

ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

INTERA - Red-Hill-Incident
Site S1 PFAS 1633

JOB NUMBER

380-225346-1

Eurofins Pomona

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

Compliance Statement

1. Laboratory is accredited in accordance with TNI 2016 Standards and ISO/IEC 17025:2017.
2. Laboratory certifies that the test results meet all TNI 2016 and ISO/IEC 17025:2017 requirements unless noted under the individual analysis
3. Test results relate only to the sample(s) tested.
4. This report shall not be reproduced except in full, without the written approval of the laboratory.
5. Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.
(DW, Water matrices)

Authorization



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Definitions/Glossary

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-225346-1
SDG: Site S1 PFAS 1633

Glossary

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

Case Narrative

Client: City & County of Honolulu
Project: INTERA - Red-Hill-Incident

Job ID: 380-225346-1

Job ID: 380-225346-1

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Job Narrative 380-225346-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt

The sample was received on 7/16/2026 9:30 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.6°C.

PFAS

Method QSM B-24: If aqueous samples were extracted beyond 7 days from collection, NMeFOSE, NEtFOSE, NMeFOSAA, and NEtFOSAA may be affected. If soil or tissue samples were extracted beyond 3 days from collection, NFDHA may be affected. If sample extracts, regardless of matrix, were analyzed beyond 28 days from extraction, 9CI-PF3ONS and 11CI-PF3OUdS may be affected. Per DoD Environmental Data Quality Workgroup Memorandum dated March 27, 2025, none of these analytes have associated regulatory limits or toxicity factors, thus any additional uncertainty associated with a holding time exceedance for these analytes will not affect current decision making and the DoD is willing to accept any additional uncertainty.

Method QSM B-24: One or more continuing calibration verifications (CCVs) in analytical batch(s) 320-928505 recovered above the upper control limit for one or more Extracted Internal Standards/Isotope Dilution Analytes (EIS/IDAs). Recovery for the affected EIS/IDAs in associated laboratory QC aliquots and client samples were evaluated and corrective action was performed as required. The affected IDA's was within control limits for BWS2153-S1-AQ (380-225346-1), thus valid for reporting. (M7XQ)

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

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Detection Summary

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-225346-1
SDG: Site S1 PFAS 1633

Client Sample ID: BWS2153-S1-AQ

Lab Sample ID: 380-225346-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	4.9		1.4	ng/L	1		QSM B-24	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.1		1.4	ng/L	1		QSM B-24	Total/NA
Perfluorooctanesulfonic acid (PFOS)	14		1.4	ng/L	1		QSM B-24	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample Results

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-225346-1
SDG: Site S1 PFAS 1633

Client Sample ID: BWS2153-S1-AQ

Lab Sample ID: 380-225346-1

Date Collected: 07/15/26 11:15

Matrix: Water

Date Received: 07/16/26 09:30

Method: DoD 6.0 QSM B-24 - PFAS for QSM 6.0, Table B-24

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<2.9		2.9	ng/L		07/23/26 20:05	07/25/26 02:15	1
Perfluoropentanoic acid (PFPeA)	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
Perfluorohexanoic acid (PFHxA)	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
Perfluoroheptanoic acid (PFHpA)	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
Perfluorooctanoic acid (PFOA)	4.9		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
Perfluorononanoic acid (PFNA)	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
Perfluorodecanoic acid (PFDA)	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
Perfluoroundecanoic acid (PFUnA)	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
Perfluorododecanoic acid (PFDoA)	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
Perfluorotridecanoic acid (PFTrDA)	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
Perfluorotetradecanoic acid (PFTeDA)	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
Perfluorobutanesulfonic acid (PFBS)	<2.9		2.9	ng/L		07/23/26 20:05	07/25/26 02:15	1
Perfluoropentanesulfonic acid (PFPeS)	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
Perfluorohexanesulfonic acid (PFHxS)	3.1		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
Perfluoroheptanesulfonic acid (PFHpS)	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
Perfluorooctanesulfonic acid (PFOS)	14		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
Perfluorononanesulfonic acid (PFNS)	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
Perfluorodecanesulfonic acid (PFDS)	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
Perfluorododecanesulfonic acid (PFDoS)	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.9		2.9	ng/L		07/23/26 20:05	07/25/26 02:15	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.9		2.9	ng/L		07/23/26 20:05	07/25/26 02:15	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.9		2.9	ng/L		07/23/26 20:05	07/25/26 02:15	1
Perfluorooctanesulfonamide (PFOSA)	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<7.2		7.2	ng/L		07/23/26 20:05	07/25/26 02:15	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<7.2		7.2	ng/L		07/23/26 20:05	07/25/26 02:15	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.1		1.1	ng/L		07/23/26 20:05	07/25/26 02:15	1
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
Nonfluoro-3,6-dioxahexanoic acid (NFDHA)	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1

