

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Erwin Kawata
City & County of Honolulu
630 South Beretania Street
Public Service Bldg. Room 310
Honolulu, Hawaii 96843

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JOB DESCRIPTION

INTERA - Red-Hill-Incident
Site D2 PFAS 1633

JOB NUMBER

380-211840-1

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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



Authorized for release by
Maria Lopez, Project Manager
Maria.Lopez@et.eurofinsus.com
(626)386-1100

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Definitions/Glossary

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

Job ID: 380-211840-1
SDG: Site D2 PFAS 1633

Qualifiers

LCMS

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

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: 380-211840-1

Job ID: 380-211840-1

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Job Narrative 380-211840-1

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 5/5/2026 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 1.5°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.

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: 380-211840-1
SDG: Site D2 PFAS 1633

Client Sample ID: BWS2254-D2-AQ

Lab Sample ID: 380-211840-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	5.7		1.6	ng/L	1		QSM B-24	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	11		1.6	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: 380-211840-1
SDG: Site D2 PFAS 1633

Client Sample ID: BWS2254-D2-AQ

Lab Sample ID: 380-211840-1

Date Collected: 05/04/26 11:00

Matrix: Water

Date Received: 05/05/26 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)	<3.3		3.3	ng/L		05/12/26 05:20	05/15/26 02:05	1
Perfluoropentanoic acid (PFPeA)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
Perfluorohexanoic acid (PFHxA)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
Perfluoroheptanoic acid (PFHpA)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
Perfluorooctanoic acid (PFOA)	5.7		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
Perfluorononanoic acid (PFNA)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
Perfluorodecanoic acid (PFDA)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
Perfluoroundecanoic acid (PFUnA)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
Perfluorododecanoic acid (PFDoA)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
Perfluorotridecanoic acid (PFTrDA)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
Perfluorotetradecanoic acid (PFTeDA)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
Perfluorobutanesulfonic acid (PFBS)	<3.3		3.3	ng/L		05/12/26 05:20	05/15/26 02:05	1
Perfluoropentanesulfonic acid (PFPeS)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
Perfluorohexanesulfonic acid (PFHxS)	11		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
Perfluoroheptanesulfonic acid (PFHpS)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
Perfluorooctanesulfonic acid (PFOS)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
Perfluorononanesulfonic acid (PFNS)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
Perfluorodecanesulfonic acid (PFDS)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
Perfluorododecanesulfonic acid (PFDoS)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<3.3		3.3	ng/L		05/12/26 05:20	05/15/26 02:05	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<3.3		3.3	ng/L		05/12/26 05:20	05/15/26 02:05	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<3.3		3.3	ng/L		05/12/26 05:20	05/15/26 02:05	1
Perfluorooctanesulfonamide (PFOSA)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<8.2		8.2	ng/L		05/12/26 05:20	05/15/26 02:05	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<8.2		8.2	ng/L		05/12/26 05:20	05/15/26 02:05	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.2		1.2	ng/L		05/12/26 05:20	05/15/26 02:05	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1

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Client Sample Results

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

Job ID: 380-211840-1
SDG: Site D2 PFAS 1633

Client Sample ID: BWS2254-D2-AQ

Lab Sample ID: 380-211840-1

Date Collected: 05/04/26 11:00

Matrix: Water

Date Received: 05/05/26 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
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<1.6		1.6	ng/L		05/12/26 05:20	05/15/26 02:05	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<3.3		3.3	ng/L		05/12/26 05:20	05/15/26 02:05	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<8.2		8.2	ng/L		05/12/26 05:20	05/15/26 02:05	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<8.2		8.2	ng/L		05/12/26 05:20	05/15/26 02:05	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C4 PFBA	96.6		5 - 130			05/12/26 05:20	05/15/26 02:05	1
13C5 PFPeA	94.9		40 - 130			05/12/26 05:20	05/15/26 02:05	1
13C5 PFHxA	97.6		40 - 130			05/12/26 05:20	05/15/26 02:05	1
13C4 PFHpA	95.0		40 - 130			05/12/26 05:20	05/15/26 02:05	1
13C8 PFOA	98.0		40 - 130			05/12/26 05:20	05/15/26 02:05	1
13C9 PFNA	102		40 - 130			05/12/26 05:20	05/15/26 02:05	1
13C6 PFDA	102		40 - 130			05/12/26 05:20	05/15/26 02:05	1
13C7 PFUnA	97.5		30 - 130			05/12/26 05:20	05/15/26 02:05	1
13C2 PFDoA	99.1		10 - 130			05/12/26 05:20	05/15/26 02:05	1
13C2 PFTeDA	101		10 - 130			05/12/26 05:20	05/15/26 02:05	1
13C6 PFTriDA	92.0		20 - 150			05/12/26 05:20	05/15/26 02:05	1
13C3 PFBS	106		40 - 135			05/12/26 05:20	05/15/26 02:05	1
13C3 PFHxS	99.3		40 - 130			05/12/26 05:20	05/15/26 02:05	1
13C8 PFOS	96.8		40 - 130			05/12/26 05:20	05/15/26 02:05	1
13C8 PFOSA	92.0		40 - 130			05/12/26 05:20	05/15/26 02:05	1
d3-NMeFOSAA	84.0		40 - 170			05/12/26 05:20	05/15/26 02:05	1
d5-NEtFOSAA	82.4		25 - 135			05/12/26 05:20	05/15/26 02:05	1
13C2 4:2 FTS	92.3		40 - 200			05/12/26 05:20	05/15/26 02:05	1
13C2 6:2 FTS	106		40 - 200			05/12/26 05:20	05/15/26 02:05	1
13C2 8:2 FTS	91.2		40 - 300			05/12/26 05:20	05/15/26 02:05	1
13C3 HFPO-DA	95.9		40 - 130			05/12/26 05:20	05/15/26 02:05	1
d7-N-MeFOSE-M	83.5		10 - 130			05/12/26 05:20	05/15/26 02:05	1
d9-N-EtFOSE-M	79.4		10 - 130			05/12/26 05:20	05/15/26 02:05	1
d5-NEtPFOSA	73.0		10 - 130			05/12/26 05:20	05/15/26 02:05	1
d3-NMePFOSA	81.5		10 - 130			05/12/26 05:20	05/15/26 02:05	1
13C3-3:3 FTCA	96.4		20 - 150			05/12/26 05:20	05/15/26 02:05	1
13C3-5:3 FTCA	94.5		20 - 150			05/12/26 05:20	05/15/26 02:05	1

