/25 03:50*	*01/30/25 15:50*	*1*
13C7 PFUnA	*86.7*		*40 - 130*	*01/29/25 03:50*	*01/30/25 15:50*	*1*
13C2 PFDoA	*99.0*		*40 - 130*	*01/29/25 03:50*	*01/30/25 15:50*	*1*
13C2 PFTeDA	*102*		*20 - 130*	*01/29/25 03:50*	*01/30/25 15:50*	*1*
13C3 PFBS	*89.9*		*40 - 135*	*01/29/25 03:50*	*01/30/25 15:50*	*1*
13C3 PFHxS	*86.8*		*40 - 130*	*01/29/25 03:50*	*01/30/25 15:50*	*1*
13C8 PFOS	*88.5*		*40 - 130*	*01/29/25 03:50*	*01/30/25 15:50*	*1*
13C8 FOSA	*96.3*		*40 - 130*	*01/29/25 03:50*	*01/30/25 15:50*	*1*
d3-NMeFOSAA	*98.4*		*40 - 135*	*01/29/25 03:50*	*01/30/25 15:50*	*1*
d5-NEtFOSAA	*99.1*		*40 - 150*	*01/29/25 03:50*	*01/30/25 15:50*	*1*
13C2 4:2 FTS	*83.8*		*40 - 165*	*01/29/25 03:50*	*01/30/25 15:50*	*1*
13C2 6:2 FTS	*73.1*		*40 - 215*	*01/29/25 03:50*	*01/30/25 15:50*	*1*
13C2 8:2 FTS	*59.8*		*40 - 275*	*01/29/25 03:50*	*01/30/25 15:50*	*1*
13C3 HFPO-DA	*85.3*		*40 - 130*	*01/29/25 03:50*	*01/30/25 15:50*	*1*
d7-N-MeFOSE-M	*93.7*		*20 - 130*	*01/29/25 03:50*	*01/30/25 15:50*	*1*
d9-N-EtFOSE-M	*90.1*		*15 - 130*	*01/29/25 03:50*	*01/30/25 15:50*	*1*
d5-NEtPFOSA	*87.9*		*10 - 130*	*01/29/25 03:50*	*01/30/25 15:50*	*1*
d3-NMePFOSA	*85.9*		*10 - 130*	*01/29/25 03:50*	*01/30/25 15:50*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**47**		1.9	0.48	ug/Kg	☼	01/29/25 03:50	01/30/25 19:40	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*85.6*	**3*	*40 - 130*	*01/29/25 03:50*	*01/30/25 19:40*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**12**		0.10	0.10	%			01/27/25 15:30	1

Client Sample ID: SRA-008-N-S003-01222025

Lab Sample ID: 320-118551-26
Date Collected: 01/22/25 11:25
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 86.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
Perfluoropentanoic acid (PFPeA)	**0.096**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
Perfluorohexanoic acid (PFHxA)	**0.084**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
Perfluoroheptanoic acid (PFHpA)	**0.060**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
Perfluorooctanoic acid (PFOA)	**0.58**		0.20	0.061	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
Perfluorononanoic acid (PFNA)	**0.14**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
Perfluorodecanoic acid (PFDA)	**0.095**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-1

Client Sample ID: SRA-008-N-S003-01222025
Date Collected: 01/22/25 11:25
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-26
Matrix: Solid
Percent Solids: 86.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
Perfluorohexanesulfonic acid (PFHxS)	**0.22**		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
Perfluorooctanesulfonic acid (PFOS)	**2.2**		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.073	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 16:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*105*		*8 - 130*	*01/29/25 03:50*	*01/30/25 16:06*	*1*

Client Sample ID: SRA-008-N-S003-01222025

Lab Sample ID: 320-118551-26

Date Collected: 01/22/25 11:25
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 86.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	92.6		35 - 130	01/29/25 03:50	01/30/25 16:06	1
13C5 PFHxA	87.7		40 - 130	01/29/25 03:50	01/30/25 16:06	1
13C4 PFHpA	83.2		40 - 130	01/29/25 03:50	01/30/25 16:06	1
13C8 PFOA	87.9		40 - 130	01/29/25 03:50	01/30/25 16:06	1
13C9 PFNA	95.1		40 - 130	01/29/25 03:50	01/30/25 16:06	1
13C6 PFDA	94.7		40 - 130	01/29/25 03:50	01/30/25 16:06	1
13C7 PFUnA	93.2		40 - 130	01/29/25 03:50	01/30/25 16:06	1
13C2 PFDoA	99.9		40 - 130	01/29/25 03:50	01/30/25 16:06	1
13C2 PFTeDA	110		20 - 130	01/29/25 03:50	01/30/25 16:06	1
13C3 PFBS	87.8		40 - 135	01/29/25 03:50	01/30/25 16:06	1
13C3 PFHxS	90.3		40 - 130	01/29/25 03:50	01/30/25 16:06	1
13C8 PFOS	87.1		40 - 130	01/29/25 03:50	01/30/25 16:06	1
13C8 FOSA	87.4		40 - 130	01/29/25 03:50	01/30/25 16:06	1
d3-NMeFOSAA	88.7		40 - 135	01/29/25 03:50	01/30/25 16:06	1
d5-NEtFOSAA	84.9		40 - 150	01/29/25 03:50	01/30/25 16:06	1
13C2 4:2 FTS	76.5		40 - 165	01/29/25 03:50	01/30/25 16:06	1
13C2 6:2 FTS	73.7		40 - 215	01/29/25 03:50	01/30/25 16:06	1
13C2 8:2 FTS	61.3		40 - 275	01/29/25 03:50	01/30/25 16:06	1
13C3 HFPO-DA	85.3		40 - 130	01/29/25 03:50	01/30/25 16:06	1
d7-N-MeFOSE-M	80.7		20 - 130	01/29/25 03:50	01/30/25 16:06	1
d9-N-EtFOSE-M	71.7		15 - 130	01/29/25 03:50	01/30/25 16:06	1
d5-NEtPFOSA	71.3		10 - 130	01/29/25 03:50	01/30/25 16:06	1
d3-NMePFOSA	73.1		10 - 130	01/29/25 03:50	01/30/25 16:06	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	14		0.10	0.10	%			01/27/25 15:30	1

Client Sample ID: SRA-001-N-S001-01222025

Lab Sample ID: 320-118551-28

Date Collected: 01/22/25 13:05
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 84.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.19	J	0.39	0.097	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
Perfluoropentanoic acid (PFPeA)	0.37		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
Perfluorohexanoic acid (PFHxA)	2.2		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
Perfluoroheptanoic acid (PFHpA)	0.29		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
Perfluorooctanoic acid (PFOA)	2.9		0.19	0.060	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
Perfluorononanoic acid (PFNA)	0.28		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
Perfluorodecanoic acid (PFDA)	0.32		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
Perfluoroundecanoic acid (PFUnA)	0.061	J	0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
Perfluorododecanoic acid (PFDoA)	0.22		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.19	0.056	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
Perfluorobutanesulfonic acid (PFBS)	0.087	J	0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
Perfluoropentanesulfonic acid (PFPeS)	0.090	J	0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1

Client Sample ID: SRA-001-N-S001-01222025
Date Collected: 01/22/25 13:05
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-28
Matrix: Solid
Percent Solids: 84.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**12**		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.13**	**J**	0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
Perfluorooctanesulfonic acid (PFOS)	**5.3**		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
Perfluorodecanesulfonic acid (PFDS)	**0.47**		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
Perfluorododecanesulfonic acid (PFDoS)	**0.40**		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.097	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
Perfluorooctanesulfonamide (PFOSA)	**2.1**		0.19	0.061	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	**0.050**	**J**	0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.97	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.97	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.19	0.060	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.19	0.073	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.19	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.097	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.97	0.24	ug/Kg	☼	01/29/25 03:50	01/30/25 16:23	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*8 - 130*	*01/29/25 03:50*	*01/30/25 16:23*	*1*
13C5 PFPeA	*89.1*		*35 - 130*	*01/29/25 03:50*	*01/30/25 16:23*	*1*

Client Sample ID: SRA-001-N-S001-01222025

Lab Sample ID: 320-118551-28
Date Collected: 01/22/25 13:05
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 84.5

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFHxA	86.3		40 - 130	01/29/25 03:50	01/30/25 16:23	1
13C4 PFHpA	88.8		40 - 130	01/29/25 03:50	01/30/25 16:23	1
13C8 PFOA	82.5		40 - 130	01/29/25 03:50	01/30/25 16:23	1
13C9 PFNA	93.4		40 - 130	01/29/25 03:50	01/30/25 16:23	1
13C6 PFDA	91.4		40 - 130	01/29/25 03:50	01/30/25 16:23	1
13C7 PFUnA	85.0		40 - 130	01/29/25 03:50	01/30/25 16:23	1
13C2 PFDoA	89.5		40 - 130	01/29/25 03:50	01/30/25 16:23	1
13C2 PFTeDA	107		20 - 130	01/29/25 03:50	01/30/25 16:23	1
13C3 PFBS	85.6		40 - 135	01/29/25 03:50	01/30/25 16:23	1
13C3 PFHxS	88.0		40 - 130	01/29/25 03:50	01/30/25 16:23	1
13C8 PFOS	84.9		40 - 130	01/29/25 03:50	01/30/25 16:23	1
13C8 FOSA	83.3		40 - 130	01/29/25 03:50	01/30/25 16:23	1
d3-NMeFOSAA	84.3		40 - 135	01/29/25 03:50	01/30/25 16:23	1
d5-NEtFOSAA	87.0		40 - 150	01/29/25 03:50	01/30/25 16:23	1
13C2 4:2 FTS	123		40 - 165	01/29/25 03:50	01/30/25 16:23	1
13C2 6:2 FTS	116		40 - 215	01/29/25 03:50	01/30/25 16:23	1
13C2 8:2 FTS	94.3		40 - 275	01/29/25 03:50	01/30/25 16:23	1
13C3 HFPO-DA	93.0		40 - 130	01/29/25 03:50	01/30/25 16:23	1
d7-N-MeFOSE-M	76.3		20 - 130	01/29/25 03:50	01/30/25 16:23	1
d9-N-EtFOSE-M	66.9		15 - 130	01/29/25 03:50	01/30/25 16:23	1
d5-NEtPFOSA	74.9		10 - 130	01/29/25 03:50	01/30/25 16:23	1
d3-NMePFOSA	77.4		10 - 130	01/29/25 03:50	01/30/25 16:23	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**16**		0.10	0.10	%			01/27/25 15:30	1

Client Sample ID: SRA-001-N-S003-01222025

Lab Sample ID: 320-118551-29
Date Collected: 01/22/25 13:10
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 86.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
Perfluoropentanoic acid (PFPeA)	**0.14**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
Perfluorohexanoic acid (PFHxA)	**0.66**		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
Perfluoroheptanoic acid (PFHpA)	**0.071**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
Perfluorooctanoic acid (PFOA)	**0.28**		0.20	0.061	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
Perfluorodecanoic acid (PFDA)	**0.051**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
Perfluorododecanoic acid (PFDoA)	**0.070**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
Perfluorobutanesulfonic acid (PFBS)	**0.053**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
Perfluorohexanesulfonic acid (PFHxS)	**2.0**		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1

Client Sample ID: SRA-001-N-S003-01222025
Date Collected: 01/22/25 13:10
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-29
Matrix: Solid
Percent Solids: 86.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
Perfluorooctanesulfonic acid (PFOS)	**0.77**		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
Perfluorododecanesulfonic acid (PFDoS)	**0.085**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
Perfluorooctanesulfonamide (PFOSA)	**0.49**		0.20	0.062	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 16:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*105*		*8 - 130*	*01/29/25 03:50*	*01/30/25 16:39*	*1*
13C5 PFPeA	*100*		*35 - 130*	*01/29/25 03:50*	*01/30/25 16:39*	*1*
13C5 PFHxA	*93.0*		*40 - 130*	*01/29/25 03:50*	*01/30/25 16:39*	*1*
13C4 PFHpA	*92.1*		*40 - 130*	*01/29/25 03:50*	*01/30/25 16:39*	*1*

Client Sample ID: SRA-001-N-S003-01222025

Lab Sample ID: 320-118551-29

Date Collected: 01/22/25 13:10
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 86.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOA	85.9		40 - 130	01/29/25 03:50	01/30/25 16:39	1
13C9 PFNA	95.6		40 - 130	01/29/25 03:50	01/30/25 16:39	1
13C6 PFDA	87.1		40 - 130	01/29/25 03:50	01/30/25 16:39	1
13C7 PFUnA	75.4		40 - 130	01/29/25 03:50	01/30/25 16:39	1
13C2 PFDoA	83.7		40 - 130	01/29/25 03:50	01/30/25 16:39	1
13C2 PFTeDA	89.7		20 - 130	01/29/25 03:50	01/30/25 16:39	1
13C3 PFBS	93.9		40 - 135	01/29/25 03:50	01/30/25 16:39	1
13C3 PFHxS	92.8		40 - 130	01/29/25 03:50	01/30/25 16:39	1
13C8 PFOS	85.9		40 - 130	01/29/25 03:50	01/30/25 16:39	1
13C8 FOSA	76.0		40 - 130	01/29/25 03:50	01/30/25 16:39	1
d3-NMeFOSAA	84.2		40 - 135	01/29/25 03:50	01/30/25 16:39	1
d5-NEtFOSAA	79.3		40 - 150	01/29/25 03:50	01/30/25 16:39	1
13C2 4:2 FTS	73.5		40 - 165	01/29/25 03:50	01/30/25 16:39	1
13C2 6:2 FTS	74.4		40 - 215	01/29/25 03:50	01/30/25 16:39	1
13C2 8:2 FTS	62.8		40 - 275	01/29/25 03:50	01/30/25 16:39	1
13C3 HFPO-DA	89.7		40 - 130	01/29/25 03:50	01/30/25 16:39	1
d7-N-MeFOSE-M	69.7		20 - 130	01/29/25 03:50	01/30/25 16:39	1
d9-N-EtFOSE-M	63.2		15 - 130	01/29/25 03:50	01/30/25 16:39	1
d5-NEtPFOSA	60.2		10 - 130	01/29/25 03:50	01/30/25 16:39	1
d3-NMePFOSA	58.8		10 - 130	01/29/25 03:50	01/30/25 16:39	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	13		0.10	0.10	%			01/27/25 15:30	1

Client Sample ID: HFH-001-N-S001-01222025

Lab Sample ID: 320-118551-32

Date Collected: 01/22/25 14:50
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 90.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
Perfluorohexanoic acid (PFHxA)	0.12	J	0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
Perfluorooctanoic acid (PFOA)	0.17	J	0.20	0.061	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
Perfluorononanoic acid (PFNA)	0.082	J	0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
Perfluorodecanoic acid (PFDA)	0.45		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
Perfluoroundecanoic acid (PFUnA)	1.1		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
Perfluorododecanoic acid (PFDoA)	0.55		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
Perfluorotridecanoic acid (PFTrDA)	0.50		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
Perfluorotetradecanoic acid (PFTeDA)	0.13	J	0.20	0.057	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
Perfluorohexanesulfonic acid (PFHxS)	0.32		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-1

Client Sample ID: HFH-001-N-S001-01222025
Date Collected: 01/22/25 14:50
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-32
Matrix: Solid
Percent Solids: 90.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
Perfluorooctanesulfonic acid (PFOS)	**4.8**		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
Perfluorononanesulfonic acid (PFNS)	**0.23**		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
Perfluorodecanesulfonic acid (PFDS)	**0.59**		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
Perfluorododecanesulfonic acid (PFDoS)	**0.34**		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**0.56**		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**2.1**		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
Perfluorooctanesulfonamide (PFOSA)	**0.67**		0.20	0.062	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**0.095**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**0.28**	**J**	0.98	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	**0.67**	**J**	0.98	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 16:55	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*103*		*8 - 130*	*01/29/25 03:50*	*01/30/25 16:55*	*1*
13C5 PFPeA	*96.7*		*35 - 130*	*01/29/25 03:50*	*01/30/25 16:55*	*1*
13C5 PFHxA	*86.8*		*40 - 130*	*01/29/25 03:50*	*01/30/25 16:55*	*1*

Client Sample ID: HFH-001-N-S001-01222025

Lab Sample ID: 320-118551-32
Date Collected: 01/22/25 14:50
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 90.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFHpA	88.5		40 - 130	01/29/25 03:50	01/30/25 16:55	1
13C8 PFOA	86.2		40 - 130	01/29/25 03:50	01/30/25 16:55	1
13C9 PFNA	95.2		40 - 130	01/29/25 03:50	01/30/25 16:55	1
13C6 PFDA	92.8		40 - 130	01/29/25 03:50	01/30/25 16:55	1
13C7 PFUnA	93.0		40 - 130	01/29/25 03:50	01/30/25 16:55	1
13C2 PFDoA	105		40 - 130	01/29/25 03:50	01/30/25 16:55	1
13C2 PFTeDA	111		20 - 130	01/29/25 03:50	01/30/25 16:55	1
13C3 PFBS	87.0		40 - 135	01/29/25 03:50	01/30/25 16:55	1
13C3 PFHxS	88.8		40 - 130	01/29/25 03:50	01/30/25 16:55	1
13C8 PFOS	86.8		40 - 130	01/29/25 03:50	01/30/25 16:55	1
13C8 FOSA	86.4		40 - 130	01/29/25 03:50	01/30/25 16:55	1
d3-NMeFOSAA	88.4		40 - 135	01/29/25 03:50	01/30/25 16:55	1
d5-NEtFOSAA	90.4		40 - 150	01/29/25 03:50	01/30/25 16:55	1
13C2 4:2 FTS	79.6		40 - 165	01/29/25 03:50	01/30/25 16:55	1
13C2 6:2 FTS	76.7		40 - 215	01/29/25 03:50	01/30/25 16:55	1
13C2 8:2 FTS	71.8		40 - 275	01/29/25 03:50	01/30/25 16:55	1
13C3 HFPO-DA	87.4		40 - 130	01/29/25 03:50	01/30/25 16:55	1
d7-N-MeFOSE-M	74.7		20 - 130	01/29/25 03:50	01/30/25 16:55	1
d9-N-EtFOSE-M	72.3		15 - 130	01/29/25 03:50	01/30/25 16:55	1
d5-NEtPFOSA	73.3		10 - 130	01/29/25 03:50	01/30/25 16:55	1
d3-NMePFOSA	73.1		10 - 130	01/29/25 03:50	01/30/25 16:55	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**9.3**		0.10	0.10	%			01/27/25 15:30	1

Client Sample ID: HFH-001-N-S003-01222025

Lab Sample ID: 320-118551-33
Date Collected: 01/22/25 14:55
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 94.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
Perfluoropentanoic acid (PFPeA)	**0.079**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
Perfluorohexanoic acid (PFHxA)	**0.31**		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
Perfluoroheptanoic acid (PFHpA)	**0.054**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
Perfluorooctanoic acid (PFOA)	**1.7**		0.20	0.061	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
Perfluorononanoic acid (PFNA)	**0.93**		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
Perfluorodecanoic acid (PFDA)	**3.1**		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
Perfluorohexanesulfonic acid (PFHxS)	**1.1**		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1