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Client Sample Results

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-225346-1
SDG: Site S1 PFAS 1633

Client Sample ID: BWS2153-S1-AQ

Lab Sample ID: 380-225346-1

Date Collected: 07/15/26 11:15

Matrix: Water

Date Received: 07/16/26 09:30

Method: DoD 6.0 QSM B-24 - PFAS for QSM 6.0, Table B-24 (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<1.4		1.4	ng/L		07/23/26 20:05	07/25/26 02:15	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<2.9		2.9	ng/L		07/23/26 20:05	07/25/26 02:15	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<7.2		7.2	ng/L		07/23/26 20:05	07/25/26 02:15	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<7.2		7.2	ng/L		07/23/26 20:05	07/25/26 02:15	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C4 PFBA	97.5		5 - 130			07/23/26 20:05	07/25/26 02:15	1
13C5 PFPeA	111		40 - 130			07/23/26 20:05	07/25/26 02:15	1
13C5 PFHxA	96.0		40 - 130			07/23/26 20:05	07/25/26 02:15	1
13C4 PFHpA	95.7		40 - 130			07/23/26 20:05	07/25/26 02:15	1
13C8 PFOA	88.2		40 - 130			07/23/26 20:05	07/25/26 02:15	1
13C9 PFNA	95.0		40 - 130			07/23/26 20:05	07/25/26 02:15	1
13C6 PFDA	83.3		40 - 130			07/23/26 20:05	07/25/26 02:15	1
13C7 PFUnA	104		30 - 130			07/23/26 20:05	07/25/26 02:15	1
13C2 PFDoA	95.0		10 - 130			07/23/26 20:05	07/25/26 02:15	1
13C2 PFTeDA	90.3		10 - 130			07/23/26 20:05	07/25/26 02:15	1
13C6 PFTTrDA	89.8		20 - 150			07/23/26 20:05	07/25/26 02:15	1
13C3 PFBS	106		40 - 135			07/23/26 20:05	07/25/26 02:15	1
13C3 PFHxS	109		40 - 130			07/23/26 20:05	07/25/26 02:15	1
13C8 PFOS	87.3		40 - 130			07/23/26 20:05	07/25/26 02:15	1
13C8 PFOSA	72.1		40 - 130			07/23/26 20:05	07/25/26 02:15	1
d3-NMeFOSAA	67.7		40 - 170			07/23/26 20:05	07/25/26 02:15	1
d5-NEtFOSAA	74.4		25 - 135			07/23/26 20:05	07/25/26 02:15	1
13C2 4:2 FTS	198		40 - 200			07/23/26 20:05	07/25/26 02:15	1
13C2 6:2 FTS	168		40 - 200			07/23/26 20:05	07/25/26 02:15	1
13C2 8:2 FTS	134		40 - 300			07/23/26 20:05	07/25/26 02:15	1
13C3 HFPO-DA	103		40 - 130			07/23/26 20:05	07/25/26 02:15	1
d7-N-MeFOSE-M	68.6		10 - 130			07/23/26 20:05	07/25/26 02:15	1
d9-N-EtFOSE-M	64.8		10 - 130			07/23/26 20:05	07/25/26 02:15	1
d5-NEtPFOSA	56.2		10 - 130			07/23/26 20:05	07/25/26 02:15	1
d3-NMePFOSA	57.7		10 - 130			07/23/26 20:05	07/25/26 02:15	1
13C3-3:3 FTCA	111		20 - 150			07/23/26 20:05	07/25/26 02:15	1
13C3-5:3 FTCA	96.9		20 - 150			07/23/26 20:05	07/25/26 02:15	1

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Action Limit Summary

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-225346-1
SDG: Site S1 PFAS 1633

Client Sample ID: BWS2153-S1-AQ

Lab Sample ID: 380-225346-1

Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits have been highlighted for your convenience.

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Perfluorooctanoic acid (PFOA)	4.9		ng/L	4	1.4	QSM B-24	Total/NA
Perfluorononanoic acid (PFNA)	<1.4		ng/L	10	1.4	QSM B-24	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.1		ng/L	10	1.4	QSM B-24	Total/NA
Perfluorooctanesulfonic acid (PFOS)	14		ng/L	4	1.4	QSM B-24	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.1		ng/L	10	1.1	QSM B-24	Total/NA

Isotope Dilution Summary

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-225346-1
SDG: Site S1 PFAS 1633

Method: QSM B-24 - PFAS for QSM 6.0, Table B-24

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (5-130)	PFPeA (40-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (30-130)
380-225346-1	BWS2153-S1-AQ	97.5	111	96.0	95.7	88.2	95.0	83.3	104
LCS 320-928336/3-A	Lab Control Sample	92.0	102	88.5	88.7	87.5	90.2	85.6	97.8
LCSD 320-928336/4-A	Lab Control Sample Dup	95.3	98.6	92.1	88.6	89.5	93.2	85.3	97.8
LLCS 320-928336/2-A	Lab Control Sample	95.5	105	92.8	94.4	88.4	92.9	91.2	104
MB 320-928336/1-A	Method Blank	95.2	102	94.7	88.2	88.3	89.9	85.1	93.1

