

ANALYTICAL REPORT

PREPARED FOR

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City & County of Honolulu
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JOB DESCRIPTION

INTERA - Red-Hill-Incident
Site H1 PFAS 1633

JOB NUMBER

380-204733-1

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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: 380-204733-1
SDG: Site H1 PFAS 1633

Qualifiers

LCMS

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.

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: 380-204733-1

Job ID: 380-204733-1

Eurofins Pomona

Job Narrative 380-204733-1

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 3/25/2026 9:40 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 1.1°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, 9Cl-PF3ONS and 11Cl-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: The low level laboratory control sample (LLCS) for preparation batch 320-908613 and analytical batch 320-909961 recovered outside control limits for the following analytes: Perfluoroundecanoic acid (PFUnA). This analyte was biased high in the LLCS and were not detected in the associated samples; therefore, the data have been reported.

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: 380-204733-1
SDG: Site H1 PFAS 1633

Client Sample ID: BWS2253-H1-AQ Lab Sample ID: 380-204733-1

No Detections.

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Client Sample Results

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

Job ID: 380-204733-1
SDG: Site H1 PFAS 1633

Client Sample ID: BWS2253-H1-AQ

Lab Sample ID: 380-204733-1

Date Collected: 03/24/26 09:30

Matrix: Water

Date Received: 03/25/26 09:40

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		03/26/26 19:54	04/02/26 18:30	1
Perfluoropentanoic acid (PFPeA)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
Perfluorohexanoic acid (PFHxA)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
Perfluoroheptanoic acid (PFHpA)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
Perfluorooctanoic acid (PFOA)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
Perfluorononanoic acid (PFNA)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
Perfluorodecanoic acid (PFDA)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
Perfluoroundecanoic acid (PFUnA)	<1.5	+	1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
Perfluorododecanoic acid (PFDoA)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
Perfluorotridecanoic acid (PFTTrDA)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
Perfluorotetradecanoic acid (PFTeDA)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
Perfluorobutanesulfonic acid (PFBS)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
Perfluoropentanesulfonic acid (PFPeS)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
Perfluorohexanesulfonic acid (PFHxS)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
Perfluoroheptanesulfonic acid (PFHpS)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
Perfluorooctanesulfonic acid (PFOS)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
Perfluorononanesulfonic acid (PFNS)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
Perfluorodecanesulfonic acid (PFDS)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
Perfluorododecanesulfonic acid (PFDoS)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.9		2.9	ng/L		03/26/26 19:54	04/02/26 18:30	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.9		2.9	ng/L		03/26/26 19:54	04/02/26 18:30	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.9		2.9	ng/L		03/26/26 19:54	04/02/26 18:30	1
Perfluorooctanesulfonamide (PFOSA)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<7.3		7.3	ng/L		03/26/26 19:54	04/02/26 18:30	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<7.3		7.3	ng/L		03/26/26 19:54	04/02/26 18:30	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.1		1.1	ng/L		03/26/26 19:54	04/02/26 18:30	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1