Client Sample ID: HFH-001-N-S003-01222025
Date Collected: 01/22/25 14:55
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-33
Matrix: Solid
Percent Solids: 94.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**6.6**		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	**0.17**	**J**	0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	**0.86**	**J**	0.98	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 17:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*105*		*8 - 130*	*01/29/25 03:50*	*01/30/25 17:12*	*1*
13C5 PFPeA	*98.2*		*35 - 130*	*01/29/25 03:50*	*01/30/25 17:12*	*1*
13C5 PFHxA	*90.6*		*40 - 130*	*01/29/25 03:50*	*01/30/25 17:12*	*1*
13C4 PFHpA	*89.4*		*40 - 130*	*01/29/25 03:50*	*01/30/25 17:12*	*1*
13C8 PFOA	*88.3*		*40 - 130*	*01/29/25 03:50*	*01/30/25 17:12*	*1*
13C9 PFNA	*98.2*		*40 - 130*	*01/29/25 03:50*	*01/30/25 17:12*	*1*
13C6 PFDA	*95.1*		*40 - 130*	*01/29/25 03:50*	*01/30/25 17:12*	*1*
13C7 PFUnA	*96.9*		*40 - 130*	*01/29/25 03:50*	*01/30/25 17:12*	*1*
13C2 PFDoA	*98.7*		*40 - 130*	*01/29/25 03:50*	*01/30/25 17:12*	*1*
13C2 PFTeDA	*95.5*		*20 - 130*	*01/29/25 03:50*	*01/30/25 17:12*	*1*
13C3 PFBS	*94.6*		*40 - 135*	*01/29/25 03:50*	*01/30/25 17:12*	*1*
13C3 PFHxS	*91.3*		*40 - 130*	*01/29/25 03:50*	*01/30/25 17:12*	*1*
13C2 4:2 FTS	*70.7*		*40 - 165*	*01/29/25 03:50*	*01/30/25 17:12*	*1*
13C2 6:2 FTS	*69.3*		*40 - 215*	*01/29/25 03:50*	*01/30/25 17:12*	*1*
13C3 HFPO-DA	*88.7*		*40 - 130*	*01/29/25 03:50*	*01/30/25 17:12*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic acid (PFHpS)	**1.1**	**J**	2.0	0.49	ug/Kg	☼	01/29/25 03:50	01/30/25 21:02	10
Perfluorononanesulfonic acid (PFNS)	**0.68**	**J**	2.0	0.49	ug/Kg	☼	01/29/25 03:50	01/30/25 21:02	10
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.49	ug/Kg	☼	01/29/25 03:50	01/30/25 21:02	10
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.49	ug/Kg	☼	01/29/25 03:50	01/30/25 21:02	10
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**150**		3.9	0.98	ug/Kg	☼	01/29/25 03:50	01/30/25 21:02	10
Perfluorooctanesulfonamide (PFOSA)	**12**		2.0	0.62	ug/Kg	☼	01/29/25 03:50	01/30/25 21:02	10

Client Sample ID: HFH-001-N-S003-01222025

Lab Sample ID: 320-118551-33
Date Collected: 01/22/25 14:55
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 94.0

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		2.0	0.49	ug/Kg	☼	01/29/25 03:50	01/30/25 21:02	10
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		2.0	0.49	ug/Kg	☼	01/29/25 03:50	01/30/25 21:02	10
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.49	ug/Kg	☼	01/29/25 03:50	01/30/25 21:02	10
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**0.59**	**J**	2.0	0.49	ug/Kg	☼	01/29/25 03:50	01/30/25 21:02	10
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		9.8	2.5	ug/Kg	☼	01/29/25 03:50	01/30/25 21:02	10
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		9.8	2.5	ug/Kg	☼	01/29/25 03:50	01/30/25 21:02	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*97.2*	**3*	*40 - 130*	*01/29/25 03:50*	*01/30/25 21:02*	*10*
13C8 FOSA	*101*	**3*	*40 - 130*	*01/29/25 03:50*	*01/30/25 21:02*	*10*
d3-NMeFOSAA	*112*	**3*	*40 - 135*	*01/29/25 03:50*	*01/30/25 21:02*	*10*
d5-NEtFOSAA	*106*	**3*	*40 - 150*	*01/29/25 03:50*	*01/30/25 21:02*	*10*
13C2 8:2 FTS	*74.8*	**3*	*40 - 275*	*01/29/25 03:50*	*01/30/25 21:02*	*10*
d7-N-MeFOSE-M	*91.0*	**3*	*20 - 130*	*01/29/25 03:50*	*01/30/25 21:02*	*10*
d9-N-EtFOSE-M	*99.6*	**3*	*15 - 130*	*01/29/25 03:50*	*01/30/25 21:02*	*10*
d5-NEtPFOSA	*80.6*	**3*	*10 - 130*	*01/29/25 03:50*	*01/30/25 21:02*	*10*
d3-NMePFOSA	*79.2*	**3*	*10 - 130*	*01/29/25 03:50*	*01/30/25 21:02*	*10*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**330**		3.9	0.98	ug/Kg	☼	01/29/25 03:50	01/31/25 14:01	20

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*100*	**3*	*40 - 130*	*01/29/25 03:50*	*01/31/25 14:01*	*20*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**6.0**		0.10	0.10	%			01/27/25 15:30	1

Client Sample ID: HFH-001-FD-S003-01222025

Lab Sample ID: 320-118551-34
Date Collected: 01/22/25 15:25
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 89.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
Perfluorohexanoic acid (PFHxA)	**0.24**		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
Perfluorooctanoic acid (PFOA)	**0.60**		0.20	0.062	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
Perfluorononanoic acid (PFNA)	**0.66**		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
Perfluorodecanoic acid (PFDA)	**3.0**		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1

Client Sample ID: HFH-001-FD-S003-01222025
Date Collected: 01/22/25 15:25
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-34
Matrix: Solid
Percent Solids: 89.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
Perfluorohexanesulfonic acid (PFHxS)	**0.55**		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	**4.9**		0.40	0.10	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	**0.14**	**J**	0.40	0.10	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	**0.86**	**J**	1.0	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 18:01	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*105*		*8 - 130*	*01/29/25 03:50*	*01/30/25 18:01*	*1*
13C5 PFPeA	*99.9*		*35 - 130*	*01/29/25 03:50*	*01/30/25 18:01*	*1*
13C5 PFHxA	*92.7*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:01*	*1*
13C4 PFHpA	*89.5*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:01*	*1*
13C8 PFOA	*83.4*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:01*	*1*
13C9 PFNA	*98.9*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:01*	*1*
13C6 PFDA	*93.6*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:01*	*1*
13C7 PFUnA	*92.7*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:01*	*1*
13C2 PFDoA	*100*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:01*	*1*
13C2 PFTeDA	*96.0*		*20 - 130*	*01/29/25 03:50*	*01/30/25 18:01*	*1*
13C3 PFBS	*93.6*		*40 - 135*	*01/29/25 03:50*	*01/30/25 18:01*	*1*
13C3 PFHxS	*91.2*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:01*	*1*
13C2 4:2 FTS	*76.4*		*40 - 165*	*01/29/25 03:50*	*01/30/25 18:01*	*1*
13C2 6:2 FTS	*71.8*		*40 - 215*	*01/29/25 03:50*	*01/30/25 18:01*	*1*
13C3 HFPO-DA	*89.3*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:01*	*1*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic acid (PFHpS)	**0.68**	**J**	2.0	0.50	ug/Kg	☼	01/29/25 03:50	01/30/25 21:18	10
Perfluorononanesulfonic acid (PFNS)	**0.61**	**J**	2.0	0.50	ug/Kg	☼	01/29/25 03:50	01/30/25 21:18	10
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ug/Kg	☼	01/29/25 03:50	01/30/25 21:18	10

Client Sample ID: HFH-001-FD-S003-01222025

Lab Sample ID: 320-118551-34

Date Collected: 01/22/25 15:25
Date Received: 01/25/25 08:45

Matrix: Solid
Percent Solids: 89.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.50	ug/Kg	☼	01/29/25 03:50	01/30/25 21:18	10
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	**150**		4.0	1.0	ug/Kg	☼	01/29/25 03:50	01/30/25 21:18	10
Perfluorooctanesulfonamide (PFOSA)	**13**		2.0	0.63	ug/Kg	☼	01/29/25 03:50	01/30/25 21:18	10
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		2.0	0.50	ug/Kg	☼	01/29/25 03:50	01/30/25 21:18	10
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		2.0	0.50	ug/Kg	☼	01/29/25 03:50	01/30/25 21:18	10
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ug/Kg	☼	01/29/25 03:50	01/30/25 21:18	10
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**0.59**	**J**	2.0	0.50	ug/Kg	☼	01/29/25 03:50	01/30/25 21:18	10
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		10	2.5	ug/Kg	☼	01/29/25 03:50	01/30/25 21:18	10
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		10	2.5	ug/Kg	☼	01/29/25 03:50	01/30/25 21:18	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*88.3*	**3*	*40 - 130*	*01/29/25 03:50*	*01/30/25 21:18*	*10*
13C8 FOSA	*104*	**3*	*40 - 130*	*01/29/25 03:50*	*01/30/25 21:18*	*10*
d3-NMeFOSAA	*115*	**3*	*40 - 135*	*01/29/25 03:50*	*01/30/25 21:18*	*10*
d5-NEtFOSAA	*110*	**3*	*40 - 150*	*01/29/25 03:50*	*01/30/25 21:18*	*10*
13C2 8:2 FTS	*76.8*	**3*	*40 - 275*	*01/29/25 03:50*	*01/30/25 21:18*	*10*
d7-N-MeFOSE-M	*89.8*	**3*	*20 - 130*	*01/29/25 03:50*	*01/30/25 21:18*	*10*
d9-N-EtFOSE-M	*90.2*	**3*	*15 - 130*	*01/29/25 03:50*	*01/30/25 21:18*	*10*
d5-NEtPFOSA	*98.8*	**3*	*10 - 130*	*01/29/25 03:50*	*01/30/25 21:18*	*10*
d3-NMePFOSA	*103*	**3*	*10 - 130*	*01/29/25 03:50*	*01/30/25 21:18*	*10*

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**320**		4.0	1.0	ug/Kg	☼	01/29/25 03:50	01/31/25 14:18	20

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*93.4*	**3*	*40 - 130*	*01/29/25 03:50*	*01/31/25 14:18*	*20*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**10**		0.10	0.10	%			01/27/25 15:30	1

Client Sample ID: SRA-002-N-S000-01222025

Lab Sample ID: 320-118551-36

Date Collected: 01/22/25 11:45
Date Received: 01/25/25 08:45

Matrix: Solid
Percent Solids: 79.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
Perfluorooctanoic acid (PFOA)	**0.26**		0.20	0.062	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
Perfluorononanoic acid (PFNA)	**0.44**		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-1

Client Sample ID: SRA-002-N-S000-01222025
Date Collected: 01/22/25 11:45
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-36
Matrix: Solid
Percent Solids: 79.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanoic acid (PFDA)	**1.7**		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
Perfluoroundecanoic acid (PFUnA)	**0.74**		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
Perfluorododecanoic acid (PFDoA)	**3.7**		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
Perfluorotridecanoic acid (PFTrDA)	**0.62**		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
Perfluorotetradecanoic acid (PFTeDA)	**2.0**		0.20	0.058	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
Perfluorooctanesulfonic acid (PFOS)	**0.43**		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1

Client Sample ID: SRA-002-N-S000-01222025

Lab Sample ID: 320-118551-36
Date Collected: 01/22/25 11:45
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 79.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**0.38**	**J**	1.0	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	**0.70**	**J**	1.0	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 18:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*105*		*8 - 130*	*01/29/25 03:50*	*01/30/25 18:18*	*1*
13C5 PFPeA	*84.9*		*35 - 130*	*01/29/25 03:50*	*01/30/25 18:18*	*1*
13C5 PFHxA	*89.4*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:18*	*1*
13C4 PFHpA	*88.2*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:18*	*1*
13C8 PFOA	*88.3*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:18*	*1*
13C9 PFNA	*91.5*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:18*	*1*
13C6 PFDA	*89.9*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:18*	*1*
13C7 PFUnA	*88.1*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:18*	*1*
13C2 PFDoA	*90.1*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:18*	*1*
13C2 PFTeDA	*107*		*20 - 130*	*01/29/25 03:50*	*01/30/25 18:18*	*1*
13C3 PFBS	*92.1*		*40 - 135*	*01/29/25 03:50*	*01/30/25 18:18*	*1*
13C3 PFHxS	*94.1*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:18*	*1*
13C8 PFOS	*92.9*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:18*	*1*
13C8 FOSA	*85.3*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:18*	*1*
d3-NMeFOSAA	*85.6*		*40 - 135*	*01/29/25 03:50*	*01/30/25 18:18*	*1*
d5-NEtFOSAA	*90.7*		*40 - 150*	*01/29/25 03:50*	*01/30/25 18:18*	*1*
13C2 4:2 FTS	*144*		*40 - 165*	*01/29/25 03:50*	*01/30/25 18:18*	*1*
13C2 6:2 FTS	*138*		*40 - 215*	*01/29/25 03:50*	*01/30/25 18:18*	*1*
13C2 8:2 FTS	*119*		*40 - 275*	*01/29/25 03:50*	*01/30/25 18:18*	*1*
13C3 HFPO-DA	*95.6*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:18*	*1*
d7-N-MeFOSE-M	*81.5*		*20 - 130*	*01/29/25 03:50*	*01/30/25 18:18*	*1*
d9-N-EtFOSE-M	*69.6*		*15 - 130*	*01/29/25 03:50*	*01/30/25 18:18*	*1*
d5-NEtPFOSA	*81.1*		*10 - 130*	*01/29/25 03:50*	*01/30/25 18:18*	*1*
d3-NMePFOSA	*82.2*		*10 - 130*	*01/29/25 03:50*	*01/30/25 18:18*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**20**		0.10	0.10	%			01/27/25 15:30	1

Client Sample ID: TRP-001-N-S000-01222025

Lab Sample ID: 320-118551-37
Date Collected: 01/22/25 12:35
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 90.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.099	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
Perfluorodecanoic acid (PFDA)	**0.49**		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
Perfluoroundecanoic acid (PFUnA)	**0.23**		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-1

Client Sample ID: TRP-001-N-S000-01222025
Date Collected: 01/22/25 12:35
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-37
Matrix: Solid
Percent Solids: 90.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	**0.57**		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
Perfluorotridecanoic acid (PFTrDA)	**0.14**	**J**	0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
Perfluorotetradecanoic acid (PFTeDA)	**0.54**		0.20	0.057	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.099	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.099	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.099	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.99	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.99	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.099	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	**0.33**	**J**	0.99	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1

Client Sample ID: TRP-001-N-S000-01222025

Lab Sample ID: 320-118551-37

Date Collected: 01/22/25 12:35
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 90.2

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	0.89	J	0.99	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 18:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*105*		*8 - 130*	*01/29/25 03:50*	*01/30/25 18:34*	*1*
13C5 PFPeA	*95.3*		*35 - 130*	*01/29/25 03:50*	*01/30/25 18:34*	*1*
13C5 PFHxA	*88.0*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:34*	*1*
13C4 PFHpA	*86.8*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:34*	*1*
13C8 PFOA	*86.2*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:34*	*1*
13C9 PFNA	*98.6*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:34*	*1*
13C6 PFDA	*94.3*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:34*	*1*
13C7 PFUnA	*88.1*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:34*	*1*
13C2 PFDoA	*93.3*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:34*	*1*
13C2 PFTeDA	*94.8*		*20 - 130*	*01/29/25 03:50*	*01/30/25 18:34*	*1*
13C3 PFBS	*88.7*		*40 - 135*	*01/29/25 03:50*	*01/30/25 18:34*	*1*
13C3 PFHxS	*89.2*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:34*	*1*
13C8 PFOS	*88.7*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:34*	*1*
13C8 FOSA	*80.2*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:34*	*1*
d3-NMeFOSAA	*91.3*		*40 - 135*	*01/29/25 03:50*	*01/30/25 18:34*	*1*
d5-NEtFOSAA	*86.2*		*40 - 150*	*01/29/25 03:50*	*01/30/25 18:34*	*1*
13C2 4:2 FTS	*82.5*		*40 - 165*	*01/29/25 03:50*	*01/30/25 18:34*	*1*
13C2 6:2 FTS	*78.0*		*40 - 215*	*01/29/25 03:50*	*01/30/25 18:34*	*1*
13C2 8:2 FTS	*73.9*		*40 - 275*	*01/29/25 03:50*	*01/30/25 18:34*	*1*
13C3 HFPO-DA	*80.4*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:34*	*1*
d7-N-MeFOSE-M	*74.6*		*20 - 130*	*01/29/25 03:50*	*01/30/25 18:34*	*1*
d9-N-EtFOSE-M	*71.6*		*15 - 130*	*01/29/25 03:50*	*01/30/25 18:34*	*1*
d5-NEtPFOSA	*68.8*		*10 - 130*	*01/29/25 03:50*	*01/30/25 18:34*	*1*
d3-NMePFOSA	*68.7*		*10 - 130*	*01/29/25 03:50*	*01/30/25 18:34*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	9.8		0.10	0.10	%			01/27/25 16:04	1

Client Sample ID: TRP-002-N-S000-01222025

Lab Sample ID: 320-118551-38

Date Collected: 01/22/25 12:55
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 90.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.061	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.057	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-1

Client Sample ID: TRP-002-N-S000-01222025
Date Collected: 01/22/25 12:55
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-38
Matrix: Solid
Percent Solids: 90.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.062	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		0.98	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		0.98	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.061	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.074	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.049	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.39	0.098	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		0.98	0.25	ug/Kg	☼	01/29/25 03:50	01/30/25 18:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*102*		*8 - 130*	*01/29/25 03:50*	*01/30/25 18:50*	*1*
13C5 PFPeA	*93.2*		*35 - 130*	*01/29/25 03:50*	*01/30/25 18:50*	*1*
13C5 PFHxA	*84.5*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:50*	*1*

Client Sample ID: TRP-002-N-S000-01222025

Lab Sample ID: 320-118551-38

Date Collected: 01/22/25 12:55
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 90.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFHpA	*81.9*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:50*	*1*
13C8 PFOA	*84.2*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:50*	*1*
13C9 PFNA	*92.2*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:50*	*1*
13C6 PFDA	*90.0*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:50*	*1*
13C7 PFUnA	*85.6*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:50*	*1*
13C2 PFDoA	*84.1*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:50*	*1*
13C2 PFTeDA	*86.2*		*20 - 130*	*01/29/25 03:50*	*01/30/25 18:50*	*1*
13C3 PFBS	*89.1*		*40 - 135*	*01/29/25 03:50*	*01/30/25 18:50*	*1*
13C3 PFHxS	*89.1*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:50*	*1*
13C8 PFOS	*86.7*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:50*	*1*
13C8 FOSA	*75.5*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:50*	*1*
d3-NMeFOSAA	*88.1*		*40 - 135*	*01/29/25 03:50*	*01/30/25 18:50*	*1*
d5-NEtFOSAA	*81.0*		*40 - 150*	*01/29/25 03:50*	*01/30/25 18:50*	*1*
13C2 4:2 FTS	*80.9*		*40 - 165*	*01/29/25 03:50*	*01/30/25 18:50*	*1*
13C2 6:2 FTS	*75.4*		*40 - 215*	*01/29/25 03:50*	*01/30/25 18:50*	*1*
13C2 8:2 FTS	*66.2*		*40 - 275*	*01/29/25 03:50*	*01/30/25 18:50*	*1*
13C3 HFPO-DA	*85.3*		*40 - 130*	*01/29/25 03:50*	*01/30/25 18:50*	*1*
d7-N-MeFOSE-M	*69.9*		*20 - 130*	*01/29/25 03:50*	*01/30/25 18:50*	*1*
d9-N-EtFOSE-M	*66.2*		*15 - 130*	*01/29/25 03:50*	*01/30/25 18:50*	*1*
d5-NEtPFOSA	*65.7*		*10 - 130*	*01/29/25 03:50*	*01/30/25 18:50*	*1*
d3-NMePFOSA	*62.6*		*10 - 130*	*01/29/25 03:50*	*01/30/25 18:50*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**9.9**		0.10	0.10	%			01/27/25 16:04	1