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFDaA (10-130)	PFTDA (10-130)	C6PFTTrDA (20-150)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-170)
380-225346-1	BWS2153-S1-AQ	95.0	90.3	89.8	106	109	87.3	72.1	67.7
LCS 320-928336/3-A	Lab Control Sample	90.5	91.7	81.2	102	90.4	91.5	78.0	81.9
LCSD 320-928336/4-A	Lab Control Sample Dup	83.6	91.4	85.6	106	94.4	86.0	76.3	79.4
LLCS 320-928336/2-A	Lab Control Sample	90.7	84.4	86.1	102	94.6	92.4	81.4	80.4
MB 320-928336/1-A	Method Blank	86.1	81.3	90.4	99.5	88.4	85.5	75.5	77.6

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	d5NEFOS (25-135)	M242FTS (40-200)	M262FTS (40-200)	M282FTS (40-300)	HFPODA (40-130)	NMFM (10-130)	NEFM (10-130)	d5NPFSA (10-130)
380-225346-1	BWS2153-S1-AQ	74.4	198	168	134	103	68.6	64.8	56.2
LCS 320-928336/3-A	Lab Control Sample	81.7	124	113	102	93.3	70.9	65.4	57.2
LCSD 320-928336/4-A	Lab Control Sample Dup	78.1	126	124	99.3	91.2	79.8	75.3	62.4
LLCS 320-928336/2-A	Lab Control Sample	79.4	137	120	107	99.6	78.0	71.9	63.2
MB 320-928336/1-A	Method Blank	79.0	121	115	92.5	90.7	75.0	68.2	60.2

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	d3NMFSA (10-130)	3-3:3 FTC (20-150)	3-5:3 FTC (20-150)
380-225346-1	BWS2153-S1-AQ	57.7	111	96.9
LCS 320-928336/3-A	Lab Control Sample	66.0	92.7	101
LCSD 320-928336/4-A	Lab Control Sample Dup	67.4	96.1	95.6
LLCS 320-928336/2-A	Lab Control Sample	63.5	100	106
MB 320-928336/1-A	Method Blank	61.6	93.6	103

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDaA = 13C2 PFDaA
PFTDA = 13C2 PFTeDA
C6PFTTrDA = 13C6 PFTTrDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFOSA = 13C8 PFOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS

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Isotope Dilution Summary

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-225346-1
SDG: Site S1 PFAS 1633

M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
HFPODA = 13C3 HFPO-DA
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA
C3-3:3 FTCA = 13C3-3:3 FTCA
C3-5:3 FTCA = 13C3-5:3 FTCA

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QC Sample Results

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-225346-1
SDG: Site S1 PFAS 1633

Method: QSM B-24 - PFAS for QSM 6.0, Table B-24

Lab Sample ID: MB 320-928336/1-A

Matrix: Water

Analysis Batch: 928505

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 928336

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<4.0		4.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
Perfluorotetradecanoic acid (PFTeDA)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
Perfluorobutanesulfonic acid (PFBS)	<4.0		4.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<4.0		4.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<4.0		4.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<4.0		4.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
Perfluorooctanesulfonamide (PFOSA)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<10		10	ng/L		07/23/26 20:05	07/24/26 19:09	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<10		10	ng/L		07/23/26 20:05	07/24/26 19:09	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.5		1.5	ng/L		07/23/26 20:05	07/24/26 19:09	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1

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QC Sample Results

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-225346-1
SDG: Site S1 PFAS 1633

Method: QSM B-24 - PFAS for QSM 6.0, Table B-24 (Continued)