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Client Sample Results

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

Job ID: 380-204733-1
SDG: Site H1 PFAS 1633

Client Sample ID: BWS2253-H1-AQ

Lab Sample ID: 380-204733-1

Date Collected: 03/24/26 09:30

Matrix: Water

Date Received: 03/25/26 09:40

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
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<1.5		1.5	ng/L		03/26/26 19:54	04/02/26 18:30	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<2.9		2.9	ng/L		03/26/26 19:54	04/02/26 18:30	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<7.3		7.3	ng/L		03/26/26 19:54	04/02/26 18:30	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<7.3		7.3	ng/L		03/26/26 19:54	04/02/26 18:30	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C4 PFBA	93.4		5 - 130			03/26/26 19:54	04/02/26 18:30	1
13C5 PFPeA	118		40 - 130			03/26/26 19:54	04/02/26 18:30	1
13C5 PFHxA	95.4		40 - 130			03/26/26 19:54	04/02/26 18:30	1
13C4 PFHpA	94.1		40 - 130			03/26/26 19:54	04/02/26 18:30	1
13C8 PFOA	82.6		40 - 130			03/26/26 19:54	04/02/26 18:30	1
13C9 PFNA	86.5		40 - 130			03/26/26 19:54	04/02/26 18:30	1
13C6 PFDA	85.4		40 - 130			03/26/26 19:54	04/02/26 18:30	1
13C7 PFUnA	85.2		30 - 130			03/26/26 19:54	04/02/26 18:30	1
13C2 PFDoA	71.9		10 - 130			03/26/26 19:54	04/02/26 18:30	1
13C2 PFTeDA	74.4		10 - 130			03/26/26 19:54	04/02/26 18:30	1
13C6 PFTrDA	71.6		20 - 150			03/26/26 19:54	04/02/26 18:30	1
13C3 PFBS	91.5		40 - 135			03/26/26 19:54	04/02/26 18:30	1
13C3 PFHxS	79.1		40 - 130			03/26/26 19:54	04/02/26 18:30	1
13C8 PFOS	80.3		40 - 130			03/26/26 19:54	04/02/26 18:30	1
13C8 PFOSA	75.9		40 - 130			03/26/26 19:54	04/02/26 18:30	1
d3-NMeFOSAA	73.8		40 - 170			03/26/26 19:54	04/02/26 18:30	1
d5-NEtFOSAA	77.4		25 - 135			03/26/26 19:54	04/02/26 18:30	1
13C2 4:2 FTS	75.4		40 - 200			03/26/26 19:54	04/02/26 18:30	1
13C2 6:2 FTS	79.9		40 - 200			03/26/26 19:54	04/02/26 18:30	1
13C2 8:2 FTS	68.0		40 - 300			03/26/26 19:54	04/02/26 18:30	1
13C3 HFPO-DA	94.7		40 - 130			03/26/26 19:54	04/02/26 18:30	1
d7-N-MeFOSE-M	62.3		10 - 130			03/26/26 19:54	04/02/26 18:30	1
d9-N-EtFOSE-M	68.5		10 - 130			03/26/26 19:54	04/02/26 18:30	1
d5-NEtPFOSA	71.8		10 - 130			03/26/26 19:54	04/02/26 18:30	1
d3-NMePFOSA	72.2		10 - 130			03/26/26 19:54	04/02/26 18:30	1
13C3-3:3 FTCA	124		20 - 150			03/26/26 19:54	04/02/26 18:30	1
13C3-5:3 FTCA	98.5		20 - 150			03/26/26 19:54	04/02/26 18:30	1

Action Limit Summary

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

Job ID: 380-204733-1
SDG: Site H1 PFAS 1633

Client Sample ID: BWS2253-H1-AQ

Lab Sample ID: 380-204733-1

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)	<1.5		ng/L	4	1.5	QSM B-24	Total/NA
Perfluorononanoic acid (PFNA)	<1.5		ng/L	10	1.5	QSM B-24	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<1.5		ng/L	10	1.5	QSM B-24	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<1.5		ng/L	4	1.5	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: 380-204733-1
SDG: Site H1 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)
380-204733-1	BWS2253-H1-AQ	93.4	118	95.4	94.1	82.6	86.5	85.4	85.2
LCS 320-908613/3-A	Lab Control Sample	103	127	102	91.8	83.0	80.1	80.4	90.7
LCSD 320-908613/4-A	Lab Control Sample Dup	85.5	115	100	91.9	83.6	89.8	87.1	90.1
LLCS 320-908613/2-A - RA	Lab Control Sample	88.8	101	90.4	89.7	80.4	85.6	89.1	87.0
MB 320-908613/1-A	Method Blank	89.1	96.9	83.6	79.3	77.6	85.7	85.3	89.3

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFDaA (10-130)	PFTDA (10-130)	13C6 PFTd (20-150)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-170)
380-204733-1	BWS2253-H1-AQ	71.9	74.4	71.6	91.5	79.1	80.3	75.9	73.8
LCS 320-908613/3-A	Lab Control Sample	80.2	76.6	79.7	93.6	87.5	83.7	74.6	77.3
LCSD 320-908613/4-A	Lab Control Sample Dup	96.2	90.2	86.0	96.5	78.4	81.5	68.8	77.1
LLCS 320-908613/2-A - RA	Lab Control Sample	87.1	86.5	91.9	88.9	80.6	87.3	77.3	77.0
MB 320-908613/1-A	Method Blank	82.4	76.8	80.8	84.0	74.6	84.5	72.3	82.2