Client Sample ID: HFH-006-N-S000-01222025

Lab Sample ID: 320-118551-39

Date Collected: 01/22/25 15:05
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 85.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.47	0.12	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
Perfluoropentanoic acid (PFPeA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
Perfluorohexanoic acid (PFHxA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
Perfluoroheptanoic acid (PFHpA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
Perfluorooctanoic acid (PFOA)	ND		0.23	0.073	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
Perfluorononanoic acid (PFNA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
Perfluorodecanoic acid (PFDA)	**0.11**	**J**	0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
Perfluoroundecanoic acid (PFUnA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
Perfluorododecanoic acid (PFDoA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.23	0.068	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
Perfluorooctanesulfonic acid (PFOS)	**0.55**		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-1

Client Sample ID: HFH-006-N-S000-01222025
Date Collected: 01/22/25 15:05
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-39
Matrix: Solid
Percent Solids: 85.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanesulfonic acid (PFNS)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.47	0.12	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.47	0.12	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.47	0.12	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.23	0.074	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**0.059**	**J**	0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.2	0.29	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.2	0.29	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.23	0.073	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.23	0.088	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.23	0.058	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.47	0.12	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.2	0.29	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.2	0.29	ug/Kg	☼	01/29/25 11:30	01/31/25 01:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99.6*		*8 - 130*	*01/29/25 11:30*	*01/31/25 01:09*	*1*
13C5 PFPeA	*92.8*		*35 - 130*	*01/29/25 11:30*	*01/31/25 01:09*	*1*
13C5 PFHxA	*85.1*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:09*	*1*
13C4 PFHpA	*83.1*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:09*	*1*
13C8 PFOA	*84.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:09*	*1*
13C9 PFNA	*97.5*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:09*	*1*
13C6 PFDA	*87.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:09*	*1*
13C7 PFUnA	*75.1*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:09*	*1*

Client Sample ID: HFH-006-N-S000-01222025

Lab Sample ID: 320-118551-39

Date Collected: 01/22/25 15:05
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 85.1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDoA	*65.4*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:09*	*1*
13C2 PFTeDA	*55.0*		*20 - 130*	*01/29/25 11:30*	*01/31/25 01:09*	*1*
13C3 PFBS	*86.0*		*40 - 135*	*01/29/25 11:30*	*01/31/25 01:09*	*1*
13C3 PFHxS	*84.5*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:09*	*1*
13C8 PFOS	*79.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:09*	*1*
13C8 FOSA	*66.2*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:09*	*1*
d3-NMeFOSAA	*79.3*		*40 - 135*	*01/29/25 11:30*	*01/31/25 01:09*	*1*
d5-NEtFOSAA	*74.3*		*40 - 150*	*01/29/25 11:30*	*01/31/25 01:09*	*1*
13C2 4:2 FTS	*86.7*		*40 - 165*	*01/29/25 11:30*	*01/31/25 01:09*	*1*
13C2 6:2 FTS	*77.0*		*40 - 215*	*01/29/25 11:30*	*01/31/25 01:09*	*1*
13C2 8:2 FTS	*64.7*		*40 - 275*	*01/29/25 11:30*	*01/31/25 01:09*	*1*
13C3 HFPO-DA	*83.6*		*40 - 130*	*01/29/25 11:30*	*01/31/25 01:09*	*1*
d7-N-MeFOSE-M	*51.8*		*20 - 130*	*01/29/25 11:30*	*01/31/25 01:09*	*1*
d9-N-EtFOSE-M	*50.8*		*15 - 130*	*01/29/25 11:30*	*01/31/25 01:09*	*1*
d5-NEtPFOSA	*49.1*		*10 - 130*	*01/29/25 11:30*	*01/31/25 01:09*	*1*
d3-NMePFOSA	*52.3*		*10 - 130*	*01/29/25 11:30*	*01/31/25 01:09*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA 1633)	**15**		0.10	0.10	%			01/27/25 16:04	1

Client Sample ID: EB-01222025

Lab Sample ID: 320-118551-40

Date Collected: 01/22/25 07:30
Matrix: Water
Date Received: 01/25/25 08:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.3	0.81	ng/L		01/28/25 04:11	02/03/25 17:41	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.41	ng/L		01/28/25 04:11	02/03/25 17:41	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.41	ng/L		01/28/25 04:11	02/03/25 17:41	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.41	ng/L		01/28/25 04:11	02/03/25 17:41	1
Perfluorooctanoic acid (PFOA)	ND		1.6	0.41	ng/L		01/28/25 04:11	02/03/25 17:41	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.41	ng/L		01/28/25 04:11	02/03/25 17:41	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.41	ng/L		01/28/25 04:11	02/03/25 17:41	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.41	ng/L		01/28/25 04:11	02/03/25 17:41	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.45	ng/L		01/28/25 04:11	02/03/25 17:41	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.6	0.47	ng/L		01/28/25 04:11	02/03/25 17:41	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.6	0.66	ng/L		01/28/25 04:11	02/03/25 17:41	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.41	ng/L		01/28/25 04:11	02/03/25 17:41	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.6	0.41	ng/L		01/28/25 04:11	02/03/25 17:41	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.41	ng/L		01/28/25 04:11	02/03/25 17:41	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.41	ng/L		01/28/25 04:11	02/03/25 17:41	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.41	ng/L		01/28/25 04:11	02/03/25 17:41	1
Perfluorononanesulfonic acid (PFNS)	ND		1.6	0.41	ng/L		01/28/25 04:11	02/03/25 17:41	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.41	ng/L		01/28/25 04:11	02/03/25 17:41	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.6	0.43	ng/L		01/28/25 04:11	02/03/25 17:41	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.3	0.81	ng/L		01/28/25 04:11	02/03/25 17:41	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-1

Client Sample ID: EB-01222025
Date Collected: 01/22/25 07:30
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-40
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.3	0.81	ng/L		01/28/25 04:11	02/03/25 17:41	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.3	0.81	ng/L		01/28/25 04:11	02/03/25 17:41	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.41	ng/L		01/28/25 04:11	02/03/25 17:41	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.6	0.41	ng/L		01/28/25 04:11	02/03/25 17:41	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.6	0.41	ng/L		01/28/25 04:11	02/03/25 17:41	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.6	0.41	ng/L		01/28/25 04:11	02/03/25 17:41	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.6	0.41	ng/L		01/28/25 04:11	02/03/25 17:41	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		8.1	2.0	ng/L		01/28/25 04:11	02/03/25 17:41	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		8.1	2.0	ng/L		01/28/25 04:11	02/03/25 17:41	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.2	0.32	ng/L		01/28/25 04:11	02/03/25 17:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.6	0.41	ng/L		01/28/25 04:11	02/03/25 17:41	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.6	0.41	ng/L		01/28/25 04:11	02/03/25 17:41	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.6	0.41	ng/L		01/28/25 04:11	02/03/25 17:41	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.6	0.59	ng/L		01/28/25 04:11	02/03/25 17:41	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.6	0.47	ng/L		01/28/25 04:11	02/03/25 17:41	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.6	0.41	ng/L		01/28/25 04:11	02/03/25 17:41	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.6	0.41	ng/L		01/28/25 04:11	02/03/25 17:41	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.3	0.81	ng/L		01/28/25 04:11	02/03/25 17:41	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		8.1	2.0	ng/L		01/28/25 04:11	02/03/25 17:41	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		8.1	2.0	ng/L		01/28/25 04:11	02/03/25 17:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*103*		*5 - 130*	*01/28/25 04:11*	*02/03/25 17:41*	*1*
13C5 PFPeA	*93.7*		*40 - 130*	*01/28/25 04:11*	*02/03/25 17:41*	*1*
13C5 PFHxA	*103*		*40 - 130*	*01/28/25 04:11*	*02/03/25 17:41*	*1*
13C4 PFHpA	*101*		*40 - 130*	*01/28/25 04:11*	*02/03/25 17:41*	*1*
13C8 PFOA	*80.5*		*40 - 130*	*01/28/25 04:11*	*02/03/25 17:41*	*1*
13C9 PFNA	*72.3*		*40 - 130*	*01/28/25 04:11*	*02/03/25 17:41*	*1*
13C6 PFDA	*63.6*		*40 - 130*	*01/28/25 04:11*	*02/03/25 17:41*	*1*
13C7 PFUnA	*62.8*		*30 - 130*	*01/28/25 04:11*	*02/03/25 17:41*	*1*
13C2 PFDoA	*65.8*		*10 - 130*	*01/28/25 04:11*	*02/03/25 17:41*	*1*
13C2 PFTeDA	*57.5*		*10 - 130*	*01/28/25 04:11*	*02/03/25 17:41*	*1*
13C3 PFBS	*89.0*		*40 - 135*	*01/28/25 04:11*	*02/03/25 17:41*	*1*
13C3 PFHxS	*77.2*		*40 - 130*	*01/28/25 04:11*	*02/03/25 17:41*	*1*
13C8 PFOS	*75.4*		*40 - 130*	*01/28/25 04:11*	*02/03/25 17:41*	*1*
13C8 FOSA	*72.7*		*40 - 130*	*01/28/25 04:11*	*02/03/25 17:41*	*1*

Client Sample ID: EB-01222025

Lab Sample ID: 320-118551-40

Date Collected: 01/22/25 07:30
Matrix: Water
Date Received: 01/25/25 08:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMeFOSAA	84.1		40 - 170	01/28/25 04:11	02/03/25 17:41	1
d5-NEtFOSAA	76.5		25 - 135	01/28/25 04:11	02/03/25 17:41	1
13C2 4:2 FTS	99.5		40 - 200	01/28/25 04:11	02/03/25 17:41	1
13C2 6:2 FTS	104		40 - 200	01/28/25 04:11	02/03/25 17:41	1
13C2 8:2 FTS	76.7		40 - 300	01/28/25 04:11	02/03/25 17:41	1
13C3 HFPO-DA	96.3		40 - 130	01/28/25 04:11	02/03/25 17:41	1
d7-N-MeFOSE-M	87.8		10 - 130	01/28/25 04:11	02/03/25 17:41	1
d9-N-EtFOSE-M	81.9		10 - 130	01/28/25 04:11	02/03/25 17:41	1
d5-NEtPFOSA	72.9		10 - 130	01/28/25 04:11	02/03/25 17:41	1
d3-NMePFOSA	77.9		10 - 130	01/28/25 04:11	02/03/25 17:41	1

Client Sample ID: FB-01222025

Lab Sample ID: 320-118551-41

Date Collected: 01/22/25 00:00
Matrix: Water
Date Received: 01/25/25 08:45

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.2	0.79	ng/L		01/28/25 04:11	02/03/25 17:57	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.39	ng/L		01/28/25 04:11	02/03/25 17:57	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.39	ng/L		01/28/25 04:11	02/03/25 17:57	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.39	ng/L		01/28/25 04:11	02/03/25 17:57	1
Perfluorooctanoic acid (PFOA)	ND		1.6	0.39	ng/L		01/28/25 04:11	02/03/25 17:57	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.39	ng/L		01/28/25 04:11	02/03/25 17:57	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.39	ng/L		01/28/25 04:11	02/03/25 17:57	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.39	ng/L		01/28/25 04:11	02/03/25 17:57	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.43	ng/L		01/28/25 04:11	02/03/25 17:57	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.6	0.46	ng/L		01/28/25 04:11	02/03/25 17:57	1
Perfluorotetradecanoic acid (PFTeDA)	ND		1.6	0.64	ng/L		01/28/25 04:11	02/03/25 17:57	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.39	ng/L		01/28/25 04:11	02/03/25 17:57	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.6	0.39	ng/L		01/28/25 04:11	02/03/25 17:57	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.39	ng/L		01/28/25 04:11	02/03/25 17:57	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.39	ng/L		01/28/25 04:11	02/03/25 17:57	1
Perfluorooctanesulfonic acid (PFOS)	**0.43**	**J**	1.6	0.39	ng/L		01/28/25 04:11	02/03/25 17:57	1
Perfluorononanesulfonic acid (PFNS)	ND		1.6	0.39	ng/L		01/28/25 04:11	02/03/25 17:57	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.39	ng/L		01/28/25 04:11	02/03/25 17:57	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.6	0.42	ng/L		01/28/25 04:11	02/03/25 17:57	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		3.2	0.79	ng/L		01/28/25 04:11	02/03/25 17:57	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		3.2	0.79	ng/L		01/28/25 04:11	02/03/25 17:57	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		3.2	0.79	ng/L		01/28/25 04:11	02/03/25 17:57	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.6	0.39	ng/L		01/28/25 04:11	02/03/25 17:57	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		1.6	0.39	ng/L		01/28/25 04:11	02/03/25 17:57	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		1.6	0.39	ng/L		01/28/25 04:11	02/03/25 17:57	1

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-1

Client Sample ID: FB-01222025
Date Collected: 01/22/25 00:00
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-41
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.6	0.39	ng/L		01/28/25 04:11	02/03/25 17:57	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.6	0.39	ng/L		01/28/25 04:11	02/03/25 17:57	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		7.9	2.0	ng/L		01/28/25 04:11	02/03/25 17:57	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		7.9	2.0	ng/L		01/28/25 04:11	02/03/25 17:57	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.2	0.31	ng/L		01/28/25 04:11	02/03/25 17:57	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.6	0.39	ng/L		01/28/25 04:11	02/03/25 17:57	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1.6	0.39	ng/L		01/28/25 04:11	02/03/25 17:57	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1.6	0.39	ng/L		01/28/25 04:11	02/03/25 17:57	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1.6	0.57	ng/L		01/28/25 04:11	02/03/25 17:57	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.6	0.46	ng/L		01/28/25 04:11	02/03/25 17:57	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.6	0.39	ng/L		01/28/25 04:11	02/03/25 17:57	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		1.6	0.39	ng/L		01/28/25 04:11	02/03/25 17:57	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		3.2	0.79	ng/L		01/28/25 04:11	02/03/25 17:57	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		7.9	2.0	ng/L		01/28/25 04:11	02/03/25 17:57	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		7.9	2.0	ng/L		01/28/25 04:11	02/03/25 17:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*106*		*5 - 130*	*01/28/25 04:11*	*02/03/25 17:57*	*1*
13C5 PFPeA	*103*		*40 - 130*	*01/28/25 04:11*	*02/03/25 17:57*	*1*
13C5 PFHxA	*111*		*40 - 130*	*01/28/25 04:11*	*02/03/25 17:57*	*1*
13C4 PFHpA	*100*		*40 - 130*	*01/28/25 04:11*	*02/03/25 17:57*	*1*
13C8 PFOA	*86.8*		*40 - 130*	*01/28/25 04:11*	*02/03/25 17:57*	*1*
13C9 PFNA	*87.1*		*40 - 130*	*01/28/25 04:11*	*02/03/25 17:57*	*1*
13C6 PFDA	*77.3*		*40 - 130*	*01/28/25 04:11*	*02/03/25 17:57*	*1*
13C7 PFUnA	*76.7*		*30 - 130*	*01/28/25 04:11*	*02/03/25 17:57*	*1*
13C2 PFDoA	*79.9*		*10 - 130*	*01/28/25 04:11*	*02/03/25 17:57*	*1*
13C2 PFTeDA	*63.1*		*10 - 130*	*01/28/25 04:11*	*02/03/25 17:57*	*1*
13C3 PFBS	*104*		*40 - 135*	*01/28/25 04:11*	*02/03/25 17:57*	*1*
13C3 PFHxS	*93.4*		*40 - 130*	*01/28/25 04:11*	*02/03/25 17:57*	*1*
13C8 PFOS	*93.1*		*40 - 130*	*01/28/25 04:11*	*02/03/25 17:57*	*1*
13C8 FOSA	*85.1*		*40 - 130*	*01/28/25 04:11*	*02/03/25 17:57*	*1*
d3-NMeFOSAA	*105*		*40 - 170*	*01/28/25 04:11*	*02/03/25 17:57*	*1*
d5-NEtFOSAA	*97.0*		*25 - 135*	*01/28/25 04:11*	*02/03/25 17:57*	*1*
13C2 4:2 FTS	*110*		*40 - 200*	*01/28/25 04:11*	*02/03/25 17:57*	*1*
13C2 6:2 FTS	*105*		*40 - 200*	*01/28/25 04:11*	*02/03/25 17:57*	*1*
13C2 8:2 FTS	*89.9*		*40 - 300*	*01/28/25 04:11*	*02/03/25 17:57*	*1*
13C3 HFPO-DA	*101*		*40 - 130*	*01/28/25 04:11*	*02/03/25 17:57*	*1*
d7-N-MeFOSE-M	*89.5*		*10 - 130*	*01/28/25 04:11*	*02/03/25 17:57*	*1*
d9-N-EtFOSE-M	*93.0*		*10 - 130*	*01/28/25 04:11*	*02/03/25 17:57*	*1*

Client Sample ID: FB-01222025
Date Collected: 01/22/25 00:00
Date Received: 01/25/25 08:45

Lab Sample ID: 320-118551-41
Matrix: Water

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtPFOSA	90.0		10 - 130	01/28/25 04:11	02/03/25 17:57	1
d3-NMePFOSA	91.1		10 - 130	01/28/25 04:11	02/03/25 17:57	1