Lab Sample ID: MB 320-928336/1-A

Matrix: Water

Analysis Batch: 928505

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 928336

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<4.0		4.0	ng/L		07/23/26 20:05	07/24/26 19:09	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<10		10	ng/L		07/23/26 20:05	07/24/26 19:09	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<10		10	ng/L		07/23/26 20:05	07/24/26 19:09	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	95.2		5 - 130	07/23/26 20:05	07/24/26 19:09	1
13C5 PFPeA	102		40 - 130	07/23/26 20:05	07/24/26 19:09	1
13C5 PFHxA	94.7		40 - 130	07/23/26 20:05	07/24/26 19:09	1
13C4 PFHpA	88.2		40 - 130	07/23/26 20:05	07/24/26 19:09	1
13C8 PFOA	88.3		40 - 130	07/23/26 20:05	07/24/26 19:09	1
13C9 PFNA	89.9		40 - 130	07/23/26 20:05	07/24/26 19:09	1
13C6 PFDA	85.1		40 - 130	07/23/26 20:05	07/24/26 19:09	1
13C7 PFUnA	93.1		30 - 130	07/23/26 20:05	07/24/26 19:09	1
13C2 PFDoA	86.1		10 - 130	07/23/26 20:05	07/24/26 19:09	1
13C2 PFTeDA	81.3		10 - 130	07/23/26 20:05	07/24/26 19:09	1
13C6 PFTrDA	90.4		20 - 150	07/23/26 20:05	07/24/26 19:09	1
13C3 PFBS	99.5		40 - 135	07/23/26 20:05	07/24/26 19:09	1
13C3 PFHxS	88.4		40 - 130	07/23/26 20:05	07/24/26 19:09	1
13C8 PFOS	85.5		40 - 130	07/23/26 20:05	07/24/26 19:09	1
13C8 PFOSA	75.5		40 - 130	07/23/26 20:05	07/24/26 19:09	1
d3-NMeFOSAA	77.6		40 - 170	07/23/26 20:05	07/24/26 19:09	1
d5-NEtFOSAA	79.0		25 - 135	07/23/26 20:05	07/24/26 19:09	1
13C2 4:2 FTS	121		40 - 200	07/23/26 20:05	07/24/26 19:09	1
13C2 6:2 FTS	115		40 - 200	07/23/26 20:05	07/24/26 19:09	1
13C2 8:2 FTS	92.5		40 - 300	07/23/26 20:05	07/24/26 19:09	1
13C3 HFPO-DA	90.7		40 - 130	07/23/26 20:05	07/24/26 19:09	1
d7-N-MeFOSE-M	75.0		10 - 130	07/23/26 20:05	07/24/26 19:09	1
d9-N-EtFOSE-M	68.2		10 - 130	07/23/26 20:05	07/24/26 19:09	1
d5-NEtPFOSA	60.2		10 - 130	07/23/26 20:05	07/24/26 19:09	1
d3-NMePFOSA	61.6		10 - 130	07/23/26 20:05	07/24/26 19:09	1
13C3-3:3 FTCA	93.6		20 - 150	07/23/26 20:05	07/24/26 19:09	1
13C3-5:3 FTCA	103		20 - 150	07/23/26 20:05	07/24/26 19:09	1

Lab Sample ID: LCS 320-928336/3-A

Matrix: Water

Analysis Batch: 928505

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 928336

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	82.4		ng/L		103	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	34.9		ng/L		87	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	41.5		ng/L		104	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	41.6		ng/L		104	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	40.7		ng/L		102	70 - 150

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QC Sample Results

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-225346-1
SDG: Site S1 PFAS 1633

Method: QSM B-24 - PFAS for QSM 6.0, Table B-24 (Continued)

Lab Sample ID: LCS 320-928336/3-A

Matrix: Water

Analysis Batch: 928505

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 928336

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanoic acid (PFNA)	40.0	41.6		ng/L		104	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	42.1		ng/L		105	70 - 140
Perfluoroundecanoic acid (PFUnA)	40.0	34.8		ng/L		87	70 - 145
Perfluorododecanoic acid (PFDoA)	40.0	39.9		ng/L		100	70 - 140
Perfluorotridecanoic acid (PFTTrDA)	40.0	39.5		ng/L		99	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	40.0	36.1		ng/L		90	60 - 140
Perfluorobutanesulfonic acid (PFBS)	71.0	69.5		ng/L		98	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	41.8		ng/L		111	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	38.1		ng/L		104	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	35.4		ng/L		93	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	34.2		ng/L		92	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	38.8		ng/L		101	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	36.6		ng/L		95	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	34.7		ng/L		89	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	74.5		ng/L		99	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	83.1		ng/L		109	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	75.6		ng/L		98	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	44.2		ng/L		110	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	40.3		ng/L		101	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	40.2		ng/L		101	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	34.7		ng/L		87	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	35.7		ng/L		89	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	189		ng/L		95	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	199		ng/L		100	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	31.4		ng/L		105	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	37.4		ng/L		99	65 - 145
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	37.9		ng/L		95	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	40.7		ng/L		102	50 - 150

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QC Sample Results

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-225346-1
SDG: Site S1 PFAS 1633

Method: QSM B-24 - PFAS for QSM 6.0, Table B-24 (Continued)

Lab Sample ID: LCS 320-928336/3-A

Matrix: Water

Analysis Batch: 928505

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 928336

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	35.0		ng/L		88	55 - 140
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	37.4	36.7		ng/L		98	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	37.8	36.2		ng/L		96	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	35.7	36.9		ng/L		103	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	80.0	77.3		ng/L		97	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	200	183		ng/L		91	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	200	203		ng/L		102	50 - 145