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)
380-204733-1	BWS2253-H1-AQ	77.4	75.4	79.9	68.0	94.7	62.3	68.5	71.8
LCS 320-908613/3-A	Lab Control Sample	87.3	81.5	80.2	78.0	100	70.8	75.4	77.5
LCSD 320-908613/4-A	Lab Control Sample Dup	84.6	71.2	68.6	74.1	93.9	64.4	68.6	68.1
LLCS 320-908613/2-A - RA	Lab Control Sample	83.2	73.9	71.3	73.8	88.7	67.3	74.6	70.0
MB 320-908613/1-A	Method Blank	73.1	91.2	88.5	93.4	82.9	66.3	65.9	66.8

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)
380-204733-1	BWS2253-H1-AQ	72.2	124	98.5
LCS 320-908613/3-A	Lab Control Sample	76.5	140	98.2
LCSD 320-908613/4-A	Lab Control Sample Dup	69.3	128	93.3
LLCS 320-908613/2-A - RA	Lab Control Sample	70.7	135	84.7
MB 320-908613/1-A	Method Blank	67.4	88.1	88.1

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
13C6 PFTdA = 13C6 PFTdA
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: 380-204733-1
SDG: Site H1 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: 380-204733-1
SDG: Site H1 PFAS 1633

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

Lab Sample ID: MB 320-908613/1-A

Matrix: Water

Analysis Batch: 909298

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 908613

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<4.0		4.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
Perfluorotetradecanoic acid (PFTeDA)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<4.0		4.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<4.0		4.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<4.0		4.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
Perfluorooctanesulfonamide (PFOSA)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<10		10	ng/L		03/26/26 19:54	03/29/26 18:24	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<10		10	ng/L		03/26/26 19:54	03/29/26 18:24	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.5		1.5	ng/L		03/26/26 19:54	03/29/26 18:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1

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QC Sample Results

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

Job ID: 380-204733-1
SDG: Site H1 PFAS 1633

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

Lab Sample ID: MB 320-908613/1-A

Matrix: Water

Analysis Batch: 909298

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 908613

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		03/26/26 19:54	03/29/26 18:24	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<4.0		4.0	ng/L		03/26/26 19:54	03/29/26 18:24	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<10		10	ng/L		03/26/26 19:54	03/29/26 18:24	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<10		10	ng/L		03/26/26 19:54	03/29/26 18:24	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	89.1		5 - 130	03/26/26 19:54	03/29/26 18:24	1
13C5 PFPeA	96.9		40 - 130	03/26/26 19:54	03/29/26 18:24	1
13C5 PFHxA	83.6		40 - 130	03/26/26 19:54	03/29/26 18:24	1
13C4 PFHpA	79.3		40 - 130	03/26/26 19:54	03/29/26 18:24	1
13C8 PFOA	77.6		40 - 130	03/26/26 19:54	03/29/26 18:24	1
13C9 PFNA	85.7		40 - 130	03/26/26 19:54	03/29/26 18:24	1
13C6 PFDA	85.3		40 - 130	03/26/26 19:54	03/29/26 18:24	1
13C7 PFUnA	89.3		30 - 130	03/26/26 19:54	03/29/26 18:24	1
13C2 PFDoA	82.4		10 - 130	03/26/26 19:54	03/29/26 18:24	1
13C2 PFTeDA	76.8		10 - 130	03/26/26 19:54	03/29/26 18:24	1
13C6 PFTrDA	80.8		20 - 150	03/26/26 19:54	03/29/26 18:24	1
13C3 PFBS	84.0		40 - 135	03/26/26 19:54	03/29/26 18:24	1
13C3 PFHxS	74.6		40 - 130	03/26/26 19:54	03/29/26 18:24	1
13C8 PFOS	84.5		40 - 130	03/26/26 19:54	03/29/26 18:24	1
13C8 PFOSA	72.3		40 - 130	03/26/26 19:54	03/29/26 18:24	1
d3-NMeFOSAA	82.2		40 - 170	03/26/26 19:54	03/29/26 18:24	1
d5-NEtFOSAA	73.1		25 - 135	03/26/26 19:54	03/29/26 18:24	1
13C2 4:2 FTS	91.2		40 - 200	03/26/26 19:54	03/29/26 18:24	1
13C2 6:2 FTS	88.5		40 - 200	03/26/26 19:54	03/29/26 18:24	1
13C2 8:2 FTS	93.4		40 - 300	03/26/26 19:54	03/29/26 18:24	1
13C3 HFPO-DA	82.9		40 - 130	03/26/26 19:54	03/29/26 18:24	1
d7-N-MeFOSE-M	66.3		10 - 130	03/26/26 19:54	03/29/26 18:24	1
d9-N-EtFOSE-M	65.9		10 - 130	03/26/26 19:54	03/29/26 18:24	1
d5-NEtPFOSA	66.8		10 - 130	03/26/26 19:54	03/29/26 18:24	1
d3-NMePFOSA	67.4		10 - 130	03/26/26 19:54	03/29/26 18:24	1
13C3-3:3 FTCA	88.1		20 - 150	03/26/26 19:54	03/29/26 18:24	1
13C3-5:3 FTCA	88.1		20 - 150	03/26/26 19:54	03/29/26 18:24	1