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118551-1
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (8-130)	PFPeA (35-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (40-130)
320-118551-2	SRA-005-N-S001-01222025	99.9	88.7	82.4	85.2	81.5	89.6	84.1	75.6
320-118551-3	SRA-005-N-S003-01222025	95.5	88.6	78.4	81.2	84.5	97.6	90.0	84.1
320-118551-9	SRA-009-N-S000-01222025	105	83.1	85.4	87.1	86.2	93.2	91.3	84.3
320-118551-9 - RA	SRA-009-N-S000-01222025								
320-118551-11	SRA-010-N-S001-01222025	103	84.8	87.2	86.9	83.7	94.4	92.4	91.1
320-118551-11 - RA	SRA-010-N-S001-01222025								
320-118551-12	SRA-010-N-S003-01222025	105	81.7	86.3	82.8	88.8	100	93.9	90.6
320-118551-12 - RA	SRA-010-N-S003-01222025								
320-118551-13	SRA-010-FD-S003-01222025	109	79.4	87.3	82.0	87.7	95.4	96.1	92.9
320-118551-13 - RA	SRA-010-FD-S003-01222025			86.4					
320-118551-18	SRA-011-N-S001-01222025	101	82.1	83.9	82.3	82.9	92.4	88.8	88.5
320-118551-18 - RA	SRA-011-N-S001-01222025			86.2					
320-118551-19	SRA-011-N-S003-01222025	101	95.0	86.7	85.8	85.9	93.7	92.7	88.7
320-118551-24	SRA-008-N-S001-01222025	100	89.6	85.3	81.3	86.3	92.6	92.4	86.4
320-118551-25	SRA-008-FD-S001-01222025	99.4	93.9	87.3	84.0	84.3	92.5	89.7	86.7
320-118551-25 - DL	SRA-008-FD-S001-01222025								
320-118551-26	SRA-008-N-S003-01222025	105	92.6	87.7	83.2	87.9	95.1	94.7	93.2
320-118551-28	SRA-001-N-S001-01222025	101	89.1	86.3	88.8	82.5	93.4	91.4	85.0
320-118551-29	SRA-001-N-S003-01222025	105	100	93.0	92.1	85.9	95.6	87.1	75.4
320-118551-32	HFH-001-N-S001-01222025	103	96.7	86.8	88.5	86.2	95.2	92.8	93.0
320-118551-33	HFH-001-N-S003-01222025	105	98.2	90.6	89.4	88.3	98.2	95.1	96.9
320-118551-33 - DL	HFH-001-N-S003-01222025								
320-118551-33 - DL2	HFH-001-N-S003-01222025								
320-118551-34	HFH-001-FD-S003-01222025	105	99.9	92.7	89.5	83.4	98.9	93.6	92.7
320-118551-34 - DL	HFH-001-FD-S003-01222025								
320-118551-34 - DL2	HFH-001-FD-S003-01222025								
320-118551-36	SRA-002-N-S000-01222025	105	84.9	89.4	88.2	88.3	91.5	89.9	88.1
320-118551-37	TRP-001-N-S000-01222025	105	95.3	88.0	86.8	86.2	98.6	94.3	88.1
320-118551-38	TRP-002-N-S000-01222025	102	93.2	84.5	81.9	84.2	92.2	90.0	85.6
320-118551-39	HFH-006-N-S000-01222025	99.6	92.8	85.1	83.1	84.2	97.5	87.2	75.1
LCS 320-830064/3-A	Lab Control Sample	105	82.1	80.8	87.0	86.6	101	94.1	88.8
LCS 320-830064/3-A - RA	Lab Control Sample								
LCS 320-830153/3-A	Lab Control Sample	99.6	92.8	83.1	83.9	84.2	91.5	89.1	92.7
LCSD 320-830064/4-A	Lab Control Sample Dup	104	86.0	87.8	89.9	87.1	93.8	87.2	82.6
LCSD 320-830064/4-A - RA	Lab Control Sample Dup								
LCSD 320-830153/4-A	Lab Control Sample Dup	106	96.3	85.8	86.1	85.1	95.0	90.7	91.5
LLCS 320-830064/2-A	Lab Control Sample	114	91.1	92.5	93.4	88.4	101	99.2	105
LLCS 320-830064/2-A - RA	Lab Control Sample								
LLCS 320-830153/2-A	Lab Control Sample	99.0	91.5	86.8	84.9	84.7	94.1	96.6	91.3
MB 320-830064/1-A	Method Blank	111	92.2	91.5	85.9	89.1	103	101	97.4
MB 320-830064/1-A - RA	Method Blank								
MB 320-830153/1-A	Method Blank	107	92.7	87.3	87.0	85.3	93.5	86.6	83.9

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (40-130)	PFTDA (20-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-135)	d5NEFOS (40-150)
320-118551-2	SRA-005-N-S001-01222025	70.7	65.0	82.8	83.7	77.8	68.3	79.7	75.7
320-118551-3	SRA-005-N-S003-01222025	87.9	82.3	86.3	86.5	84.3	83.7	85.2	81.8
320-118551-9	SRA-009-N-S000-01222025	89.0	79.0	92.2	85.4	85.2	79.4	83.9	81.4
320-118551-9 - RA	SRA-009-N-S000-01222025								

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (40-130)	PFTDA (20-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-135)	d5NEFOS (40-150)
320-118551-11	SRA-010-N-S001-01222025	97.3	86.9	87.4	92.1	87.6	83.2	91.6	92.0
320-118551-11 - RA	SRA-010-N-S001-01222025								
320-118551-12	SRA-010-N-S003-01222025	93.3	79.3	94.9	92.5	88.1	81.9	93.2	90.6
320-118551-12 - RA	SRA-010-N-S003-01222025								
320-118551-13	SRA-010-FD-S003-01222025	99.4	79.1	92.9	97.3	91.0	85.0	91.8	90.4
320-118551-13 - RA	SRA-010-FD-S003-01222025								
320-118551-18	SRA-011-N-S001-01222025	92.6	75.7	85.1	85.8	82.8	76.5	87.6	82.5
320-118551-18 - RA	SRA-011-N-S001-01222025								
320-118551-19	SRA-011-N-S003-01222025	96.2	89.8	94.6	90.7	88.5	79.8	86.4	80.6
320-118551-24	SRA-008-N-S001-01222025	91.9	102	83.3	83.3	86.2	82.6	82.2	84.0
320-118551-25	SRA-008-FD-S001-01222025	99.0	102	89.9	86.8	88.5	96.3	98.4	99.1
320-118551-25 - DL	SRA-008-FD-S001-01222025					85.6 *3			
320-118551-26	SRA-008-N-S003-01222025	99.9	110	87.8	90.3	87.1	87.4	88.7	84.9
320-118551-28	SRA-001-N-S001-01222025	89.5	107	85.6	88.0	84.9	83.3	84.3	87.0
320-118551-29	SRA-001-N-S003-01222025	83.7	89.7	93.9	92.8	85.9	76.0	84.2	79.3
320-118551-32	HFH-001-N-S001-01222025	105	111	87.0	88.8	86.8	86.4	88.4	90.4
320-118551-33	HFH-001-N-S003-01222025	98.7	95.5	94.6	91.3				
320-118551-33 - DL	HFH-001-N-S003-01222025					97.2 *3	101 *3	112 *3	106 *3
320-118551-33 - DL2	HFH-001-N-S003-01222025					100 *3			
320-118551-34	HFH-001-FD-S003-01222025	100	96.0	93.6	91.2				
320-118551-34 - DL	HFH-001-FD-S003-01222025					88.3 *3	104 *3	115 *3	110 *3
320-118551-34 - DL2	HFH-001-FD-S003-01222025					93.4 *3			
320-118551-36	SRA-002-N-S000-01222025	90.1	107	92.1	94.1	92.9	85.3	85.6	90.7
320-118551-37	TRP-001-N-S000-01222025	93.3	94.8	88.7	89.2	88.7	80.2	91.3	86.2
320-118551-38	TRP-002-N-S000-01222025	84.1	86.2	89.1	89.1	86.7	75.5	88.1	81.0
320-118551-39	HFH-006-N-S000-01222025	65.4	55.0	86.0	84.5	79.2	66.2	79.3	74.3
LCS 320-830064/3-A	Lab Control Sample	91.6	80.9	95.5	96.8	91.1	87.8	97.5	91.0
LCS 320-830064/3-A - RA	Lab Control Sample								
LCS 320-830153/3-A	Lab Control Sample	95.2	84.4	86.9	89.5	88.6	84.6	97.2	93.6
LCSD 320-830064/4-A	Lab Control Sample Dup	88.7	79.9	92.8	92.8	88.2	82.7	95.5	91.1
LCSD 320-830064/4-A - RA	Lab Control Sample Dup								
LCSD 320-830153/4-A	Lab Control Sample Dup	99.7	91.8	88.7	93.2	89.1	81.8	95.6	91.3
LLCS 320-830064/2-A	Lab Control Sample	112	103	102	100	98.9	92.9	101	100
LLCS 320-830064/2-A - RA	Lab Control Sample								
LLCS 320-830153/2-A	Lab Control Sample	101	93.9	91.1	91.9	89.9	88.7	97.6	96.2
MB 320-830064/1-A	Method Blank	104	92.3	103	104	97.5	88.3	103	99.1
MB 320-830064/1-A - RA	Method Blank								
MB 320-830153/1-A	Method Blank	84.9	85.1	88.5	90.1	89.5	78.7	94.1	85.3

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118551-2	SRA-005-N-S001-01222025	83.8	76.4	60.3	80.4	57.4	57.0	53.2	55.2
320-118551-3	SRA-005-N-S003-01222025	72.3	71.7	64.6	78.8	72.3	72.9	59.5	64.3
320-118551-9	SRA-009-N-S000-01222025	75.3	71.8		81.4	75.4	77.3	67.4	75.8
320-118551-9 - RA	SRA-009-N-S000-01222025			58.1					
320-118551-11	SRA-010-N-S001-01222025	81.5	82.5		76.1	79.6	84.0	69.8	74.5
320-118551-11 - RA	SRA-010-N-S001-01222025			63.8					
320-118551-12	SRA-010-N-S003-01222025	71.3	76.0		80.7	78.8	81.2	65.8	69.8
320-118551-12 - RA	SRA-010-N-S003-01222025			56.1					
320-118551-13	SRA-010-FD-S003-01222025	81.7	79.3		81.9	78.3	82.3	65.4	72.8

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118551-1
Project/Site: Spokane International Airport

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Solid
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (40-165)	M262FTS (40-215)	M282FTS (40-275)	HFPODA (40-130)	NMFM (20-130)	NEFM (15-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-118551-13 - RA	SRA-010-FD-S003-01222025			60.6					
320-118551-18	SRA-011-N-S001-01222025	74.0	72.1		74.3	73.2	73.2	57.9	66.0
320-118551-18 - RA	SRA-011-N-S001-01222025			57.3					
320-118551-19	SRA-011-N-S003-01222025	72.1	66.7	59.3	81.2	76.0	74.6	62.0	61.4
320-118551-24	SRA-008-N-S001-01222025	70.6	65.7	59.0	82.3	79.2	78.9	74.2	72.7
320-118551-25	SRA-008-FD-S001-01222025	83.8	73.1	59.8	85.3	93.7	90.1	87.9	85.9
320-118551-25 - DL	SRA-008-FD-S001-01222025								
320-118551-26	SRA-008-N-S003-01222025	76.5	73.7	61.3	85.3	80.7	71.7	71.3	73.1
320-118551-28	SRA-001-N-S001-01222025	123	116	94.3	93.0	76.3	66.9	74.9	77.4
320-118551-29	SRA-001-N-S003-01222025	73.5	74.4	62.8	89.7	69.7	63.2	60.2	58.8
320-118551-32	HFH-001-N-S001-01222025	79.6	76.7	71.8	87.4	74.7	72.3	73.3	73.1
320-118551-33	HFH-001-N-S003-01222025	70.7	69.3		88.7				
320-118551-33 - DL	HFH-001-N-S003-01222025			74.8 *3		91.0 *3	99.6 *3	80.6 *3	79.2 *3
320-118551-33 - DL2	HFH-001-N-S003-01222025								
320-118551-34	HFH-001-FD-S003-01222025	76.4	71.8		89.3				
320-118551-34 - DL	HFH-001-FD-S003-01222025			76.8 *3		89.8 *3	90.2 *3	98.8 *3	103 *3
320-118551-34 - DL2	HFH-001-FD-S003-01222025								
320-118551-36	SRA-002-N-S000-01222025	144	138	119	95.6	81.5	69.6	81.1	82.2
320-118551-37	TRP-001-N-S000-01222025	82.5	78.0	73.9	80.4	74.6	71.6	68.8	68.7
320-118551-38	TRP-002-N-S000-01222025	80.9	75.4	66.2	85.3	69.9	66.2	65.7	62.6
320-118551-39	HFH-006-N-S000-01222025	86.7	77.0	64.7	83.6	51.8	50.8	49.1	52.3
LCS 320-830064/3-A	Lab Control Sample	82.5	81.9		80.1	76.6	80.0	63.5	69.7
LCS 320-830064/3-A - RA	Lab Control Sample			64.8					
LCS 320-830153/3-A	Lab Control Sample	76.2	78.8	73.3	86.1	67.8	67.8	76.4	83.8
LCSD 320-830064/4-A	Lab Control Sample Dup	72.2	78.7		83.3	85.6	80.8	60.9	66.6
LCSD 320-830064/4-A - RA	Lab Control Sample Dup			63.7					
LCSD 320-830153/4-A	Lab Control Sample Dup	78.6	73.7	70.4	86.3	81.4	83.2	65.3	66.0
LLCS 320-830064/2-A	Lab Control Sample	82.6	84.1		85.7	90.0	88.7	68.7	73.5
LLCS 320-830064/2-A - RA	Lab Control Sample			72.1					
LLCS 320-830153/2-A	Lab Control Sample	78.8	80.8	72.0	82.4	82.4	81.4	80.4	84.4
MB 320-830064/1-A	Method Blank	84.2	91.7		82.8	86.3	86.3	68.2	68.8
MB 320-830064/1-A - RA	Method Blank			65.7					
MB 320-830153/1-A	Method Blank	70.7	75.5	68.7	81.5	73.9	77.3	59.0	60.0

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118551-1
Project/Site: Spokane International Airport

d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA	13C7PUA
Lab Sample ID	Client Sample ID	(5-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(40-130)	(30-130)
320-118551-40	EB-01222025	103	93.7	103	101	80.5	72.3	63.6	62.8
320-118551-41	FB-01222025	106	103	111	100	86.8	87.1	77.3	76.7
LCS 320-829796/3-A	Lab Control Sample	101	85.7	89.8	81.3	68.5	62.1	55.3	51.8
LCS 320-829796/3-A - RA	Lab Control Sample								
LCSD 320-829796/4-A	Lab Control Sample Dup	97.5	91.4	94.4	96.7	85.2	76.6	75.9	68.2
LCSD 320-829796/4-A - RA	Lab Control Sample Dup								
LLCS 320-829796/2-A	Lab Control Sample	107	103	101	101	105	85.9	80.0	80.4
MB 320-829796/1-A	Method Blank	100	96.3	108	101	92.9	76.1	74.7	73.2

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	C3PFHS	C8PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(10-130)	(10-130)	(40-135)	(40-130)	(40-130)	(40-130)	(40-170)	(25-135)
320-118551-40	EB-01222025	65.8	57.5	89.0	77.2	75.4	72.7	84.1	76.5
320-118551-41	FB-01222025	79.9	63.1	104	93.4	93.1	85.1	105	97.0
LCS 320-829796/3-A	Lab Control Sample	62.8	51.0	72.2	67.2	59.1	69.7	75.0	73.3
LCS 320-829796/3-A - RA	Lab Control Sample								
LCSD 320-829796/4-A	Lab Control Sample Dup	74.6	63.6	95.5	79.4	80.0	77.9	91.5	82.1
LCSD 320-829796/4-A - RA	Lab Control Sample Dup								
LLCS 320-829796/2-A	Lab Control Sample	82.8	75.8	101	93.2	84.5	80.3	92.4	86.8
MB 320-829796/1-A	Method Blank	75.6	71.1	90.8	96.5	92.2	83.5	103	91.6

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	HFPODA	NMFM	NEFM	d5NPFSA	d3NMFSA
Lab Sample ID	Client Sample ID	(40-200)	(40-200)	(40-300)	(40-130)	(10-130)	(10-130)	(10-130)	(10-130)
320-118551-40	EB-01222025	99.5	104	76.7	96.3	87.8	81.9	72.9	77.9
320-118551-41	FB-01222025	110	105	89.9	101	89.5	93.0	90.0	91.1
LCS 320-829796/3-A	Lab Control Sample	87.5	94.0	65.2	90.2	85.4	89.2	76.4	75.0
LCS 320-829796/3-A - RA	Lab Control Sample				89.8				
LCSD 320-829796/4-A	Lab Control Sample Dup	95.9	99.2	75.3	95.0	87.8	86.1	77.3	73.0
LCSD 320-829796/4-A - RA	Lab Control Sample Dup				98.5				
LLCS 320-829796/2-A	Lab Control Sample	105	118	87.6	104	88.6	84.9	78.2	76.0
MB 320-829796/1-A	Method Blank	101	107	91.6	101	91.3	91.5	85.1	82.2

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA

Isotope Dilution Summary

Client: GSI Environmental Inc
Job ID: 320-118551-1
Project/Site: Spokane International Airport

PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-829796/1-A
Matrix: Water
Analysis Batch: 830986

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 829796

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.0	1.0	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.58	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorotetradecanoic acid (PFTeDA)	ND		2.0	0.81	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.53	ng/L		01/28/25 04:11	02/03/25 14:07	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		4.0	1.0	ng/L		01/28/25 04:11	02/03/25 14:07	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		4.0	1.0	ng/L		01/28/25 04:11	02/03/25 14:07	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		4.0	1.0	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		10	2.5	ng/L		01/28/25 04:11	02/03/25 14:07	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		10	2.5	ng/L		01/28/25 04:11	02/03/25 14:07	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.5	0.39	ng/L		01/28/25 04:11	02/03/25 14:07	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	0.72	ng/L		01/28/25 04:11	02/03/25 14:07	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		2.0	0.58	ng/L		01/28/25 04:11	02/03/25 14:07	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-829796/1-A
Matrix: Water
Analysis Batch: 830986

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 829796

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	0.50	ng/L		01/28/25 04:11	02/03/25 14:07	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		4.0	1.0	ng/L		01/28/25 04:11	02/03/25 14:07	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		10	2.5	ng/L		01/28/25 04:11	02/03/25 14:07	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		10	2.5	ng/L		01/28/25 04:11	02/03/25 14:07	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*100*		*5 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C5 PFPeA	*96.3*		*40 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C5 PFHxA	*108*		*40 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C4 PFHpA	*101*		*40 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C8 PFOA	*92.9*		*40 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C9 PFNA	*76.1*		*40 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C6 PFDA	*74.7*		*40 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C7 PFUnA	*73.2*		*30 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C2 PFDoA	*75.6*		*10 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C2 PFTeDA	*71.1*		*10 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C3 PFBS	*90.8*		*40 - 135*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C3 PFHxS	*96.5*		*40 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C8 PFOS	*92.2*		*40 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C8 FOSA	*83.5*		*40 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
d3-NMeFOSAA	*103*		*40 - 170*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
d5-NEtFOSAA	*91.6*		*25 - 135*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C2 4:2 FTS	*101*		*40 - 200*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C2 6:2 FTS	*107*		*40 - 200*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C2 8:2 FTS	*91.6*		*40 - 300*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
13C3 HFPO-DA	*101*		*40 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
d7-N-MeFOSE-M	*91.3*		*10 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
d9-N-EtFOSE-M	*91.5*		*10 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
d5-NEtPFOSA	*85.1*		*10 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*
d3-NMePFOSA	*82.2*		*10 - 130*	*01/28/25 04:11*	*02/03/25 14:07*	*1*

Lab Sample ID: LCS 320-829796/3-A
Matrix: Water
Analysis Batch: 830986

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829796

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	79.4		ng/L		99	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	46.0		ng/L		115	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	40.0		ng/L		100	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	43.6		ng/L		109	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	46.3		ng/L		116	70 - 150
Perfluorononanoic acid (PFNA)	40.0	41.4		ng/L		103	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	38.8		ng/L		97	70 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-829796/3-A
Matrix: Water
Analysis Batch: 830986