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	92.0		5 - 130
13C5 PFPeA	102		40 - 130
13C5 PFHxA	88.5		40 - 130
13C4 PFHpA	88.7		40 - 130
13C8 PFOA	87.5		40 - 130
13C9 PFNA	90.2		40 - 130
13C6 PFDA	85.6		40 - 130
13C7 PFUnA	97.8		30 - 130
13C2 PFDoA	90.5		10 - 130
13C2 PFTeDA	91.7		10 - 130
13C6 PFTTrDA	81.2		20 - 150
13C3 PFBS	102		40 - 135
13C3 PFHxS	90.4		40 - 130
13C8 PFOS	91.5		40 - 130
13C8 PFOSA	78.0		40 - 130
d3-NMeFOSAA	81.9		40 - 170
d5-NEtFOSAA	81.7		25 - 135
13C2 4:2 FTS	124		40 - 200
13C2 6:2 FTS	113		40 - 200
13C2 8:2 FTS	102		40 - 300
13C3 HFPO-DA	93.3		40 - 130
d7-N-MeFOSE-M	70.9		10 - 130
d9-N-EtFOSE-M	65.4		10 - 130
d5-NEtPFOSA	57.2		10 - 130
d3-NMePFOSA	66.0		10 - 130
13C3-3:3 FTCA	92.7		20 - 150
13C3-5:3 FTCA	101		20 - 150

Lab Sample ID: LCSD 320-928336/4-A

Matrix: Water

Analysis Batch: 928505

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 928336

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Perfluorobutanoic acid (PFBA)	80.0	87.7		ng/L		110	70 - 140	6	30
Perfluoropentanoic acid (PFPeA)	40.0	39.0		ng/L		97	65 - 135	11	30

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QC Sample Results

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-225346-1
SDG: Site S1 PFAS 1633

Method: QSM B-24 - PFAS for QSM 6.0, Table B-24 (Continued)

Lab Sample ID: LCSD 320-928336/4-A

Matrix: Water

Analysis Batch: 928505

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 928336

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	40.0	42.2		ng/L		106	70 - 145	2	30
Perfluoroheptanoic acid (PFHpA)	40.0	43.0		ng/L		108	70 - 150	3	30
Perfluorooctanoic acid (PFOA)	40.0	45.4		ng/L		114	70 - 150	11	30
Perfluorononanoic acid (PFNA)	40.0	43.2		ng/L		108	70 - 150	4	30
Perfluorodecanoic acid (PFDA)	40.0	48.5		ng/L		121	70 - 140	14	30
Perfluoroundecanoic acid (PFUnA)	40.0	41.1		ng/L		103	70 - 145	17	30
Perfluorododecanoic acid (PFDoA)	40.0	48.2		ng/L		120	70 - 140	19	30
Perfluorotridecanoic acid (PFTrDA)	40.0	43.8		ng/L		110	65 - 140	10	30
Perfluorotetradecanoic acid (PFTeDA)	40.0	39.0		ng/L		97	60 - 140	8	30
Perfluorobutanesulfonic acid (PFBS)	71.0	75.4		ng/L		106	60 - 145	8	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	45.7		ng/L		122	65 - 140	9	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	41.1		ng/L		113	65 - 145	7	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	41.0		ng/L		107	70 - 150	15	30
Perfluorooctanesulfonic acid (PFOS)	37.2	39.0		ng/L		105	55 - 150	13	30
Perfluorononanesulfonic acid (PFNS)	38.5	43.7		ng/L		113	65 - 145	12	30
Perfluorodecanesulfonic acid (PFDS)	38.6	40.8		ng/L		106	60 - 145	11	30
Perfluorododecanesulfonic acid (PFDoS)	38.8	39.4		ng/L		102	50 - 145	13	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	83.7		ng/L		111	70 - 145	12	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	88.6		ng/L		116	65 - 155	6	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	93.5		ng/L		122	60 - 150	21	30
Perfluorooctanesulfonamide (PFOSA)	40.0	47.5		ng/L		119	70 - 145	7	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	44.6		ng/L		112	60 - 150	10	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	45.0		ng/L		112	65 - 145	11	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	39.3		ng/L		98	50 - 140	12	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	41.1		ng/L		103	70 - 145	14	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	199		ng/L		100	70 - 145	5	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	210		ng/L		105	70 - 135	5	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	34.3		ng/L		114	70 - 140	9	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	41.9		ng/L		111	65 - 145	11	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	42.1		ng/L		105	60 - 150	10	30

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QC Sample Results

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-225346-1
SDG: Site S1 PFAS 1633

Method: QSM B-24 - PFAS for QSM 6.0, Table B-24 (Continued)