Lab Sample ID: LCS 320-908613/3-A

Matrix: Water

Analysis Batch: 909961

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 908613

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	78.5		ng/L		98	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	34.8		ng/L		87	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	41.5		ng/L		104	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	47.5		ng/L		119	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	40.6		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: 380-204733-1
SDG: Site H1 PFAS 1633

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

Lab Sample ID: LCS 320-908613/3-A

Matrix: Water

Analysis Batch: 909961

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 908613

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanoic acid (PFNA)	40.0	40.3		ng/L		101	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	48.5		ng/L		121	70 - 140
Perfluoroundecanoic acid (PFUnA)	40.0	48.3		ng/L		121	70 - 145
Perfluorododecanoic acid (PFDoA)	40.0	38.0		ng/L		95	70 - 140
Perfluorotridecanoic acid (PFTTrDA)	40.0	45.6		ng/L		114	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	40.0	42.3		ng/L		106	60 - 140
Perfluorobutanesulfonic acid (PFBS)	35.5	40.7		ng/L		114	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	39.7		ng/L		106	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	50.0		ng/L		137	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	40.8		ng/L		107	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	37.0		ng/L		99	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	44.7		ng/L		116	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	37.7		ng/L		98	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	37.2		ng/L		96	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	69.3		ng/L		92	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	77.0		ng/L		101	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	86.3		ng/L		112	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	43.9		ng/L		110	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	43.2		ng/L		108	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	43.1		ng/L		108	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	40.3		ng/L		101	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	38.9		ng/L		97	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	207		ng/L		104	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	210		ng/L		105	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	33.2		ng/L		111	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	40.5		ng/L		107	65 - 145
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	38.3		ng/L		96	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	45.5		ng/L		114	50 - 150

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QC Sample Results

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

Job ID: 380-204733-1
SDG: Site H1 PFAS 1633

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

Lab Sample ID: LCS 320-908613/3-A

Matrix: Water

Analysis Batch: 909961

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 908613

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	45.2		ng/L		113	55 - 140
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	37.4	43.1		ng/L		115	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	37.8	43.2		ng/L		114	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	35.7	41.4		ng/L		116	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	80.0	83.3		ng/L		104	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	200	185		ng/L		92	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	200	178		ng/L		89	50 - 145

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	103		5 - 130
13C5 PFPeA	127		40 - 130
13C5 PFHxA	102		40 - 130
13C4 PFHpA	91.8		40 - 130
13C8 PFOA	83.0		40 - 130
13C9 PFNA	80.1		40 - 130
13C6 PFDA	80.4		40 - 130
13C7 PFUnA	90.7		30 - 130
13C2 PFDoA	80.2		10 - 130
13C2 PFTeDA	76.6		10 - 130
13C6 PFTrDA	79.7		20 - 150
13C3 PFBS	93.6		40 - 135
13C3 PFHxS	87.5		40 - 130
13C8 PFOS	83.7		40 - 130
13C8 PFOSA	74.6		40 - 130
d3-NMeFOSAA	77.3		40 - 170
d5-NEtFOSAA	87.3		25 - 135
13C2 4:2 FTS	81.5		40 - 200
13C2 6:2 FTS	80.2		40 - 200
13C2 8:2 FTS	78.0		40 - 300
13C3 HFPO-DA	100		40 - 130
d7-N-MeFOSE-M	70.8		10 - 130
d9-N-EtFOSE-M	75.4		10 - 130
d5-NEtPFOSA	77.5		10 - 130
d3-NMePFOSA	76.5		10 - 130
13C3-3:3 FTCA	140		20 - 150
13C3-5:3 FTCA	98.2		20 - 150