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829796

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	40.0	44.5		ng/L		111	70 - 145
Perfluorododecanoic acid (PFDoA)	40.0	39.5		ng/L		99	70 - 140
Perfluorotridecanoic acid (PFTrDA)	40.0	43.2		ng/L		108	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	40.0	35.5		ng/L		89	60 - 140
Perfluorobutanesulfonic acid (PFBS)	35.5	40.3		ng/L		113	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	42.1		ng/L		112	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	40.3		ng/L		110	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	43.7		ng/L		115	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	39.5		ng/L		106	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	40.5		ng/L		105	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	42.1		ng/L		109	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	44.1		ng/L		114	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	98.5		ng/L		131	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	80.8		ng/L		106	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	90.8		ng/L		118	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	42.8		ng/L		107	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	42.8		ng/L		107	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	39.3		ng/L		98	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	43.2		ng/L		108	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	50.4		ng/L		126	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	209		ng/L		104	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	196		ng/L		98	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	32.6		ng/L		109	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	38.5		ng/L		102	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	52.9		ng/L		132	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	45.4		ng/L		113	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	36.7		ng/L		92	50 - 150

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-829796/3-A
Matrix: Water
Analysis Batch: 830986

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829796

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	29.3		ng/L		78	55 - 160		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	35.2		ng/L		99	70 - 140		
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	92.9		ng/L		116	65 - 130		
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	172		ng/L		86	70 - 135		
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	143		ng/L		71	50 - 145		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*101*		*5 - 130*
13C5 PFPeA	*85.7*		*40 - 130*
13C5 PFHxA	*89.8*		*40 - 130*
13C4 PFHpA	*81.3*		*40 - 130*
13C8 PFOA	*68.5*		*40 - 130*
13C9 PFNA	*62.1*		*40 - 130*
13C6 PFDA	*55.3*		*40 - 130*
13C7 PFUnA	*51.8*		*30 - 130*
13C2 PFDoA	*62.8*		*10 - 130*
13C2 PFTeDA	*51.0*		*10 - 130*
13C3 PFBS	*72.2*		*40 - 135*
13C3 PFHxS	*67.2*		*40 - 130*
13C8 PFOS	*59.1*		*40 - 130*
13C8 FOSA	*69.7*		*40 - 130*
d3-NMeFOSAA	*75.0*		*40 - 170*
d5-NEtFOSAA	*73.3*		*25 - 135*
13C2 4:2 FTS	*87.5*		*40 - 200*
13C2 6:2 FTS	*94.0*		*40 - 200*
13C2 8:2 FTS	*65.2*		*40 - 300*
13C3 HFPO-DA	*90.2*		*40 - 130*
d7-N-MeFOSE-M	*85.4*		*10 - 130*
d9-N-EtFOSE-M	*89.2*		*10 - 130*
d5-NEtPFOSA	*76.4*		*10 - 130*
d3-NMePFOSA	*75.0*		*10 - 130*

Lab Sample ID: LCSD 320-829796/4-A
Matrix: Water
Analysis Batch: 830986

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829796

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			80.0	84.2		ng/L		105	70 - 140	6	30
Perfluoropentanoic acid (PFPeA)			40.0	46.2		ng/L		115	65 - 135	0	30
Perfluorohexanoic acid (PFHxA)			40.0	42.8		ng/L		107	70 - 145	7	30
Perfluoroheptanoic acid (PFHpA)			40.0	44.9		ng/L		112	70 - 150	3	30
Perfluorooctanoic acid (PFOA)			40.0	44.0		ng/L		110	70 - 150	5	30
Perfluorononanoic acid (PFNA)			40.0	43.0		ng/L		107	70 - 150	4	30
Perfluorodecanoic acid (PFDA)			40.0	37.7		ng/L		94	70 - 140	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-829796/4-A
Matrix: Water
Analysis Batch: 830986

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829796

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoroundecanoic acid (PFUnA)			40.0	45.7		ng/L		114	70 - 145	3	30
Perfluorododecanoic acid (PFDoA)			40.0	42.1		ng/L		105	70 - 140	6	30
Perfluorotridecanoic acid (PFTrDA)			40.0	41.0		ng/L		103	65 - 140	5	30
Perfluorotetradecanoic acid (PFTeDA)			40.0	33.9		ng/L		85	60 - 140	5	30
Perfluorobutanesulfonic acid (PFBS)			35.5	37.2		ng/L		105	60 - 145	8	30
Perfluoropentanesulfonic acid (PFPeS)			37.6	43.8		ng/L		117	65 - 140	4	30
Perfluorohexanesulfonic acid (PFHxS)			36.5	40.8		ng/L		112	65 - 145	1	30
Perfluoroheptanesulfonic acid (PFHpS)			38.2	41.3		ng/L		108	70 - 150	6	30
Perfluorooctanesulfonic acid (PFOS)			37.2	42.0		ng/L		113	55 - 150	6	30
Perfluorononanesulfonic acid (PFNS)			38.5	40.8		ng/L		106	65 - 145	1	30
Perfluorodecanesulfonic acid (PFDS)			38.6	42.1		ng/L		109	60 - 145	0	30
Perfluorododecanesulfonic acid (PFDoS)			38.8	41.0		ng/L		106	50 - 145	7	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			75.0	75.6		ng/L		101	70 - 145	26	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			76.2	83.2		ng/L		109	65 - 155	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)			76.8	87.6		ng/L		114	60 - 150	4	30
Perfluorooctanesulfonamide (PFOSA)			40.0	42.5		ng/L		106	70 - 145	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)			40.0	45.1		ng/L		113	60 - 150	5	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)			40.0	41.0		ng/L		102	65 - 145	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			40.0	42.7		ng/L		107	50 - 140	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			40.0	52.5		ng/L		131	70 - 145	4	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)			200	201		ng/L		101	70 - 145	4	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)			200	200		ng/L		100	70 - 135	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)			30.0	31.1		ng/L		104	70 - 140	5	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.8	42.1		ng/L		111	65 - 145	9	30
Perfluoro-3-methoxypropanoic acid (PFMPA)			40.0	50.0		ng/L		125	55 - 140	6	30
Perfluoro-4-methoxybutanoic acid (PFMBA)			40.0	42.5		ng/L		106	60 - 150	7	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			40.0	49.3		ng/L		123	50 - 150	29	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-829796/4-A
Matrix: Water
Analysis Batch: 830986

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829796

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			37.8	33.4		ng/L		88	55 - 160	13	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			35.7	39.2		ng/L		110	70 - 140	11	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			80.0	82.6		ng/L		103	65 - 130	12	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			200	170		ng/L		85	70 - 135	1	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			200	163		ng/L		81	50 - 145	13	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*97.5*		*5 - 130*
13C5 PFPeA	*91.4*		*40 - 130*
13C5 PFHxA	*94.4*		*40 - 130*
13C4 PFHpA	*96.7*		*40 - 130*
13C8 PFOA	*85.2*		*40 - 130*
13C9 PFNA	*76.6*		*40 - 130*
13C6 PFDA	*75.9*		*40 - 130*
13C7 PFUnA	*68.2*		*30 - 130*
13C2 PFDoA	*74.6*		*10 - 130*
13C2 PFTeDA	*63.6*		*10 - 130*
13C3 PFBS	*95.5*		*40 - 135*
13C3 PFHxS	*79.4*		*40 - 130*
13C8 PFOS	*80.0*		*40 - 130*
13C8 FOSA	*77.9*		*40 - 130*
d3-NMeFOSAA	*91.5*		*40 - 170*
d5-NEtFOSAA	*82.1*		*25 - 135*
13C2 4:2 FTS	*95.9*		*40 - 200*
13C2 6:2 FTS	*99.2*		*40 - 200*
13C2 8:2 FTS	*75.3*		*40 - 300*
13C3 HFPO-DA	*95.0*		*40 - 130*
d7-N-MeFOSE-M	*87.8*		*10 - 130*
d9-N-EtFOSE-M	*86.1*		*10 - 130*
d5-NEtPFOSA	*77.3*		*10 - 130*
d3-NMePFOSA	*73.0*		*10 - 130*

Lab Sample ID: LLCS 320-829796/2-A
Matrix: Water
Analysis Batch: 830986

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829796

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)			8.00	9.34		ng/L		117	70 - 140
Perfluoropentanoic acid (PFPeA)			4.00	5.07		ng/L		127	65 - 135
Perfluorohexanoic acid (PFHxA)			4.00	5.24		ng/L		131	70 - 145
Perfluoroheptanoic acid (PFHpA)			4.00	5.50		ng/L		137	70 - 150
Perfluorooctanoic acid (PFOA)			4.00	4.96		ng/L		124	70 - 150
Perfluorononanoic acid (PFNA)			4.00	4.59		ng/L		115	70 - 150
Perfluorodecanoic acid (PFDA)			4.00	4.61		ng/L		115	70 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-829796/2-A
Matrix: Water
Analysis Batch: 830986

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829796

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	4.00	4.97		ng/L		124	70 - 145
Perfluorododecanoic acid (PFDoA)	4.00	4.91		ng/L		123	70 - 140
Perfluorotridecanoic acid (PFTrDA)	4.00	4.84		ng/L		121	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	4.00	4.45		ng/L		111	60 - 140
Perfluorobutanesulfonic acid (PFBS)	3.55	4.38		ng/L		123	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.76	5.14		ng/L		137	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	3.65	4.50		ng/L		123	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.82	4.67		ng/L		122	70 - 150
Perfluorooctanesulfonic acid (PFOS)	3.72	4.43		ng/L		119	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.85	4.55		ng/L		118	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.86	4.59		ng/L		119	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.88	5.04		ng/L		130	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	7.50	9.74		ng/L		130	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.62	8.99		ng/L		118	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.68	10.1		ng/L		132	60 - 150
Perfluorooctanesulfonamide (PFOSA)	4.00	4.89		ng/L		122	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	4.00	4.99		ng/L		125	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	4.00	4.75		ng/L		119	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.00	5.00		ng/L		125	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.00	5.51		ng/L		138	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	20.0	22.6		ng/L		113	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	20.0	23.7		ng/L		118	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.00	3.71		ng/L		124	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	4.62		ng/L		122	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.00	5.45		ng/L		136	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.00	4.64		ng/L		116	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.00	5.92		ng/L		148	50 - 150

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-829796/2-A
Matrix: Water
Analysis Batch: 830986

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829796

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	3.74	4.22		ng/L		113	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	3.78	3.99		ng/L		106	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	3.57	4.34		ng/L		122	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	8.00	9.07		ng/L		113	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	20.0	20.1		ng/L		100	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	20.0	18.1		ng/L		90	50 - 145

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*107*		*5 - 130*
13C5 PFPeA	*103*		*40 - 130*
13C5 PFHxA	*101*		*40 - 130*
13C4 PFHpA	*101*		*40 - 130*
13C8 PFOA	*105*		*40 - 130*
13C9 PFNA	*85.9*		*40 - 130*
13C6 PFDA	*80.0*		*40 - 130*
13C7 PFUnA	*80.4*		*30 - 130*
13C2 PFDoA	*82.8*		*10 - 130*
13C2 PFTeDA	*75.8*		*10 - 130*
13C3 PFBS	*101*		*40 - 135*
13C3 PFHxS	*93.2*		*40 - 130*
13C8 PFOS	*84.5*		*40 - 130*
13C8 FOSA	*80.3*		*40 - 130*
d3-NMeFOSAA	*92.4*		*40 - 170*
d5-NEtFOSAA	*86.8*		*25 - 135*
13C2 4:2 FTS	*105*		*40 - 200*
13C2 6:2 FTS	*118*		*40 - 200*
13C2 8:2 FTS	*87.6*		*40 - 300*
13C3 HFPO-DA	*104*		*40 - 130*
d7-N-MeFOSE-M	*88.6*		*10 - 130*
d9-N-EtFOSE-M	*84.9*		*10 - 130*
d5-NEtPFOSA	*78.2*		*10 - 130*
d3-NMePFOSA	*76.0*		*10 - 130*

Lab Sample ID: MB 320-830064/1-A
Matrix: Solid
Analysis Batch: 830248

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830064

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		01/29/25 03:50	01/30/25 02:02	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-830064/1-A
Matrix: Solid
Analysis Batch: 830248

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830064

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		01/29/25 03:50	01/30/25 02:02	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		01/29/25 03:50	01/30/25 02:02	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-830064/1-A
Matrix: Solid
Analysis Batch: 830248

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830064

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		01/29/25 03:50	01/30/25 02:02	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*111*		*8 - 130*	*01/29/25 03:50*	*01/30/25 02:02*	*1*
13C5 PFPeA	*92.2*		*35 - 130*	*01/29/25 03:50*	*01/30/25 02:02*	*1*
13C5 PFHxA	*91.5*		*40 - 130*	*01/29/25 03:50*	*01/30/25 02:02*	*1*
13C4 PFHpA	*85.9*		*40 - 130*	*01/29/25 03:50*	*01/30/25 02:02*	*1*
13C8 PFOA	*89.1*		*40 - 130*	*01/29/25 03:50*	*01/30/25 02:02*	*1*
13C9 PFNA	*103*		*40 - 130*	*01/29/25 03:50*	*01/30/25 02:02*	*1*
13C6 PFDA	*101*		*40 - 130*	*01/29/25 03:50*	*01/30/25 02:02*	*1*
13C7 PFUnA	*97.4*		*40 - 130*	*01/29/25 03:50*	*01/30/25 02:02*	*1*
13C2 PFDoA	*104*		*40 - 130*	*01/29/25 03:50*	*01/30/25 02:02*	*1*
13C2 PFTeDA	*92.3*		*20 - 130*	*01/29/25 03:50*	*01/30/25 02:02*	*1*
13C3 PFBS	*103*		*40 - 135*	*01/29/25 03:50*	*01/30/25 02:02*	*1*
13C3 PFHxS	*104*		*40 - 130*	*01/29/25 03:50*	*01/30/25 02:02*	*1*
13C8 PFOS	*97.5*		*40 - 130*	*01/29/25 03:50*	*01/30/25 02:02*	*1*
13C8 FOSA	*88.3*		*40 - 130*	*01/29/25 03:50*	*01/30/25 02:02*	*1*
d3-NMeFOSAA	*103*		*40 - 135*	*01/29/25 03:50*	*01/30/25 02:02*	*1*
d5-NEtFOSAA	*99.1*		*40 - 150*	*01/29/25 03:50*	*01/30/25 02:02*	*1*
13C2 4:2 FTS	*84.2*		*40 - 165*	*01/29/25 03:50*	*01/30/25 02:02*	*1*
13C2 6:2 FTS	*91.7*		*40 - 215*	*01/29/25 03:50*	*01/30/25 02:02*	*1*
13C3 HFPO-DA	*82.8*		*40 - 130*	*01/29/25 03:50*	*01/30/25 02:02*	*1*
d7-N-MeFOSE-M	*86.3*		*20 - 130*	*01/29/25 03:50*	*01/30/25 02:02*	*1*
d9-N-EtFOSE-M	*86.3*		*15 - 130*	*01/29/25 03:50*	*01/30/25 02:02*	*1*
d5-NEtPFOSA	*68.2*		*10 - 130*	*01/29/25 03:50*	*01/30/25 02:02*	*1*
d3-NMePFOSA	*68.8*		*10 - 130*	*01/29/25 03:50*	*01/30/25 02:02*	*1*

Lab Sample ID: LCS 320-830064/3-A
Matrix: Solid
Analysis Batch: 830248

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830064

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	5.04		ug/Kg		101	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.58		ug/Kg		103	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.80		ug/Kg		112	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.50		ug/Kg		100	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.76		ug/Kg		110	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.47		ug/Kg		99	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.49		ug/Kg		100	70 - 155
Perfluoroundecanoic acid (PFUnA)	2.50	2.70		ug/Kg		108	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.60		ug/Kg		104	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.48		ug/Kg		99	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.27		ug/Kg		91	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.73		ug/Kg		123	65 - 145

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-830064/3-A
Matrix: Solid
Analysis Batch: 830248

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830064

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.58		ug/Kg		110	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.36		ug/Kg		103	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.43		ug/Kg		102	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.40		ug/Kg		103	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.38		ug/Kg		99	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.25		ug/Kg		94	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	1.93		ug/Kg		80	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.84		ug/Kg		103	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.80		ug/Kg		101	55 - 200
Perfluorooctanesulfonamide (PFOSA)	2.50	2.36		ug/Kg		95	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.57		ug/Kg		103	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.46		ug/Kg		99	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.65		ug/Kg		106	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.62		ug/Kg		105	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.6		ug/Kg		101	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.0		ug/Kg		96	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.87		ug/Kg		100	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.55		ug/Kg		108	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.73		ug/Kg		109	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.70		ug/Kg		108	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.67		ug/Kg		107	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.34	2.12		ug/Kg		91	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.36	2.02		ug/Kg		86	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.23	2.46		ug/Kg		110	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	5.00	4.98		ug/Kg		100	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	12.5	11.4		ug/Kg		91	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	12.5	10.3		ug/Kg		82	60 - 150

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	105		8 - 130
13C5 PFPeA	82.1		35 - 130
13C5 PFHxA	80.8		40 - 130
13C4 PFHpA	87.0		40 - 130
13C8 PFOA	86.6		40 - 130
13C9 PFNA	101		40 - 130
13C6 PFDA	94.1		40 - 130
13C7 PFUnA	88.8		40 - 130
13C2 PFDoA	91.6		40 - 130
13C2 PFTeDA	80.9		20 - 130
13C3 PFBS	95.5		40 - 135
13C3 PFHxS	96.8		40 - 130
13C8 PFOS	91.1		40 - 130
13C8 FOSA	87.8		40 - 130
d3-NMeFOSAA	97.5		40 - 135
d5-NEtFOSAA	91.0		40 - 150
13C2 4:2 FTS	82.5		40 - 165
13C2 6:2 FTS	81.9		40 - 215
13C3 HFPO-DA	80.1		40 - 130
d7-N-MeFOSE-M	76.6		20 - 130
d9-N-EtFOSE-M	80.0		15 - 130
d5-NEtPFOSA	63.5		10 - 130
d3-NMePFOSA	69.7		10 - 130

Lab Sample ID: LCSD 320-830064/4-A
Matrix: Solid
Analysis Batch: 830248

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830064

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	5.44		ug/Kg		109	70 - 140	8	30
Perfluoropentanoic acid (PFPeA)			2.50	2.69		ug/Kg		108	60 - 150	4	30
Perfluorohexanoic acid (PFHxA)			2.50	2.73		ug/Kg		109	65 - 140	2	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.61		ug/Kg		105	65 - 145	5	30
Perfluorooctanoic acid (PFOA)			2.50	2.79		ug/Kg		112	70 - 150	1	30
Perfluorononanoic acid (PFNA)			2.50	2.72		ug/Kg		109	70 - 155	10	30
Perfluorodecanoic acid (PFDA)			2.50	2.59		ug/Kg		104	70 - 155	4	30
Perfluoroundecanoic acid (PFUnA)			2.50	2.83		ug/Kg		113	70 - 155	5	30
Perfluorododecanoic acid (PFDoA)			2.50	2.86		ug/Kg		114	70 - 150	9	30
Perfluorotridecanoic acid (PFTrDA)			2.50	2.57		ug/Kg		103	65 - 150	4	30
Perfluorotetradecanoic acid (PFTeDA)			2.50	2.61		ug/Kg		104	65 - 150	14	30
Perfluorobutanesulfonic acid (PFBS)			2.22	2.74		ug/Kg		123	65 - 145	0	30
Perfluoropentanesulfonic acid (PFPeS)			2.35	2.65		ug/Kg		113	55 - 160	3	30
Perfluorohexanesulfonic acid (PFHxS)			2.28	2.42		ug/Kg		106	60 - 150	3	30
Perfluoroheptanesulfonic acid (PFHpS)			2.39	2.57		ug/Kg		108	65 - 155	5	30
Perfluorooctanesulfonic acid (PFOS)			2.33	2.53		ug/Kg		109	65 - 160	5	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-830064/4-A
Matrix: Solid
Analysis Batch: 830248