Lab Sample ID: LCSD 320-928336/4-A

Matrix: Water

Analysis Batch: 928505

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 928336

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	40.0	39.7		ng/L		99	50 - 150	2	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	40.4		ng/L		101	55 - 140	14	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	37.4	40.5		ng/L		109	70 - 155	10	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	37.8	39.6		ng/L		105	55 - 160	9	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	35.7	38.0		ng/L		107	70 - 140	3	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)	80.0	83.5		ng/L		104	65 - 130	8	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)	200	208		ng/L		104	70 - 135	13	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	200	193		ng/L		96	50 - 145	5	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	LCSD Limits
13C4 PFBA	95.3		5 - 130
13C5 PFPeA	98.6		40 - 130
13C5 PFHxA	92.1		40 - 130
13C4 PFHpA	88.6		40 - 130
13C8 PFOA	89.5		40 - 130
13C9 PFNA	93.2		40 - 130
13C6 PFDA	85.3		40 - 130
13C7 PFUnA	97.8		30 - 130
13C2 PFDoA	83.6		10 - 130
13C2 PFTeDA	91.4		10 - 130
13C6 PFTrDA	85.6		20 - 150
13C3 PFBS	106		40 - 135
13C3 PFHxS	94.4		40 - 130
13C8 PFOS	86.0		40 - 130
13C8 PFOSA	76.3		40 - 130
d3-NMeFOSAA	79.4		40 - 170
d5-NEtFOSAA	78.1		25 - 135
13C2 4:2 FTS	126		40 - 200
13C2 6:2 FTS	124		40 - 200
13C2 8:2 FTS	99.3		40 - 300
13C3 HFPO-DA	91.2		40 - 130
d7-N-MeFOSE-M	79.8		10 - 130
d9-N-EtFOSE-M	75.3		10 - 130
d5-NEtPFOSA	62.4		10 - 130
d3-NMePFOSA	67.4		10 - 130
13C3-3:3 FTCA	96.1		20 - 150
13C3-5:3 FTCA	95.6		20 - 150

QC Sample Results

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-225346-1
SDG: Site S1 PFAS 1633

Method: QSM B-24 - PFAS for QSM 6.0, Table B-24 (Continued)

Lab Sample ID: LLCS 320-928336/2-A

Matrix: Water

Analysis Batch: 928505

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 928336

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	9.32		ng/L		116	70 - 140
Perfluoropentanoic acid (PFPeA)	4.00	3.98		ng/L		100	65 - 135
Perfluorohexanoic acid (PFHxA)	4.00	4.35		ng/L		109	70 - 145
Perfluoroheptanoic acid (PFHpA)	4.00	4.26		ng/L		107	70 - 150
Perfluorooctanoic acid (PFOA)	4.00	4.48		ng/L		112	70 - 150
Perfluorononanoic acid (PFNA)	4.00	4.27		ng/L		107	70 - 150
Perfluorodecanoic acid (PFDA)	4.00	4.31		ng/L		108	70 - 140
Perfluoroundecanoic acid (PFUnA)	4.00	3.80		ng/L		95	70 - 145
Perfluorododecanoic acid (PFDoA)	4.00	4.61		ng/L		115	70 - 140
Perfluorotridecanoic acid (PFTrDA)	4.00	4.22		ng/L		105	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	4.00	3.80		ng/L		95	60 - 140
Perfluorobutanesulfonic acid (PFBS)	7.10	7.84		ng/L		110	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.76	4.13		ng/L		110	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	3.65	4.21		ng/L		116	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.82	3.93		ng/L		103	70 - 150
Perfluorooctanesulfonic acid (PFOS)	3.72	3.93		ng/L		106	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.85	3.91		ng/L		102	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.86	3.84		ng/L		100	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.88	3.81		ng/L		98	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	7.50	7.29		ng/L		97	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.62	8.62		ng/L		113	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.68	8.83		ng/L		115	60 - 150
Perfluorooctanesulfonamide (PFOSA)	4.00	4.45		ng/L		111	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	4.00	4.48		ng/L		112	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	4.00	4.21		ng/L		105	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.00	4.07		ng/L		102	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.00	3.85		ng/L		96	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	20.0	20.2		ng/L		101	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	20.0	20.7		ng/L		104	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.00	3.34		ng/L		111	70 - 140

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QC Sample Results

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-225346-1
SDG: Site S1 PFAS 1633

Method: QSM B-24 - PFAS for QSM 6.0, Table B-24 (Continued)

Lab Sample ID: LLCS 320-928336/2-A

Matrix: Water

Analysis Batch: 928505

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 928336

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	4.27		ng/L		113	65 - 145
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.00	4.01		ng/L		100	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.00	4.24		ng/L		106	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.00	4.17		ng/L		104	55 - 140
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	3.74	3.99		ng/L		107	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	3.78	3.92		ng/L		104	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	3.57	3.99		ng/L		112	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	8.00	8.29		ng/L		104	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	20.0	19.6		ng/L		98	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	20.0	20.1		ng/L		101	50 - 145