Lab Sample ID: LCSD 320-908613/4-A

Matrix: Water

Analysis Batch: 909961

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 908613

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Perfluorobutanoic acid (PFBA)	80.0	91.4		ng/L		114	70 - 140	15	30
Perfluoropentanoic acid (PFPeA)	40.0	33.3		ng/L		83	65 - 135	5	30

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QC Sample Results

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

Job ID: 380-204733-1
SDG: Site H1 PFAS 1633

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

Lab Sample ID: LCSD 320-908613/4-A

Matrix: Water

Analysis Batch: 909961

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 908613

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	40.0	43.2		ng/L		108	70 - 145	4	30
Perfluoroheptanoic acid (PFHpA)	40.0	44.3		ng/L		111	70 - 150	7	30
Perfluorooctanoic acid (PFOA)	40.0	39.6		ng/L		99	70 - 150	3	30
Perfluorononanoic acid (PFNA)	40.0	37.9		ng/L		95	70 - 150	6	30
Perfluorodecanoic acid (PFDA)	40.0	46.4		ng/L		116	70 - 140	5	30
Perfluoroundecanoic acid (PFUnA)	40.0	51.5		ng/L		129	70 - 145	6	30
Perfluorododecanoic acid (PFDoA)	40.0	38.7		ng/L		97	70 - 140	2	30
Perfluorotridecanoic acid (PFTrDA)	40.0	41.1		ng/L		103	65 - 140	10	30
Perfluorotetradecanoic acid (PFTeDA)	40.0	33.3		ng/L		83	60 - 140	24	30
Perfluorobutanesulfonic acid (PFBS)	35.5	38.9		ng/L		109	60 - 145	4	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	40.7		ng/L		108	65 - 140	2	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	51.8		ng/L		142	65 - 145	3	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	40.7		ng/L		107	70 - 150	0	30
Perfluorooctanesulfonic acid (PFOS)	37.2	37.7		ng/L		101	55 - 150	2	30
Perfluorononanesulfonic acid (PFNS)	38.5	39.9		ng/L		104	65 - 145	11	30
Perfluorodecanesulfonic acid (PFDS)	38.6	35.7		ng/L		93	60 - 145	5	30
Perfluorododecanesulfonic acid (PFDoS)	38.8	36.6		ng/L		94	50 - 145	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	75.0		ng/L		100	70 - 145	8	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	83.9		ng/L		110	65 - 155	9	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	77.6		ng/L		101	60 - 150	11	30
Perfluorooctanesulfonamide (PFOSA)	40.0	43.8		ng/L		110	70 - 145	0	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	44.1		ng/L		110	60 - 150	2	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	43.2		ng/L		108	65 - 145	0	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	43.5		ng/L		109	50 - 140	8	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	37.9		ng/L		95	70 - 145	3	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	212		ng/L		106	70 - 145	2	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	204		ng/L		102	70 - 135	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	32.2		ng/L		107	70 - 140	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	38.8		ng/L		103	65 - 145	4	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	34.0		ng/L		85	60 - 150	12	30