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830064

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanesulfonic acid (PFNS)			2.41	2.45		ug/Kg		102	55 - 140	3	30
Perfluorodecanesulfonic acid (PFDS)			2.41	2.45		ug/Kg		102	40 - 155	8	30
Perfluorododecanesulfonic acid (PFDoS)			2.43	2.22		ug/Kg		92	25 - 160	14	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			4.69	5.26		ug/Kg		112	60 - 150	8	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			4.76	4.93		ug/Kg		104	55 - 200	3	30
Perfluorooctanesulfonamide (PFOSA)			2.50	2.53		ug/Kg		101	70 - 140	7	30
N-methylperfluorooctane sulfonamide (NMeFOSA)			2.50	2.69		ug/Kg		107	70 - 155	4	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)			2.50	2.58		ug/Kg		103	70 - 140	5	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			2.50	2.82		ug/Kg		113	65 - 155	6	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			2.50	2.69		ug/Kg		107	65 - 165	2	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)			12.5	12.9		ug/Kg		103	70 - 140	2	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)			12.5	13.3		ug/Kg		107	70 - 135	11	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)			1.88	2.00		ug/Kg		107	70 - 145	7	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.37	2.64		ug/Kg		112	70 - 160	3	30
Perfluoro-3-methoxypropanoic acid (PFMPA)			2.50	2.83		ug/Kg		113	30 - 140	4	30
Perfluoro-4-methoxybutanoic acid (PFMBA)			2.50	2.69		ug/Kg		108	60 - 150	0	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.68		ug/Kg		107	60 - 155	0	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.15		ug/Kg		92	70 - 150	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.19		ug/Kg		93	45 - 160	8	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.51		ug/Kg		113	70 - 140	2	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	5.04		ug/Kg		101	45 - 130	1	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	11.1		ug/Kg		89	60 - 130	2	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	10.3		ug/Kg		82	60 - 150	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*104*		*8 - 130*
13C5 PFPeA	*86.0*		*35 - 130*
13C5 PFHxA	*87.8*		*40 - 130*
13C4 PFHpA	*89.9*		*40 - 130*
13C8 PFOA	*87.1*		*40 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-830064/4-A
Matrix: Solid
Analysis Batch: 830248

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830064

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C9 PFNA	*93.8*		*40 - 130*
13C6 PFDA	*87.2*		*40 - 130*
13C7 PFUnA	*82.6*		*40 - 130*
13C2 PFDoA	*88.7*		*40 - 130*
13C2 PFTeDA	*79.9*		*20 - 130*
13C3 PFBS	*92.8*		*40 - 135*
13C3 PFHxS	*92.8*		*40 - 130*
13C8 PFOS	*88.2*		*40 - 130*
13C8 FOSA	*82.7*		*40 - 130*
d3-NMeFOSAA	*95.5*		*40 - 135*
d5-NEtFOSAA	*91.1*		*40 - 150*
13C2 4:2 FTS	*72.2*		*40 - 165*
13C2 6:2 FTS	*78.7*		*40 - 215*
13C3 HFPO-DA	*83.3*		*40 - 130*
d7-N-MeFOSE-M	*85.6*		*20 - 130*
d9-N-EtFOSE-M	*80.8*		*15 - 130*
d5-NEtPFOSA	*60.9*		*10 - 130*
d3-NMePFOSA	*66.6*		*10 - 130*

Lab Sample ID: LLCS 320-830064/2-A
Matrix: Solid
Analysis Batch: 830248

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830064

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	0.800	0.827		ug/Kg		103	70 - 140
Perfluoropentanoic acid (PFPeA)	0.400	0.450		ug/Kg		112	60 - 150
Perfluorohexanoic acid (PFHxA)	0.400	0.459		ug/Kg		115	65 - 140
Perfluoroheptanoic acid (PFHpA)	0.400	0.426		ug/Kg		107	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.481		ug/Kg		120	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.437		ug/Kg		109	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.441		ug/Kg		110	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.441		ug/Kg		110	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.436		ug/Kg		109	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.388		ug/Kg		97	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.405		ug/Kg		101	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.446		ug/Kg		126	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.418		ug/Kg		111	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.400		ug/Kg		110	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.401		ug/Kg		105	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.387		ug/Kg		104	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.388		ug/Kg		101	55 - 140

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-830064/2-A
Matrix: Solid
Analysis Batch: 830248

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830064

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorodecanesulfonic acid (PFDS)	0.386	0.374		ug/Kg		97	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.328		ug/Kg		84	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.830		ug/Kg		111	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.808		ug/Kg		106	55 - 200
Perfluorooctanesulfonamide (PFOSA)	0.400	0.387		ug/Kg		97	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.402		ug/Kg		100	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.395		ug/Kg		99	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.431		ug/Kg		108	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.421		ug/Kg		105	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.99		ug/Kg		99	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	1.99		ug/Kg		100	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.309		ug/Kg		103	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.455		ug/Kg		120	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.426		ug/Kg		106	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.400	0.450		ug/Kg		112	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.400	0.434		ug/Kg		109	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	0.374	0.361		ug/Kg		97	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	0.378	0.377		ug/Kg		100	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.357	0.398		ug/Kg		111	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.800	0.772		ug/Kg		97	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	2.00	1.80		ug/Kg		90	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	2.00	1.60		ug/Kg		80	60 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*114*		*8 - 130*
13C5 PFPeA	*91.1*		*35 - 130*
13C5 PFHxA	*92.5*		*40 - 130*
13C4 PFHpA	*93.4*		*40 - 130*
13C8 PFOA	*88.4*		*40 - 130*
13C9 PFNA	*101*		*40 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-830064/2-A
Matrix: Solid
Analysis Batch: 830248

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830064

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C6 PFDA	*99.2*		*40 - 130*
13C7 PFUnA	*105*		*40 - 130*
13C2 PFDoA	*112*		*40 - 130*
13C2 PFTeDA	*103*		*20 - 130*
13C3 PFBS	*102*		*40 - 135*
13C3 PFHxS	*100*		*40 - 130*
13C8 PFOS	*98.9*		*40 - 130*
13C8 FOSA	*92.9*		*40 - 130*
d3-NMeFOSAA	*101*		*40 - 135*
d5-NEtFOSAA	*100*		*40 - 150*
13C2 4:2 FTS	*82.6*		*40 - 165*
13C2 6:2 FTS	*84.1*		*40 - 215*
13C3 HFPO-DA	*85.7*		*40 - 130*
d7-N-MeFOSE-M	*90.0*		*20 - 130*
d9-N-EtFOSE-M	*88.7*		*15 - 130*
d5-NEtPFOSA	*68.7*		*10 - 130*
d3-NMePFOSA	*73.5*		*10 - 130*

Lab Sample ID: MB 320-830153/1-A
Matrix: Solid
Analysis Batch: 830527

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830153

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.40	0.10	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.062	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorotetradecanoic acid (PFTeDA)	ND		0.20	0.058	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		0.40	0.10	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		0.40	0.10	ug/Kg		01/29/25 11:30	01/30/25 23:30	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-830153/1-A
Matrix: Solid
Analysis Batch: 830527

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830153

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		0.40	0.10	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluorooctanesulfonamide (PFOSA)	ND		0.20	0.063	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	ND		1.0	0.25	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	ND		1.0	0.25	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.20	0.062	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.20	0.075	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		0.20	0.050	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	ND		0.40	0.10	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	ND		1.0	0.25	ug/Kg		01/29/25 11:30	01/30/25 23:30	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	ND		1.0	0.25	ug/Kg		01/29/25 11:30	01/30/25 23:30	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*107*		*8 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C5 PFPeA	*92.7*		*35 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C5 PFHxA	*87.3*		*40 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C4 PFHpA	*87.0*		*40 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C8 PFOA	*85.3*		*40 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C9 PFNA	*93.5*		*40 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C6 PFDA	*86.6*		*40 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C7 PFUnA	*83.9*		*40 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C2 PFDoA	*84.9*		*40 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C2 PFTeDA	*85.1*		*20 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C3 PFBS	*88.5*		*40 - 135*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C3 PFHxS	*90.1*		*40 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C8 PFOS	*89.5*		*40 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*
13C8 FOSA	*78.7*		*40 - 130*	*01/29/25 11:30*	*01/30/25 23:30*	*1*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-830153/1-A
Matrix: Solid
Analysis Batch: 830527

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830153

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMeFOSAA	94.1		40 - 135	01/29/25 11:30	01/30/25 23:30	1
d5-NEtFOSAA	85.3		40 - 150	01/29/25 11:30	01/30/25 23:30	1
13C2 4:2 FTS	70.7		40 - 165	01/29/25 11:30	01/30/25 23:30	1
13C2 6:2 FTS	75.5		40 - 215	01/29/25 11:30	01/30/25 23:30	1
13C2 8:2 FTS	68.7		40 - 275	01/29/25 11:30	01/30/25 23:30	1
13C3 HFPO-DA	81.5		40 - 130	01/29/25 11:30	01/30/25 23:30	1
d7-N-MeFOSE-M	73.9		20 - 130	01/29/25 11:30	01/30/25 23:30	1
d9-N-EtFOSE-M	77.3		15 - 130	01/29/25 11:30	01/30/25 23:30	1
d5-NEtPFOSA	59.0		10 - 130	01/29/25 11:30	01/30/25 23:30	1
d3-NMePFOSA	60.0		10 - 130	01/29/25 11:30	01/30/25 23:30	1

Lab Sample ID: LCS 320-830153/3-A
Matrix: Solid
Analysis Batch: 830527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830153

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	5.00	4.89		ug/Kg		98	70 - 140
Perfluoropentanoic acid (PFPeA)	2.50	2.24		ug/Kg		90	60 - 150
Perfluorohexanoic acid (PFHxA)	2.50	2.64		ug/Kg		106	65 - 140
Perfluoroheptanoic acid (PFHpA)	2.50	2.53		ug/Kg		101	65 - 145
Perfluorooctanoic acid (PFOA)	2.50	2.73		ug/Kg		109	70 - 150
Perfluorononanoic acid (PFNA)	2.50	2.53		ug/Kg		101	70 - 155
Perfluorodecanoic acid (PFDA)	2.50	2.56		ug/Kg		102	70 - 155
Perfluoroundecanoic acid (PFUnA)	2.50	2.74		ug/Kg		109	70 - 155
Perfluorododecanoic acid (PFDoA)	2.50	2.75		ug/Kg		110	70 - 150
Perfluorotridecanoic acid (PFTrDA)	2.50	2.30		ug/Kg		92	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.50	2.38		ug/Kg		95	65 - 150
Perfluorobutanesulfonic acid (PFBS)	2.22	2.60		ug/Kg		117	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	2.35	2.56		ug/Kg		109	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	2.28	2.36		ug/Kg		104	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.39	2.40		ug/Kg		101	65 - 155
Perfluorooctanesulfonic acid (PFOS)	2.33	2.33		ug/Kg		100	65 - 160
Perfluorononanesulfonic acid (PFNS)	2.41	2.32		ug/Kg		96	55 - 140
Perfluorodecanesulfonic acid (PFDS)	2.41	2.23		ug/Kg		93	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	2.43	1.90		ug/Kg		79	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	4.69	4.64		ug/Kg		99	60 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	4.76	4.83		ug/Kg		102	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	4.80	4.80		ug/Kg		100	70 - 150

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-830153/3-A
Matrix: Solid
Analysis Batch: 830527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830153

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonamide (PFOSA)	2.50	2.41		ug/Kg		96	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	2.50	2.54		ug/Kg		102	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	2.50	2.57		ug/Kg		103	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.50	2.67		ug/Kg		107	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.50	2.59		ug/Kg		104	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	12.5	12.4		ug/Kg		99	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	12.5	12.4		ug/Kg		99	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.88	1.91		ug/Kg		102	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.37	2.35		ug/Kg		99	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.50	2.35		ug/Kg		94	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.50	2.43		ug/Kg		97	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.50	2.36		ug/Kg		94	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.34	2.19		ug/Kg		94	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.36	2.06		ug/Kg		87	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.23	2.45		ug/Kg		110	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	5.00	4.32		ug/Kg		86	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	12.5	11.0		ug/Kg		88	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	12.5	9.92		ug/Kg		79	60 - 150

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*99.6*		*8 - 130*
13C5 PFPeA	*92.8*		*35 - 130*
13C5 PFHxA	*83.1*		*40 - 130*
13C4 PFHpA	*83.9*		*40 - 130*
13C8 PFOA	*84.2*		*40 - 130*
13C9 PFNA	*91.5*		*40 - 130*
13C6 PFDA	*89.1*		*40 - 130*
13C7 PFUnA	*92.7*		*40 - 130*
13C2 PFDoA	*95.2*		*40 - 130*
13C2 PFTeDA	*84.4*		*20 - 130*
13C3 PFBS	*86.9*		*40 - 135*
13C3 PFHxS	*89.5*		*40 - 130*
13C8 PFOS	*88.6*		*40 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-830153/3-A
Matrix: Solid
Analysis Batch: 830527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830153

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C8 FOSA	*84.6*		*40 - 130*
d3-NMeFOSAA	*97.2*		*40 - 135*
d5-NEtFOSAA	*93.6*		*40 - 150*
13C2 4:2 FTS	*76.2*		*40 - 165*
13C2 6:2 FTS	*78.8*		*40 - 215*
13C2 8:2 FTS	*73.3*		*40 - 275*
13C3 HFPO-DA	*86.1*		*40 - 130*
d7-N-MeFOSE-M	*67.8*		*20 - 130*
d9-N-EtFOSE-M	*67.8*		*15 - 130*
d5-NEtPFOSA	*76.4*		*10 - 130*
d3-NMePFOSA	*83.8*		*10 - 130*

Lab Sample ID: LCSD 320-830153/4-A
Matrix: Solid
Analysis Batch: 830527

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830153

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			5.00	4.87		ug/Kg		97	70 - 140	0	30
Perfluoropentanoic acid (PFPeA)			2.50	2.20		ug/Kg		88	60 - 150	2	30
Perfluorohexanoic acid (PFHxA)			2.50	2.66		ug/Kg		106	65 - 140	0	30
Perfluoroheptanoic acid (PFHpA)			2.50	2.61		ug/Kg		104	65 - 145	3	30
Perfluorooctanoic acid (PFOA)			2.50	2.68		ug/Kg		107	70 - 150	2	30
Perfluorononanoic acid (PFNA)			2.50	2.58		ug/Kg		103	70 - 155	2	30
Perfluorodecanoic acid (PFDA)			2.50	2.43		ug/Kg		97	70 - 155	5	30
Perfluoroundecanoic acid (PFUnA)			2.50	2.71		ug/Kg		109	70 - 155	1	30
Perfluorododecanoic acid (PFDoA)			2.50	2.57		ug/Kg		103	70 - 150	7	30
Perfluorotridecanoic acid (PFTrDA)			2.50	2.34		ug/Kg		93	65 - 150	2	30
Perfluorotetradecanoic acid (PFTeDA)			2.50	2.29		ug/Kg		92	65 - 150	4	30
Perfluorobutanesulfonic acid (PFBS)			2.22	2.62		ug/Kg		118	65 - 145	1	30
Perfluoropentanesulfonic acid (PFPeS)			2.35	2.40		ug/Kg		102	55 - 160	6	30
Perfluorohexanesulfonic acid (PFHxS)			2.28	2.30		ug/Kg		101	60 - 150	3	30
Perfluoroheptanesulfonic acid (PFHpS)			2.39	2.40		ug/Kg		100	65 - 155	0	30
Perfluorooctanesulfonic acid (PFOS)			2.33	2.36		ug/Kg		102	65 - 160	1	30
Perfluorononanesulfonic acid (PFNS)			2.41	2.34		ug/Kg		97	55 - 140	1	30
Perfluorodecanesulfonic acid (PFDS)			2.41	2.40		ug/Kg		99	40 - 155	7	30
Perfluorododecanesulfonic acid (PFDoS)			2.43	2.26		ug/Kg		93	25 - 160	17	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			4.69	5.00		ug/Kg		107	60 - 150	8	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			4.76	5.01		ug/Kg		105	55 - 200	3	30

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-830153/4-A
Matrix: Solid
Analysis Batch: 830527

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830153

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)			4.80	4.89		ug/Kg		102	70 - 150	2	30
Perfluorooctanesulfonamide (PFOSA)			2.50	2.45		ug/Kg		98	70 - 140	2	30
N-methylperfluorooctane sulfonamide (NMeFOSA)			2.50	2.53		ug/Kg		101	70 - 155	1	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)			2.50	2.39		ug/Kg		96	70 - 140	7	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			2.50	2.69		ug/Kg		108	65 - 155	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			2.50	2.62		ug/Kg		105	65 - 165	1	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)			12.5	12.6		ug/Kg		101	70 - 140	1	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)			12.5	11.8		ug/Kg		94	70 - 135	5	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)			1.88	1.97		ug/Kg		105	70 - 145	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.37	2.46		ug/Kg		104	70 - 160	4	30
Perfluoro-3-methoxypropanoic acid (PFMPA)			2.50	2.44		ug/Kg		98	30 - 140	4	30
Perfluoro-4-methoxybutanoic acid (PFMBA)			2.50	2.38		ug/Kg		95	60 - 150	2	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.50	2.61		ug/Kg		104	60 - 155	10	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)			2.34	2.15		ug/Kg		92	70 - 150	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.36	2.21		ug/Kg		94	45 - 160	7	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.23	2.43		ug/Kg		109	70 - 140	1	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)			5.00	4.33		ug/Kg		87	45 - 130	0	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)			12.5	10.2		ug/Kg		82	60 - 130	8	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)			12.5	9.94		ug/Kg		79	60 - 150	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*106*		*8 - 130*
13C5 PFPeA	*96.3*		*35 - 130*
13C5 PFHxA	*85.8*		*40 - 130*
13C4 PFHpA	*86.1*		*40 - 130*
13C8 PFOA	*85.1*		*40 - 130*
13C9 PFNA	*95.0*		*40 - 130*
13C6 PFDA	*90.7*		*40 - 130*
13C7 PFUnA	*91.5*		*40 - 130*
13C2 PFDoA	*99.7*		*40 - 130*
13C2 PFTeDA	*91.8*		*20 - 130*
13C3 PFBS	*88.7*		*40 - 135*
13C3 PFHxS	*93.2*		*40 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCSD 320-830153/4-A
Matrix: Solid
Analysis Batch: 830527

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830153

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C8 PFOS	*89.1*		*40 - 130*
13C8 FOSA	*81.8*		*40 - 130*
d3-NMeFOSAA	*95.6*		*40 - 135*
d5-NEtFOSAA	*91.3*		*40 - 150*
13C2 4:2 FTS	*78.6*		*40 - 165*
13C2 6:2 FTS	*73.7*		*40 - 215*
13C2 8:2 FTS	*70.4*		*40 - 275*
13C3 HFPO-DA	*86.3*		*40 - 130*
d7-N-MeFOSE-M	*81.4*		*20 - 130*
d9-N-EtFOSE-M	*83.2*		*15 - 130*
d5-NEtPFOSA	*65.3*		*10 - 130*
d3-NMePFOSA	*66.0*		*10 - 130*