Isotope Dilution	LLCS %Recovery	LLCS Qualifier	Limits
13C4 PFBA	95.5		5 - 130
13C5 PFPeA	105		40 - 130
13C5 PFHxA	92.8		40 - 130
13C4 PFHpA	94.4		40 - 130
13C8 PFOA	88.4		40 - 130
13C9 PFNA	92.9		40 - 130
13C6 PFDA	91.2		40 - 130
13C7 PFUnA	104		30 - 130
13C2 PFDoA	90.7		10 - 130
13C2 PFTeDA	84.4		10 - 130
13C6 PFTrDA	86.1		20 - 150
13C3 PFBS	102		40 - 135
13C3 PFHxS	94.6		40 - 130
13C8 PFOS	92.4		40 - 130
13C8 PFOSA	81.4		40 - 130
d3-NMeFOSAA	80.4		40 - 170
d5-NEtFOSAA	79.4		25 - 135
13C2 4:2 FTS	137		40 - 200
13C2 6:2 FTS	120		40 - 200
13C2 8:2 FTS	107		40 - 300
13C3 HFPO-DA	99.6		40 - 130
d7-N-MeFOSE-M	78.0		10 - 130
d9-N-EtFOSE-M	71.9		10 - 130
d5-NEtPFOSA	63.2		10 - 130
d3-NMePFOSA	63.5		10 - 130
13C3-3:3 FTCA	100		20 - 150
13C3-5:3 FTCA	106		20 - 150

QC Association Summary

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-225346-1
SDG: Site S1 PFAS 1633

LCMS

Prep Batch: 928336

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-225346-1	BWS2153-S1-AQ	Total/NA	Water	1633	
MB 320-928336/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-928336/3-A	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-928336/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-928336/2-A	Lab Control Sample	Total/NA	Water	1633	

Analysis Batch: 928505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-225346-1	BWS2153-S1-AQ	Total/NA	Water	QSM B-24	928336
MB 320-928336/1-A	Method Blank	Total/NA	Water	QSM B-24	928336
LCS 320-928336/3-A	Lab Control Sample	Total/NA	Water	QSM B-24	928336
LCSD 320-928336/4-A	Lab Control Sample Dup	Total/NA	Water	QSM B-24	928336
LLCS 320-928336/2-A	Lab Control Sample	Total/NA	Water	QSM B-24	928336

Lab Chronicle

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-225346-1
SDG: Site S1 PFAS 1633

Client Sample ID: BWS2153-S1-AQ
Date Collected: 07/15/26 11:15
Date Received: 07/16/26 09:30

Lab Sample ID: 380-225346-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	1633			928336	EBH	EET SAC	07/23/26 20:05
Total/NA	Analysis	QSM B-24		1	928505	S1C	EET SAC	07/25/26 02:15

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

Accreditation/Certification Summary

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-225346-1
SDG: Site S1 PFAS 1633

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska	State	CA00044	06-30-27
Alaska (UST)	State	17-020	02-22-27
ANAB	Dept. of Defense ELAP	L2468	01-20-27
ANAB	Dept. of Energy	L2468.01	01-20-27
ANAB	ISO/IEC 17025	L2468.03	01-20-27
Arizona	State	AZ0708	08-11-26
Arkansas DEQ	State	88-0691	05-17-27
California	State	2897	01-31-28
Colorado	State	CA00044	08-31-26
Florida	NELAP	E87570	06-30-27
Georgia	State	4040	01-29-27
Illinois	NELAP	200060	03-31-27
Kansas	NELAP	E-10375	10-31-26
Louisiana (All)	NELAP	01944	06-30-27
Maine	State	CA00004	04-14-28
Massachusetts	State	M-CA044	07-01-27
Michigan	State	9947	08-03-26
Minnesota	NELAP	006-999-474	12-31-26
Nevada	State	CA00044	07-31-26
New Jersey	NELAP	CA005	06-30-27
New York	NELAP	11666	04-01-27
Ohio	State	41252	01-29-27
Oregon	NELAP	4040	01-29-27
Texas	NELAP	T104704399-23-17	05-31-27
US Fish & Wildlife	US Federal Programs	A22139	04-30-27
USDA	US Federal Programs	525-23-59-76739	03-01-27
Utah	NELAP	CA000442023-16	02-28-27
Virginia	NELAP	460278	09-30-26
Washington	State	C581	05-06-27
West Virginia (DW)	State	9930C	01-31-27
West Virginia DEP	State	422	07-31-27
Wisconsin	State	998204680	08-31-26
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

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Method Summary

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-225346-1
SDG: Site S1 PFAS 1633

Method	Method Description	Protocol	Laboratory
QSM B-24	PFAS for QSM 6.0, Table B-24	DoD 6.0	EET SAC
1633	Solid-Phase Extraction (SPE)	EPA	EET SAC