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QC Sample Results

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

Job ID: 380-204733-1
SDG: Site H1 PFAS 1633

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

Lab Sample ID: LCSD 320-908613/4-A

Matrix: Water

Analysis Batch: 909961

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 908613

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	40.0	39.3		ng/L		98	50 - 150	15	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	45.2		ng/L		113	55 - 140	0	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	37.4	44.5		ng/L		119	70 - 155	3	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	37.8	40.7		ng/L		108	55 - 160	6	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	35.7	38.4		ng/L		108	70 - 140	8	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)	80.0	79.6		ng/L		100	65 - 130	4	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)	200	182		ng/L		91	70 - 135	1	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	200	167		ng/L		83	50 - 145	7	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	LCSD Limits
13C4 PFBA	85.5		5 - 130
13C5 PFPeA	115		40 - 130
13C5 PFHxA	100		40 - 130
13C4 PFHpA	91.9		40 - 130
13C8 PFOA	83.6		40 - 130
13C9 PFNA	89.8		40 - 130
13C6 PFDA	87.1		40 - 130
13C7 PFUnA	90.1		30 - 130
13C2 PFDoA	96.2		10 - 130
13C2 PFTeDA	90.2		10 - 130
13C6 PFTrDA	86.0		20 - 150
13C3 PFBS	96.5		40 - 135
13C3 PFHxS	78.4		40 - 130
13C8 PFOS	81.5		40 - 130
13C8 PFOSA	68.8		40 - 130
d3-NMeFOSAA	77.1		40 - 170
d5-NEtFOSAA	84.6		25 - 135
13C2 4:2 FTS	71.2		40 - 200
13C2 6:2 FTS	68.6		40 - 200
13C2 8:2 FTS	74.1		40 - 300
13C3 HFPO-DA	93.9		40 - 130
d7-N-MeFOSE-M	64.4		10 - 130
d9-N-EtFOSE-M	68.6		10 - 130
d5-NEtPFOSA	68.1		10 - 130
d3-NMePFOSA	69.3		10 - 130
13C3-3:3 FTCA	128		20 - 150
13C3-5:3 FTCA	93.3		20 - 150

QC Sample Results

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

Job ID: 380-204733-1
SDG: Site H1 PFAS 1633

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

Lab Sample ID: LLCS 320-908613/2-A

Matrix: Water

Analysis Batch: 909961

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 908613

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA) - RA	8.00	9.87		ng/L		123	70 - 140
Perfluoropentanoic acid (PFPeA) - RA	4.00	4.69		ng/L		117	65 - 135
Perfluorohexanoic acid (PFHxA) - RA	4.00	4.80		ng/L		120	70 - 145
Perfluoroheptanoic acid (PFHpA) - RA	4.00	4.74		ng/L		119	70 - 150
Perfluorooctanoic acid (PFOA) - RA	4.00	5.27		ng/L		132	70 - 150
Perfluorononanoic acid (PFNA) - RA	4.00	5.14		ng/L		128	70 - 150
Perfluorodecanoic acid (PFDA) - RA	4.00	5.18		ng/L		130	70 - 140
Perfluoroundecanoic acid (PFUnA) - RA	4.00	5.90	*+	ng/L		148	70 - 145
Perfluorododecanoic acid (PFDoA) - RA	4.00	4.88		ng/L		122	70 - 140
Perfluorotridecanoic acid (PFTrDA) - RA	4.00	5.07		ng/L		127	65 - 140
Perfluorotetradecanoic acid (PFTeDA) - RA	4.00	4.82		ng/L		121	60 - 140
Perfluorobutanesulfonic acid (PFBS) - RA	3.55	4.83		ng/L		136	60 - 145
Perfluoropentanesulfonic acid (PFPeS) - RA	3.76	4.57		ng/L		122	65 - 140
Perfluoroheptanesulfonic acid (PFHpS) - RA	3.82	4.72		ng/L		124	70 - 150
Perfluorooctanesulfonic acid (PFOS) - RA	3.72	4.50		ng/L		121	55 - 150
Perfluorononanesulfonic acid (PFNS) - RA	3.85	4.62		ng/L		120	65 - 145
Perfluorodecanesulfonic acid (PFDS) - RA	3.86	4.56		ng/L		118	60 - 145
Perfluorododecanesulfonic acid (PFDoS) - RA	3.88	4.37		ng/L		113	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS) - RA	7.50	8.99		ng/L		120	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS) - RA	7.62	9.80		ng/L		129	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS) - RA	7.68	9.44		ng/L		123	60 - 150
Perfluorooctanesulfonamide (PFOSA) - RA	4.00	4.65		ng/L		116	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA) - RA	4.00	5.33		ng/L		133	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA) - RA	4.00	4.72		ng/L		118	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) - RA	4.00	5.00		ng/L		125	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) - RA	4.00	4.92		ng/L		123	70 - 145