Lab Sample ID: LLCS 320-830153/2-A
Matrix: Solid
Analysis Batch: 830527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830153

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	0.800	0.824		ug/Kg		103	70 - 140
Perfluoropentanoic acid (PFPeA)	0.400	0.400		ug/Kg		100	60 - 150
Perfluorohexanoic acid (PFHxA)	0.400	0.459		ug/Kg		115	65 - 140
Perfluoroheptanoic acid (PFHpA)	0.400	0.454		ug/Kg		113	65 - 145
Perfluorooctanoic acid (PFOA)	0.400	0.467		ug/Kg		117	70 - 150
Perfluorononanoic acid (PFNA)	0.400	0.424		ug/Kg		106	70 - 155
Perfluorodecanoic acid (PFDA)	0.400	0.410		ug/Kg		102	70 - 155
Perfluoroundecanoic acid (PFUnA)	0.400	0.431		ug/Kg		108	70 - 155
Perfluorododecanoic acid (PFDoA)	0.400	0.423		ug/Kg		106	70 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.416		ug/Kg		104	65 - 150
Perfluorotetradecanoic acid (PFTeDA)	0.400	0.391		ug/Kg		98	65 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.415		ug/Kg		117	65 - 145
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.378		ug/Kg		100	55 - 160
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.392		ug/Kg		107	60 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.381		ug/Kg		100	65 - 155
Perfluorooctanesulfonic acid (PFOS)	0.372	0.396		ug/Kg		106	65 - 160
Perfluorononanesulfonic acid (PFNS)	0.385	0.393		ug/Kg		102	55 - 140
Perfluorodecanesulfonic acid (PFDS)	0.386	0.403		ug/Kg		105	40 - 155
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.334		ug/Kg		86	25 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	0.750	0.805		ug/Kg		107	60 - 150

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-830153/2-A
Matrix: Solid
Analysis Batch: 830527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830153

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.762	0.760		ug/Kg		100	55 - 200
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	0.768	0.812		ug/Kg		106	70 - 150
Perfluorooctanesulfonamide (PFOSA)	0.400	0.390		ug/Kg		97	70 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	0.400	0.420		ug/Kg		105	70 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	0.400	0.411		ug/Kg		103	70 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.400	0.433		ug/Kg		108	65 - 155
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.400	0.441		ug/Kg		110	65 - 165
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	2.00	1.99		ug/Kg		99	70 - 140
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	2.00	1.97		ug/Kg		99	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.300	0.294		ug/Kg		98	70 - 145
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.440		ug/Kg		116	70 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.400	0.405		ug/Kg		101	30 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.400	0.389		ug/Kg		97	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.400	0.527		ug/Kg		132	60 - 155
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	0.374	0.359		ug/Kg		96	70 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	0.378	0.391		ug/Kg		103	45 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.357	0.393		ug/Kg		110	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	0.800	0.680		ug/Kg		85	45 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	2.00	1.68		ug/Kg		84	60 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	2.00	1.59		ug/Kg		79	60 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*99.0*		*8 - 130*
13C5 PFPeA	*91.5*		*35 - 130*
13C5 PFHxA	*86.8*		*40 - 130*
13C4 PFHpA	*84.9*		*40 - 130*
13C8 PFOA	*84.7*		*40 - 130*
13C9 PFNA	*94.1*		*40 - 130*
13C6 PFDA	*96.6*		*40 - 130*
13C7 PFUnA	*91.3*		*40 - 130*
13C2 PFDoA	*101*		*40 - 130*
13C2 PFTeDA	*93.9*		*20 - 130*

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-830153/2-A
Matrix: Solid
Analysis Batch: 830527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830153

Isotope Dilution	LLCS %Recovery	LLCS Qualifier	Limits
13C3 PFBS	91.1		40 - 135
13C3 PFHxS	91.9		40 - 130
13C8 PFOS	89.9		40 - 130
13C8 FOSA	88.7		40 - 130
d3-NMeFOSAA	97.6		40 - 135
d5-NEtFOSAA	96.2		40 - 150
13C2 4:2 FTS	78.8		40 - 165
13C2 6:2 FTS	80.8		40 - 215
13C2 8:2 FTS	72.0		40 - 275
13C3 HFPO-DA	82.4		40 - 130
d7-N-MeFOSE-M	82.4		20 - 130
d9-N-EtFOSE-M	81.4		15 - 130
d5-NEtPFOSA	80.4		10 - 130
d3-NMePFOSA	84.4		10 - 130

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Lab Sample ID: LCS 320-829796/3-A
Matrix: Water
Analysis Batch: 831398

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 829796

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) - RA			37.4	26.7		ng/L		71	70 - 155		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C3 HFPO-DA - RA	89.8		40 - 130

Lab Sample ID: LCSD 320-829796/4-A
Matrix: Water
Analysis Batch: 831398

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 829796

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) - RA			37.4	34.0		ng/L		91	70 - 155	24	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C3 HFPO-DA - RA	98.5		40 - 130

Lab Sample ID: MB 320-830064/1-A
Matrix: Solid
Analysis Batch: 830314

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 830064

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA	ND		0.40	0.10	ug/Kg		01/29/25 03:50	01/30/25 09:42	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 8:2 FTS - RA	65.7		40 - 275	01/29/25 03:50	01/30/25 09:42	1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RA

Lab Sample ID: LCS 320-830064/3-A
Matrix: Solid
Analysis Batch: 830314

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830064

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA			4.80	5.07		ug/Kg		106	70 - 150		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 8:2 FTS - RA	*64.8*		*40 - 275*

Lab Sample ID: LCSD 320-830064/4-A
Matrix: Solid
Analysis Batch: 830314

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 830064

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA			4.80	5.16		ug/Kg		107	70 - 150	2	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C2 8:2 FTS - RA	*63.7*		*40 - 275*

Lab Sample ID: LLCS 320-830064/2-A
Matrix: Solid
Analysis Batch: 830314

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 830064

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA			0.768	0.799		ug/Kg		104	70 - 150		

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C2 8:2 FTS - RA	*72.1*		*40 - 275*

LCMS

Prep Batch: 829796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118551-40	EB-01222025	Total/NA	Water	1633	
320-118551-41	FB-01222025	Total/NA	Water	1633	
MB 320-829796/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-829796/3-A	Lab Control Sample	Total/NA	Water	1633	
LCS 320-829796/3-A - RA	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-829796/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LCSD 320-829796/4-A - RA	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-829796/2-A	Lab Control Sample	Total/NA	Water	1633	

Prep Batch: 830064

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118551-9	SRA-009-N-S000-01222025	Total/NA	Solid	1633 Shake	
320-118551-9 - RA	SRA-009-N-S000-01222025	Total/NA	Solid	1633 Shake	
320-118551-11	SRA-010-N-S001-01222025	Total/NA	Solid	1633 Shake	
320-118551-11 - RA	SRA-010-N-S001-01222025	Total/NA	Solid	1633 Shake	
320-118551-12	SRA-010-N-S003-01222025	Total/NA	Solid	1633 Shake	
320-118551-12 - RA	SRA-010-N-S003-01222025	Total/NA	Solid	1633 Shake	
320-118551-13	SRA-010-FD-S003-01222025	Total/NA	Solid	1633 Shake	
320-118551-13 - RA	SRA-010-FD-S003-01222025	Total/NA	Solid	1633 Shake	
320-118551-18	SRA-011-N-S001-01222025	Total/NA	Solid	1633 Shake	
320-118551-18 - RA	SRA-011-N-S001-01222025	Total/NA	Solid	1633 Shake	
320-118551-19	SRA-011-N-S003-01222025	Total/NA	Solid	1633 Shake	
320-118551-24	SRA-008-N-S001-01222025	Total/NA	Solid	1633 Shake	
320-118551-25	SRA-008-FD-S001-01222025	Total/NA	Solid	1633 Shake	
320-118551-25 - DL	SRA-008-FD-S001-01222025	Total/NA	Solid	1633 Shake	
320-118551-26	SRA-008-N-S003-01222025	Total/NA	Solid	1633 Shake	
320-118551-28	SRA-001-N-S001-01222025	Total/NA	Solid	1633 Shake	
320-118551-29	SRA-001-N-S003-01222025	Total/NA	Solid	1633 Shake	
320-118551-32	HFH-001-N-S001-01222025	Total/NA	Solid	1633 Shake	
320-118551-33 - DL2	HFH-001-N-S003-01222025	Total/NA	Solid	1633 Shake	
320-118551-33 - DL	HFH-001-N-S003-01222025	Total/NA	Solid	1633 Shake	
320-118551-33	HFH-001-N-S003-01222025	Total/NA	Solid	1633 Shake	
320-118551-34 - DL	HFH-001-FD-S003-01222025	Total/NA	Solid	1633 Shake	
320-118551-34 - DL2	HFH-001-FD-S003-01222025	Total/NA	Solid	1633 Shake	
320-118551-34	HFH-001-FD-S003-01222025	Total/NA	Solid	1633 Shake	
320-118551-36	SRA-002-N-S000-01222025	Total/NA	Solid	1633 Shake	
320-118551-37	TRP-001-N-S000-01222025	Total/NA	Solid	1633 Shake	
320-118551-38	TRP-002-N-S000-01222025	Total/NA	Solid	1633 Shake	
MB 320-830064/1-A	Method Blank	Total/NA	Solid	1633 Shake	
MB 320-830064/1-A - RA	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-830064/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCS 320-830064/3-A - RA	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-830064/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LCSD 320-830064/4-A - RA	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-830064/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LLCS 320-830064/2-A - RA	Lab Control Sample	Total/NA	Solid	1633 Shake	

Prep Batch: 830153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118551-2	SRA-005-N-S001-01222025	Total/NA	Solid	1633 Shake	
320-118551-3	SRA-005-N-S003-01222025	Total/NA	Solid	1633 Shake	

LCMS (Continued)

Prep Batch: 830153 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118551-39	HFH-006-N-S000-01222025	Total/NA	Solid	1633 Shake	
MB 320-830153/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 320-830153/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LCSD 320-830153/4-A	Lab Control Sample Dup	Total/NA	Solid	1633 Shake	
LLCS 320-830153/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 830248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118551-9	SRA-009-N-S000-01222025	Total/NA	Solid	1633	830064
320-118551-11	SRA-010-N-S001-01222025	Total/NA	Solid	1633	830064
320-118551-12	SRA-010-N-S003-01222025	Total/NA	Solid	1633	830064
320-118551-13	SRA-010-FD-S003-01222025	Total/NA	Solid	1633	830064
320-118551-18	SRA-011-N-S001-01222025	Total/NA	Solid	1633	830064
MB 320-830064/1-A	Method Blank	Total/NA	Solid	1633	830064
LCS 320-830064/3-A	Lab Control Sample	Total/NA	Solid	1633	830064
LCSD 320-830064/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	830064
LLCS 320-830064/2-A	Lab Control Sample	Total/NA	Solid	1633	830064

Analysis Batch: 830314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118551-9 - RA	SRA-009-N-S000-01222025	Total/NA	Solid	1633	830064
320-118551-11 - RA	SRA-010-N-S001-01222025	Total/NA	Solid	1633	830064
320-118551-12 - RA	SRA-010-N-S003-01222025	Total/NA	Solid	1633	830064
320-118551-13 - RA	SRA-010-FD-S003-01222025	Total/NA	Solid	1633	830064
320-118551-18 - RA	SRA-011-N-S001-01222025	Total/NA	Solid	1633	830064
320-118551-19	SRA-011-N-S003-01222025	Total/NA	Solid	1633	830064
320-118551-24	SRA-008-N-S001-01222025	Total/NA	Solid	1633	830064
320-118551-25	SRA-008-FD-S001-01222025	Total/NA	Solid	1633	830064
320-118551-25 - DL	SRA-008-FD-S001-01222025	Total/NA	Solid	1633	830064
320-118551-26	SRA-008-N-S003-01222025	Total/NA	Solid	1633	830064
320-118551-28	SRA-001-N-S001-01222025	Total/NA	Solid	1633	830064
320-118551-29	SRA-001-N-S003-01222025	Total/NA	Solid	1633	830064
320-118551-32	HFH-001-N-S001-01222025	Total/NA	Solid	1633	830064
320-118551-33	HFH-001-N-S003-01222025	Total/NA	Solid	1633	830064
320-118551-33 - DL	HFH-001-N-S003-01222025	Total/NA	Solid	1633	830064
320-118551-34	HFH-001-FD-S003-01222025	Total/NA	Solid	1633	830064
320-118551-34 - DL	HFH-001-FD-S003-01222025	Total/NA	Solid	1633	830064
320-118551-36	SRA-002-N-S000-01222025	Total/NA	Solid	1633	830064
320-118551-37	TRP-001-N-S000-01222025	Total/NA	Solid	1633	830064
320-118551-38	TRP-002-N-S000-01222025	Total/NA	Solid	1633	830064
MB 320-830064/1-A - RA	Method Blank	Total/NA	Solid	1633	830064
LCS 320-830064/3-A - RA	Lab Control Sample	Total/NA	Solid	1633	830064
LCSD 320-830064/4-A - RA	Lab Control Sample Dup	Total/NA	Solid	1633	830064
LLCS 320-830064/2-A - RA	Lab Control Sample	Total/NA	Solid	1633	830064

Analysis Batch: 830527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118551-2	SRA-005-N-S001-01222025	Total/NA	Solid	1633	830153
320-118551-3	SRA-005-N-S003-01222025	Total/NA	Solid	1633	830153
320-118551-39	HFH-006-N-S000-01222025	Total/NA	Solid	1633	830153
MB 320-830153/1-A	Method Blank	Total/NA	Solid	1633	830153

LCMS (Continued)

Analysis Batch: 830527 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 320-830153/3-A	Lab Control Sample	Total/NA	Solid	1633	830153
LCSD 320-830153/4-A	Lab Control Sample Dup	Total/NA	Solid	1633	830153
LLCS 320-830153/2-A	Lab Control Sample	Total/NA	Solid	1633	830153

Analysis Batch: 830706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118551-33 - DL2	HFH-001-N-S003-01222025	Total/NA	Solid	1633	830064
320-118551-34 - DL2	HFH-001-FD-S003-01222025	Total/NA	Solid	1633	830064

Analysis Batch: 830986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118551-40	EB-01222025	Total/NA	Water	1633	829796
320-118551-41	FB-01222025	Total/NA	Water	1633	829796
MB 320-829796/1-A	Method Blank	Total/NA	Water	1633	829796
LCS 320-829796/3-A	Lab Control Sample	Total/NA	Water	1633	829796
LCSD 320-829796/4-A	Lab Control Sample Dup	Total/NA	Water	1633	829796
LLCS 320-829796/2-A	Lab Control Sample	Total/NA	Water	1633	829796

Analysis Batch: 831398

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 320-829796/3-A - RA	Lab Control Sample	Total/NA	Water	1633	829796
LCSD 320-829796/4-A - RA	Lab Control Sample Dup	Total/NA	Water	1633	829796

General Chemistry

Analysis Batch: 829756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118551-2	SRA-005-N-S001-01222025	Total/NA	Solid	1633	
320-118551-3	SRA-005-N-S003-01222025	Total/NA	Solid	1633	
320-118551-9	SRA-009-N-S000-01222025	Total/NA	Solid	1633	
320-118551-11	SRA-010-N-S001-01222025	Total/NA	Solid	1633	
320-118551-12	SRA-010-N-S003-01222025	Total/NA	Solid	1633	
320-118551-13	SRA-010-FD-S003-01222025	Total/NA	Solid	1633	
320-118551-18	SRA-011-N-S001-01222025	Total/NA	Solid	1633	
320-118551-19	SRA-011-N-S003-01222025	Total/NA	Solid	1633	
320-118551-24	SRA-008-N-S001-01222025	Total/NA	Solid	1633	
320-118551-25	SRA-008-FD-S001-01222025	Total/NA	Solid	1633	
320-118551-26	SRA-008-N-S003-01222025	Total/NA	Solid	1633	
320-118551-28	SRA-001-N-S001-01222025	Total/NA	Solid	1633	
320-118551-29	SRA-001-N-S003-01222025	Total/NA	Solid	1633	
320-118551-32	HFH-001-N-S001-01222025	Total/NA	Solid	1633	
320-118551-33	HFH-001-N-S003-01222025	Total/NA	Solid	1633	
320-118551-34	HFH-001-FD-S003-01222025	Total/NA	Solid	1633	
320-118551-36	SRA-002-N-S000-01222025	Total/NA	Solid	1633	

Analysis Batch: 829760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-118551-37	TRP-001-N-S000-01222025	Total/NA	Solid	1633	
320-118551-38	TRP-002-N-S000-01222025	Total/NA	Solid	1633	
320-118551-39	HFH-006-N-S000-01222025	Total/NA	Solid	1633	

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-1

Client Sample ID: SRA-005-N-S001-01222025
Lab Sample ID: 320-118551-2
Date Collected: 01/22/25 07:50
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829756	01/27/25 15:30	CFR	EET SAC

Client Sample ID: SRA-005-N-S001-01222025
Lab Sample ID: 320-118551-2
Date Collected: 01/22/25 07:50
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 90.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.23 g	5.00 mL	830153	01/29/25 11:30	JLS	EET SAC
Total/NA	Analysis	1633		1			830527	01/31/25 00:36	S1M	EET SAC

Client Sample ID: SRA-005-N-S003-01222025
Lab Sample ID: 320-118551-3
Date Collected: 01/22/25 07:55
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829756	01/27/25 15:30	CFR	EET SAC

Client Sample ID: SRA-005-N-S003-01222025
Lab Sample ID: 320-118551-3
Date Collected: 01/22/25 07:55
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 93.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.25 g	5.00 mL	830153	01/29/25 11:30	JLS	EET SAC
Total/NA	Analysis	1633		1			830527	01/31/25 00:52	S1M	EET SAC

Client Sample ID: SRA-009-N-S000-01222025
Lab Sample ID: 320-118551-9
Date Collected: 01/22/25 08:45
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829756	01/27/25 15:30	CFR	EET SAC

Client Sample ID: SRA-009-N-S000-01222025
Lab Sample ID: 320-118551-9
Date Collected: 01/22/25 08:45
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 90.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.24 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633		1			830248	01/30/25 03:57	S1M	EET SAC
Total/NA	Prep	1633 Shake	RA		2.24 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830314	01/30/25 11:53	N1K	EET SAC

Client Sample ID: SRA-010-N-S001-01222025
Lab Sample ID: 320-118551-11
Date Collected: 01/22/25 09:15
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829756	01/27/25 15:30	CFR	EET SAC

Client Sample ID: SRA-010-N-S001-01222025
Lab Sample ID: 320-118551-11
Date Collected: 01/22/25 09:15
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 88.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.39 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633		1			830248	01/30/25 04:13	S1M	EET SAC
Total/NA	Prep	1633 Shake	RA		2.39 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830314	01/30/25 12:10	N1K	EET SAC

Client Sample ID: SRA-010-N-S003-01222025
Lab Sample ID: 320-118551-12
Date Collected: 01/22/25 09:20
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829756	01/27/25 15:30	CFR	EET SAC