Protocol References:

DoD 6.0 = Department of Defense Quality Systems Manual V6.0
EPA = US Environmental Protection Agency

Laboratory References:

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

Sample Summary

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-225346-1
SDG: Site S1 PFAS 1633

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-225346-1	BWS2153-S1-AQ	Water	07/15/26 11:15	07/16/26 09:30	Hawaii

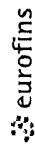
- 1
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eurofins | Environment Testing

Ver 05/06/2024

Eurofins Pomona
941 Corporate Center Drive
Pomona, CA 91768-2842
Phone: 626-386-1100

Chain of Custody Record



Environment Testing

Client Information (Sub Contract Lab)		Sampler N/A	Lab PM: Lopez, Maria	Carrier Tracking No(s): N/A	COC No: 380-358286.1
Client Contact: N/A		Phone: N/A	E-Mail: Maria.Lopez@eurofins.com	State of Origin: Hawaii	Page: Page 1 of 1
Shipping/Receiving		Job #: 380-225346-1			
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State - Hawaii			
Address: 880 Riverside Parkway, City: West Sacramento State, Zip: CA, 95605 Phone: 916-373-5600(Tel) 916-372-1059(Fax) Email: N/A		Due Date Requested: 7/29/2026			
Project Name: INTERA - Red-Hill-Incident		TAT Requested (days): N/A			
Site: Honolulu BWS Sites		PO #: N/A			
Project #: 38000861		WO #: N/A			
SSOW#: N/A		Project #: 38000861			
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Inorganic, Organic, Solid, Liquid, Gas)
BWS2153-S1-AQ (380-225346-1)		7/15/26	11:15 Hawaii	G	Water
Total Number of Containers		X			
Special Instructions/Note		Perform MS/MSD (Yes or No) 1631, DDB/1631, SPE, 125(MOD) EPA Method 1631			
Other N/A		Field Filtered Sample (Yes or No) X			
Preservation Codes:		X			
Analysis Requested		X			
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months			
Unconfirmed		Special Instructions/QC Requirements.			
Deliverable Requested: I, II, III, IV, Other (specify)		Primary Deliverable Rank: 2			
Empty Kit Relinquished by		Date:			
Relinquished by		Date/Time:			
Relinquished by		Date/Time:			
Relinquished by		Date/Time:			
Custody Seals Intact: Yes ☒ No ☐		Cooler Temperature(s) °C and Other Remarks: 1.50			

Ver 03/20/2026

Chain of Custody Record

Client Information					
Sampler H Bentley (808) 321-0683	Lab PM Lopez, Maria	Carrier Tracking No(s)	COC No:		
Phone 858-205-0730	E-Mail: Maria.Lopez@et.eurofinsus.com	State of Origin Hawaii	Page: Page 1 of 1		
Company City & County of Honolulu		PWSID:	Job #:		
Due Date Requested					
TAT Requested (days): Standard					
Compliance Project: Δ Yes ☒ No ☐					
PO #:					
WO #:					
Project #: 38000861					
SSOW#:					
Matrix (W=water, S=solid, O=wastefill, BT=Tissue, A=Air, DW=Drinking Water)					
Sample Type (C=Comp, G=grab)					
Preservation Code:					
Field Filtered Sample (Yes or No)					
Perform MS/MSD (Yes or No)					
1633_DOD6 - EPA Method 1633 Std List					
Total Number of Containers					
Special Instructions/Note: BILL TO POMONA EEA					
Other:					
Analysis Requested					
Preservation Codes A - HCL N - None					
Possible Hazard Identification ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological					
Deliverable Requested I, II, III, IV, Other (specify)					
Empty Kit Relinquished by					
Relinquished by					
Relinquished by					
Relinquished by					
Date/Time: 7/15/24 14:00					
Date/Time:					
Date/Time:					
Method of Shipment					
Received by					
Received by					
Received by					
Cooler Temperature(s) °C and Other Remarks: 1.6°C					
Custody Seal Intact: Δ Yes ☒ Δ No ☐					
Custody Seal No.					

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-225346-1
SDG Number: Site S1 PFAS 1633

Login Number: 225346

List Number: 1

Creator: Ngo, Theodore

List Source: Eurofins Pomona

Question	Answer	Comment
The coolers custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
Samples were received on ice.	True	
Cooler(s) Temperature is acceptable.	True	
Cooler(s) Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and is legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
CIO4 headspace requirement met (>50% for CA, >30% for other states).	N/A	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-225346-1
SDG Number: Site S1 PFAS 1633

Login Number: 225346

List Number: 2

Creator: Morazzini, Dominic S

List Source: Eurofins Sacramento

List Creation: 07/16/26 05:35 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal present with no number.
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	