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QC Sample Results

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

Job ID: 380-204733-1
SDG: Site H1 PFAS 1633

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

Lab Sample ID: LLCS 320-908613/2-A

Matrix: Water

Analysis Batch: 909961

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 908613

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE) - RA	20.0	23.7		ng/L		119	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE) - RA	20.0	22.7		ng/L		113	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) - RA	3.00	3.74		ng/L		125	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA	3.78	5.44		ng/L		144	65 - 145
Perfluoro-4-methoxybutanoic acid (PFMBA) - RA	4.00	4.46		ng/L		111	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) - RA	4.00	5.50		ng/L		138	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid - RA	3.74	4.70		ng/L		126	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid - RA	3.78	4.55		ng/L		121	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA) - RA	3.57	4.37		ng/L		122	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA) - RA	8.00	8.93		ng/L		112	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA) - RA	20.0	22.8		ng/L		114	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA) - RA	20.0	18.2		ng/L		91	50 - 145

Isotope Dilution	LLCS		Limits
	%Recovery	Qualifier	
13C4 PFBA - RA	88.8		5 - 130
13C5 PFPeA - RA	101		40 - 130
13C5 PFHxA - RA	90.4		40 - 130
13C4 PFHpA - RA	89.7		40 - 130
13C8 PFOA - RA	80.4		40 - 130
13C9 PFNA - RA	85.6		40 - 130
13C6 PFDA - RA	89.1		40 - 130
13C7 PFUnA - RA	87.0		30 - 130
13C2 PFDoA - RA	87.1		10 - 130
13C2 PFTeDA - RA	86.5		10 - 130
13C6 PFTriDA - RA	91.9		20 - 150
13C3 PFBS - RA	88.9		40 - 135
13C3 PFHxS - RA	80.6		40 - 130
13C8 PFOS - RA	87.3		40 - 130
13C8 PFOSA - RA	77.3		40 - 130
d3-NMeFOSAA - RA	77.0		40 - 170
d5-NEtFOSAA - RA	83.2		25 - 135
13C2 4:2 FTS - RA	73.9		40 - 200
13C2 6:2 FTS - RA	71.3		40 - 200
13C2 8:2 FTS - RA	73.8		40 - 300
13C3 HFPO-DA - RA	88.7		40 - 130
d7-N-MeFOSE-M - RA	67.3		10 - 130
d9-N-EtFOSE-M - RA	74.6		10 - 130
d5-NEtPFOSA - RA	70.0		10 - 130

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QC Sample Results

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

Job ID: 380-204733-1
SDG: Site H1 PFAS 1633

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

Lab Sample ID: LLCS 320-908613/2-A

Matrix: Water

Analysis Batch: 909961

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 908613

<i>Isotope Dilution</i>	<i>LLCS</i>	<i>LLCS</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
<i>d3-NMePFOSA - RA</i>	70.7		10 - 130
<i>13C3-3:3 FTCA - RA</i>	135		20 - 150
<i>13C3-5:3 FTCA - RA</i>	84.7		20 - 150

QC Association Summary

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

Job ID: 380-204733-1
SDG: Site H1 PFAS 1633

LCMS

Prep Batch: 908613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-204733-1	BWS2253-H1-AQ	Total/NA	Water	1633	
MB 320-908613/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-908613/3-A	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-908613/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-908613/2-A - RA	Lab Control Sample	Total/NA	Water	1633	

Analysis Batch: 909298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-908613/1-A	Method Blank	Total/NA	Water	QSM B-24	908613

Analysis Batch: 909961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-204733-1	BWS2253-H1-AQ	Total/NA	Water	QSM B-24	908613
LCS 320-908613/3-A	Lab Control Sample	Total/NA	Water	QSM B-24	908613
LCSD 320-908613/4-A	Lab Control Sample Dup	Total/NA	Water	QSM B-24	908613
LLCS 320-908613/2-A - RA	Lab Control Sample	Total/NA	Water	QSM B-24	908613

Lab Chronicle

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

Job ID: 380-204733-1
SDG: Site H1 PFAS 1633

Client Sample ID: BWS2253-H1-AQ
Date Collected: 03/24/26 09:30
Date Received: 03/25/26 09:40