Client Sample ID: SRA-010-N-S003-01222025
Lab Sample ID: 320-118551-12
Date Collected: 01/22/25 09:20
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 86.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.32 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633		1			830248	01/30/25 04:29	S1M	EET SAC
Total/NA	Prep	1633 Shake	RA		2.32 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830314	01/30/25 12:26	N1K	EET SAC

Client Sample ID: SRA-010-FD-S003-01222025
Lab Sample ID: 320-118551-13
Date Collected: 01/22/25 09:50
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829756	01/27/25 15:30	CFR	EET SAC

Client Sample ID: SRA-010-FD-S003-01222025
Lab Sample ID: 320-118551-13
Date Collected: 01/22/25 09:50
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 80.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.56 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633		1			830248	01/30/25 05:19	S1M	EET SAC
Total/NA	Prep	1633 Shake	RA		2.56 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830314	01/30/25 13:15	N1K	EET SAC

Client Sample ID: SRA-011-N-S001-01222025
Lab Sample ID: 320-118551-18
Date Collected: 01/22/25 10:15
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829756	01/27/25 15:30	CFR	EET SAC

Client Sample ID: SRA-011-N-S001-01222025
Lab Sample ID: 320-118551-18
Date Collected: 01/22/25 10:15
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 72.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.84 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633		1			830248	01/30/25 05:35	S1M	EET SAC
Total/NA	Prep	1633 Shake	RA		2.84 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633	RA	1			830314	01/30/25 13:32	N1K	EET SAC

Client Sample ID: SRA-011-N-S003-01222025
Lab Sample ID: 320-118551-19
Date Collected: 01/22/25 10:20
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829756	01/27/25 15:30	CFR	EET SAC

Client Sample ID: SRA-011-N-S003-01222025
Lab Sample ID: 320-118551-19
Date Collected: 01/22/25 10:20
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 82.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.43 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633		1			830314	01/30/25 15:17	N1K	EET SAC

Client Sample ID: SRA-008-N-S001-01222025
Lab Sample ID: 320-118551-24
Date Collected: 01/22/25 11:20
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829756	01/27/25 15:30	CFR	EET SAC

Client Sample ID: SRA-008-N-S001-01222025
Lab Sample ID: 320-118551-24
Date Collected: 01/22/25 11:20
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 86.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.36 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633		1			830314	01/30/25 15:33	N1K	EET SAC

Client Sample ID: SRA-008-FD-S001-01222025
Lab Sample ID: 320-118551-25
Date Collected: 01/22/25 11:50
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829756	01/27/25 15:30	CFR	EET SAC

Client Sample ID: SRA-008-FD-S001-01222025
Lab Sample ID: 320-118551-25
Date Collected: 01/22/25 11:50
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 88.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.35 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633		1			830314	01/30/25 15:50	N1K	EET SAC
Total/NA	Prep	1633 Shake	DL		2.35 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633	DL	10			830314	01/30/25 19:40	N1K	EET SAC

Client Sample ID: SRA-008-N-S003-01222025
Lab Sample ID: 320-118551-26
Date Collected: 01/22/25 11:25
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829756	01/27/25 15:30	CFR	EET SAC

Client Sample ID: SRA-008-N-S003-01222025
Lab Sample ID: 320-118551-26
Date Collected: 01/22/25 11:25
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 86.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.38 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633		1			830314	01/30/25 16:06	N1K	EET SAC

Client Sample ID: SRA-001-N-S001-01222025
Lab Sample ID: 320-118551-28
Date Collected: 01/22/25 13:05
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829756	01/27/25 15:30	CFR	EET SAC

Client Sample ID: SRA-001-N-S001-01222025
Lab Sample ID: 320-118551-28
Date Collected: 01/22/25 13:05
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 84.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.44 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633		1			830314	01/30/25 16:23	N1K	EET SAC

Lab Chronicle

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-1

Client Sample ID: SRA-001-N-S003-01222025
Lab Sample ID: 320-118551-29
Date Collected: 01/22/25 13:10
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829756	01/27/25 15:30	CFR	EET SAC

Client Sample ID: SRA-001-N-S003-01222025
Lab Sample ID: 320-118551-29
Date Collected: 01/22/25 13:10
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 86.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.35 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633		1			830314	01/30/25 16:39	N1K	EET SAC

Client Sample ID: HFH-001-N-S001-01222025
Lab Sample ID: 320-118551-32
Date Collected: 01/22/25 14:50
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829756	01/27/25 15:30	CFR	EET SAC

Client Sample ID: HFH-001-N-S001-01222025
Lab Sample ID: 320-118551-32
Date Collected: 01/22/25 14:50
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 90.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.25 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633		1			830314	01/30/25 16:55	N1K	EET SAC

Client Sample ID: HFH-001-N-S003-01222025
Lab Sample ID: 320-118551-33
Date Collected: 01/22/25 14:55
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829756	01/27/25 15:30	CFR	EET SAC

Client Sample ID: HFH-001-N-S003-01222025
Lab Sample ID: 320-118551-33
Date Collected: 01/22/25 14:55
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 94.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.17 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633		1			830314	01/30/25 17:12	N1K	EET SAC
Total/NA	Prep	1633 Shake	DL		2.17 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633	DL	10			830314	01/30/25 21:02	N1K	EET SAC
Total/NA	Prep	1633 Shake	DL2		2.17 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633	DL2	20			830706	01/31/25 14:01	S1M	EET SAC

Client Sample ID: HFH-001-FD-S003-01222025
Lab Sample ID: 320-118551-34
Date Collected: 01/22/25 15:25
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829756	01/27/25 15:30	CFR	EET SAC

Client Sample ID: HFH-001-FD-S003-01222025
Lab Sample ID: 320-118551-34
Date Collected: 01/22/25 15:25
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 89.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.22 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633		1			830314	01/30/25 18:01	N1K	EET SAC
Total/NA	Prep	1633 Shake	DL		2.22 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633	DL	10			830314	01/30/25 21:18	N1K	EET SAC
Total/NA	Prep	1633 Shake	DL2		2.22 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633	DL2	20			830706	01/31/25 14:18	S1M	EET SAC

Client Sample ID: SRA-002-N-S000-01222025
Lab Sample ID: 320-118551-36
Date Collected: 01/22/25 11:45
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829756	01/27/25 15:30	CFR	EET SAC

Client Sample ID: SRA-002-N-S000-01222025
Lab Sample ID: 320-118551-36
Date Collected: 01/22/25 11:45
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 79.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.50 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633		1			830314	01/30/25 18:18	N1K	EET SAC

Client Sample ID: TRP-001-N-S000-01222025
Lab Sample ID: 320-118551-37
Date Collected: 01/22/25 12:35
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829760	01/27/25 16:04	CFR	EET SAC

Client Sample ID: TRP-001-N-S000-01222025
Lab Sample ID: 320-118551-37
Date Collected: 01/22/25 12:35
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 90.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.25 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633		1			830314	01/30/25 18:34	N1K	EET SAC

Client Sample ID: TRP-002-N-S000-01222025
Lab Sample ID: 320-118551-38
Date Collected: 01/22/25 12:55
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829760	01/27/25 16:04	CFR	EET SAC

Client Sample ID: TRP-002-N-S000-01222025
Lab Sample ID: 320-118551-38
Date Collected: 01/22/25 12:55
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 90.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.26 g	5.0 mL	830064	01/29/25 03:50	BMS	EET SAC
Total/NA	Analysis	1633		1			830314	01/30/25 18:50	N1K	EET SAC

Client Sample ID: HFH-006-N-S000-01222025
Lab Sample ID: 320-118551-39
Date Collected: 01/22/25 15:05
Matrix: Solid
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1633		1			829760	01/27/25 16:04	CFR	EET SAC

Client Sample ID: HFH-006-N-S000-01222025
Lab Sample ID: 320-118551-39
Date Collected: 01/22/25 15:05
Matrix: Solid
Date Received: 01/25/25 08:45
Percent Solids: 85.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633 Shake			2.01 g	5.00 mL	830153	01/29/25 11:30	JLS	EET SAC
Total/NA	Analysis	1633		1			830527	01/31/25 01:09	S1M	EET SAC

Client Sample ID: EB-01222025
Lab Sample ID: 320-118551-40
Date Collected: 01/22/25 07:30
Matrix: Water
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			153.8 mL	5.0 mL	829796	01/28/25 04:11	RMF	EET SAC
Total/NA	Analysis	1633		1			830986	02/03/25 17:41	N1K	EET SAC

Client Sample ID: FB-01222025
Lab Sample ID: 320-118551-41
Date Collected: 01/22/25 00:00
Matrix: Water
Date Received: 01/25/25 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1633			158.3 mL	5.0 mL	829796	01/28/25 04:11	RMF	EET SAC
Total/NA	Analysis	1633		1			830986	02/03/25 17:57	N1K	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GSI Environmental Inc
Job ID: 320-118551-1
Project/Site: Spokane International Airport

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C581	05-05-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633		Solid	Percent Moisture

Method Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-1

Method	Method Description	Protocol	Laboratory
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Percent Moisture	EPA	EET SAC
1633	Solid-Phase Extraction (SPE)	EPA	EET SAC
1633 Shake	Shake Extraction with SPE	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GSI Environmental Inc
Project/Site: Spokane International Airport

Job ID: 320-118551-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-118551-2	SRA-005-N-S001-01222025	Solid	01/22/25 07:50	01/25/25 08:45
320-118551-3	SRA-005-N-S003-01222025	Solid	01/22/25 07:55	01/25/25 08:45
320-118551-9	SRA-009-N-S000-01222025	Solid	01/22/25 08:45	01/25/25 08:45
320-118551-11	SRA-010-N-S001-01222025	Solid	01/22/25 09:15	01/25/25 08:45
320-118551-12	SRA-010-N-S003-01222025	Solid	01/22/25 09:20	01/25/25 08:45
320-118551-13	SRA-010-FD-S003-01222025	Solid	01/22/25 09:50	01/25/25 08:45
320-118551-18	SRA-011-N-S001-01222025	Solid	01/22/25 10:15	01/25/25 08:45
320-118551-19	SRA-011-N-S003-01222025	Solid	01/22/25 10:20	01/25/25 08:45
320-118551-24	SRA-008-N-S001-01222025	Solid	01/22/25 11:20	01/25/25 08:45
320-118551-25	SRA-008-FD-S001-01222025	Solid	01/22/25 11:50	01/25/25 08:45
320-118551-26	SRA-008-N-S003-01222025	Solid	01/22/25 11:25	01/25/25 08:45
320-118551-28	SRA-001-N-S001-01222025	Solid	01/22/25 13:05	01/25/25 08:45
320-118551-29	SRA-001-N-S003-01222025	Solid	01/22/25 13:10	01/25/25 08:45
320-118551-32	HFH-001-N-S001-01222025	Solid	01/22/25 14:50	01/25/25 08:45
320-118551-33	HFH-001-N-S003-01222025	Solid	01/22/25 14:55	01/25/25 08:45
320-118551-34	HFH-001-FD-S003-01222025	Solid	01/22/25 15:25	01/25/25 08:45
320-118551-36	SRA-002-N-S000-01222025	Solid	01/22/25 11:45	01/25/25 08:45
320-118551-37	TRP-001-N-S000-01222025	Solid	01/22/25 12:35	01/25/25 08:45
320-118551-38	TRP-002-N-S000-01222025	Solid	01/22/25 12:55	01/25/25 08:45
320-118551-39	HFH-006-N-S000-01222025	Solid	01/22/25 15:05	01/25/25 08:45
320-118551-40	EB-01222025	Water	01/22/25 07:30	01/25/25 08:45
320-118551-41	FB-01222025	Water	01/22/25 00:00	01/25/25 08:45

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave. Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE		TURNAROUND TIME	
PROJECT MANAGER	Breeyn Greer		

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
SRA-005-N-S000-01222025	1/22/2025	7:45	Soil					X	1
SRA-005-N-S001-01222025		7:50		X					
SRA-005-N-S003-01222025		7:55		X					
SRA-005-N-S006-01222025		8:00						X	
SRA-005-N-S010-01222025		8:05						X	
SRA-005-N-S015-01222025		8:10						X	
SRA-005-N-S017-01222025		8:15						X	
SRA-005-FD-S017-01222025		8:20						X	
SRA-009-N-S000-01222025		8:45		X					
SRA-010-N-S000-01222025		9:10						X	

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

320-118551 Chain of Custody

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date 1/23/25 1435
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date
Relinquished by	**Received by**
Sign	Sign
Print	Print
Firm	Firm
Date 1/24/25 Time 1200	Date 1/25/25 0917

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

5.4, 5.8
1800

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____includes _____does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY Project Manager PINK - Haley & Aldrich Laboratory

Form 3003

4.2

November 2024

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley, WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE		TURNAROUND TIME	
PROJECT MANAGER	Breeyn Greer		

Sample No. (Add 5's (LWP) ↓)	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
SRA-010-N-001-01222025	1/22/2025	9:15	Soil	X					1
SRA-010-N-003-01222025		9:20		X					
SRA-010-FD-003-01222025		9:50		X					
SRA-010-N-006-01222025		9:25						X	
SRA-010-N-010-01222025		9:30						X	
SRA-010-N-015-01222025		9:35						X	
SRA-011-N-000-01222025		10:10						X	
SRA-011-N-001-01222025		10:15		X					
SRA-011-N-003-01222025		10:20		X					
SRA-011-N-006-01222025		10:25						X	

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento
Laboratory to use applicable DEP CAM methods, unless otherwise directed.
– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print Madison
Firm	Firm
Date Time	Date 1/23/25 1430

Relinquished by	Received by
Sign	Sign
Print Lindsay Chuntai	Print
Firm Haley & Aldrich	Firm
Date 1/23/25 Time 1435	Date

Relinquished by	Received by
Sign	Sign
Print	Print Madison
Firm	Firm EFSPK
Date 1/24/25 Time 1100	Date 1/25/25 0845

LIQUID	
VOA Vial	
Amber Glass	5 4,85 cf
Plastic Bottle	1 poly
Preservative	
Volume	

SOLID	
VOA Vial	
Amber Glass	
Clear Glass	
Preservative	
Volume	

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections·

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____includes _____does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

Form 3003 November 2024

4 2

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave, Spokane Valley WA 99206
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington
DELIVERY DATE		TURNAROUND TIME	
PROJECT MANAGER	Breeyn Greer		

Sample No. (Add SS LWP)	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
SRA-011-N-010-01222025	1/22/2025	10:30	Soil					X	1
SRA-011-N-014-01222025		10:35						X	
SRA-008-N-000-01222025		11:15						X	
SRA-008-N-001-01222025		11:20		X					
SRA-008-FD-001-01222025		11:50		X					
SRA-008-N-003-01222025		11:25		X					
SRA-001-N-000-01222025		13:00						X	
SRA-001-N-001-01222025		13:05		X					
SRA-001-N-003-01222025		13:10		X					
SRA-001-N-006-01222025		13:15						X	

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)

– PFAS Analysis to be conducted by Eurofins Sacramento

Laboratory to use applicable DEP CAM methods, unless otherwise directed.

– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print Madison
Firm	Firm
Date Time	Date

Relinquished by	Received by
Sign	Sign
Print Lindsay Chuntas	Print
Firm Haley & Aldrich	Firm
Date 1/23/25 Time 14 35	Date

Relinquished by	Received by
Sign	Sign
Print CET 510	Print Lucy Madelon
Firm	Firm ONTSHE
Date 1/24/25 Time 1200	Date 1/25/25 0845

LIQUID	
	VOA Vial
1439 5.4 5.8 1x001	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO

If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections.

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

HALEY ALDRICH
Haley & Aldrich, Inc.
505 W Riverside Ave.,
STE 450,
Spokane, WA 99201-0513
Phone (509) 960-7447
Fax (509) 960-7447

H&A FILE NO.	0209800-001	LABORATORY	Eurofins Environmental Testing	DELIVERY DATE	
PROJECT NAME	Geiger Field PFAS Support	ADDRESS	11922 E 1st Ave. Spokane Valley, WA 99206	TURNAROUND TIME	
H&A CONTACT	Breeyn Greer	CONTACT	Randee Arrington	PROJECT MANAGER	Breeyn Greer

Sample No.	Date	Time	Type	PFAS EPA 1633	TOC EPA 9060A	pH EPA SW-846 9045D	Moisture Content	HOLD	Number of Containers
HFH-001-N-S000-01222025	1/22/2025	14:45	Soil					X	1
HFH-001-N-S001-01222025		14:50		X					
HFH-001-N-S003-01222025		14:55		X					
HFH-001-FD-S003-01222025		15:25		X					
HFH-001-N-S006-01222025		15:00						X	
SRA-002-N-S000-01222025		11:45		X					
TRP-001-N-S000-01222025		12:35		X					
TRP-002-N-S000-01222025		12:55		X					
HFH-006-N-S000-01222025		15:05		X					
EB-01222025		7.30	H_2O	X					3
FB-01222025			H_2O	X					2

Analysis Requested

Comments(special instructions, precautions, additional method numbers, etc.)
– PFAS Analysis to be conducted by Eurofins Sacramento
Laboratory to use applicable DEP CAM methods, unless otherwise directed.
– TOC: Total Organic Carbon

Sampled and Relinquished by	Received by
Sign	Sign
Print	Print
Firm	Firm
Date Time	Date 1/23/25 1430
Relinquished by	**Received by**
Sign Lindsay Chuntas	Sign
Print Lindsay Chuntas	Print
Firm Haley & Aldrich	Firm
Date 01/23/25 Time 14:35	Date
Relinquished by	**Received by**
Sign	Sign
Print	Print Leah Mickens
Firm	Firm CCTSAC
Date 1/24/25 Time 1200	Date 1/25/25 0845

5.4, 5.8 rRob

LIQUID	
	VOA Vial
	Amber Glass
	Plastic Bottle
	Preservative
	Volume

SOLID	
	VOA Vial
	Amber Glass
	Clear Glass
	Preservative
	Volume

PRESERVATION KEY

A	Sample chilled	C	NaOH	E	H_2SO_4	G	Methanol
B	Sample filtered	D	HNO_3	F	HCL	H	Water/NaHSO4 (circle)

Sampling Comments

Evidence samples were tampered with? YES NO
If YES, please explain in section below.

Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods)

If Presumptive Certainty Data Package is needed, initial all sections:

_____ The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty

_____ Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein.

_____ This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples.

_____

_____ If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and analysis of TICs are

Required Reporting Limits and Data Quality Objectives

☐ RC-S1 ☐ S1 ☐ GW1
☐ RC-S2 ☐ S2 ☐ GW2
☐ RC-GW1 ☐ S3 ☐ GW3
☐ RC-GW2

WHITE - Laboratory CANARY - Project Manager PINK - Haley & Aldrich Laboratory

Form 3003

November 2024

4.

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
118551

Job _____

Tracking # 4242 5693 0633

SO / PO / FO / (SAT) / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID L12 Corr Factor: (+ / -) _____ °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: _____

Cooler ID: _____

Temp Observed: 4.2 °C Corrected: 4.2 °C

From: Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials MN Date: 1/25/25

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☐
Samples w/o discrepancies?	☐	☑	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials _____ Date: 1/25/25

Notes:
16. No Sample
36. ID Container Begins Sulf.
COC ID ~~Cat~~ Begins SRN

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s). _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials MN Date 1/25/25