Lab Sample ID: 380-204733-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	1633			908613	EBH	EET SAC	03/26/26 19:54
Total/NA	Analysis	QSM B-24		1	909961	C1P	EET SAC	04/02/26 18:30

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: 380-204733-1
SDG: Site H1 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	06-30-26
Alaska (UST)	State	17-020	02-20-27
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	05-18-26
California	State	2897	01-31-28
Colorado	State	CA00044	08-31-26
Florida	NELAP	E87570	06-30-26
Georgia	State	4040	01-29-27
Kansas	NELAP	E-10375	10-31-26
Louisiana	NELAP	01944	06-30-26
Louisiana (All)	NELAP	01944	06-30-26
Maine	State	CA00004	04-14-26
Massachusetts	State	M-CA044	06-30-26
Michigan	State	9947	08-03-26
Minnesota	NELAP	006-999-474	12-31-26
Nevada	State	CA00044	07-31-26
New Jersey	NELAP	CA005	06-30-26
New York	NELAP	11666	04-01-27
Ohio	State	41252	01-29-27
Oregon	NELAP	4040	01-29-27
Texas	NELAP	T104704399-23-17	05-31-26
US Fish & Wildlife	US Federal Programs	A22139	04-30-26
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	05-05-26
West Virginia (DW)	State	9930C	01-31-27
West Virginia DEP	State	422	07-31-26
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: 380-204733-1
SDG: Site H1 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: 380-204733-1
SDG: Site H1 PFAS 1633

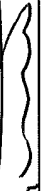
Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-204733-1	BWS2253-H1-AQ	Water	03/24/26 09:30	03/25/26 09:40	Hawaii

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Ver: 05/06/2024

Ver: 10/10/2024

Chain of Custody Record

Client Information		Sampler H Bentley (808) 321-0683		Lab PM Lopez, Maria		Carrier Tracking No(s)		COC No:	
Client Contact: Mr Erwin Kawata		Phone: 858-205-0730		E-Mail: Maria.Lopez@et.eurofins.com		State of Origin Hawaii		Page: Page 1 of 1	
Company: City & County of Honolulu		PWSID:		Analysis Requested					
Address: 630 South Beretania Street		Due Date Requested		1633 DOD6 - EPA Method 1633 Std List					
City: Honolulu		TAT Requested (days): Standard		Perform MS/MSD (Yes or No)					
State Zip: HI 96843		Compliance Project: ☐ Yes ☒ No		Field Filtered Sample (Yes or No)					
Phone: 808-748-5066		PO #:		Matrix (☐ water ☐ solid, Oven-dried, EP* Tissue Ash DW* Drinking water)					
Email: ekawata@hbws.org		WO #:		Sample Type (C=Comp, G=grab)		Preservation Code:		Sample Time	
Project Name: INTERA - Red-Hill-Incident		Project #: 38000861		Sample Date		Sample Time		Sample Date	
Site: H1		SSOW#:		Sample Date		Sample Time		Sample Date	
Sample Identification		Sample Date		Sample Time		Sample Date		Sample Time	
BWS2253-H1-AQ		3/24/2026		9:20		G		Water	
									
380-204733 Chain of Custody									
Possible Hazard Identification		Poison B		Unknown		Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
☐ Non-Hazard		☐ Flammable		☐ Skin Irritant		☐ Return To Client		☐ Disposal By Lab	
Deliverable Requested: I, II III IV, Other (specify)								Archive For _____ Months	
Empty Kit Relinquished by		Date:		Time		Method of Shipment:		Special Instructions/QC Requirements:	
Relinquished by: 		Date/Time: 3/25/2024 14:00		Company: INTERA		Received by: 		Date/Time: 03/25/2024 0940	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Custody Seal No		21891654		Cooler Temperature(s) °C and Other Remarks:		11°C		Company: EEESAC	

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-204733-1
SDG Number: Site H1 PFAS 1633

Login Number: 204733

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: 380-204733-1
SDG Number: Site H1 PFAS 1633

Login Number: 204733

List Number: 2

Creator: Simmons, Jason C

List Source: Eurofins Sacramento

List Creation: 03/25/26 05:29 PM

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	2186654
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	1.1c
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 <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	