Action Limit Summary

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

Job ID: 380-211840-1
SDG: Site D2 PFAS 1633

Client Sample ID: BWS2254-D2-AQ

Lab Sample ID: 380-211840-1

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)	5.7		ng/L	4	1.6	QSM B-24	Total/NA
Perfluorononanoic acid (PFNA)	<1.6		ng/L	10	1.6	QSM B-24	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	11		ng/L	10	1.6	QSM B-24	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<1.6		ng/L	4	1.6	QSM B-24	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.2		ng/L	10	1.2	QSM B-24	Total/NA

Isotope Dilution Summary

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

Job ID: 380-211840-1
SDG: Site D2 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)
380-211840-1	BWS2254-D2-AQ	96.6	94.9	97.6	95.0	98.0	102	102	97.5
LCS 320-916313/3-A	Lab Control Sample	100	99.9	101	98.1	101	105	102	94.3
LCSD 320-916313/4-A	Lab Control Sample Dup	103	102	99.7	95.2	104	109	108	102
LLCS 320-916313/2-A	Lab Control Sample	100	103	97.0	88.8	104	105	102	101
MB 320-916313/1-A	Method Blank	103	104	103	93.6	111	108	103	97.8

		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)
380-211840-1	BWS2254-D2-AQ	99.1	101	92.0	106	99.3	96.8	92.0	84.0
LCS 320-916313/3-A	Lab Control Sample	93.2	97.2	91.9	105	102	102	91.8	84.2
LCSD 320-916313/4-A	Lab Control Sample Dup	92.9	92.8	91.6	114	102	103	93.2	84.8
LLCS 320-916313/2-A	Lab Control Sample	97.1	97.6	95.7	110	103	95.3	89.3	83.3
MB 320-916313/1-A	Method Blank	94.7	90.9	92.5	115	103	101	95.0	87.9

		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)
380-211840-1	BWS2254-D2-AQ	82.4	92.3	106	91.2	95.9	83.5	79.4	73.0
LCS 320-916313/3-A	Lab Control Sample	80.9	98.9	103	91.3	97.6	87.2	91.5	76.3
LCSD 320-916313/4-A	Lab Control Sample Dup	82.6	104	106	93.7	100	87.1	79.9	72.6
LLCS 320-916313/2-A	Lab Control Sample	78.3	92.9	111	96.2	90.0	81.3	80.1	70.7
MB 320-916313/1-A	Method Blank	88.0	95.0	105	97.4	94.4	91.0	89.2	81.1

		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)
380-211840-1	BWS2254-D2-AQ	81.5	96.4	94.5
LCS 320-916313/3-A	Lab Control Sample	84.3	101	95.6
LCSD 320-916313/4-A	Lab Control Sample Dup	78.6	109	102
LLCS 320-916313/2-A	Lab Control Sample	76.5	100	101
MB 320-916313/1-A	Method Blank	86.7	107	101

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
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

Job ID: 380-211840-1
SDG: Site D2 PFAS 1633

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QC Sample Results

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

Job ID: 380-211840-1
SDG: Site D2 PFAS 1633

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

Lab Sample ID: MB 320-916313/1-A

Matrix: Water

Analysis Batch: 917006

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 916313

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<4.0		4.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
Perfluorotridecanoic acid (PFTriDA)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
Perfluorotetradecanoic acid (PFTeDA)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
Perfluorobutanesulfonic acid (PFBS)	<4.0		4.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<4.0		4.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<4.0		4.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<4.0		4.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
Perfluorooctanesulfonamide (PFOSA)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<10		10	ng/L		05/12/26 05:20	05/14/26 22:48	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<10		10	ng/L		05/12/26 05:20	05/14/26 22:48	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.5		1.5	ng/L		05/12/26 05:20	05/14/26 22:48	1
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
Nonfluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1

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QC Sample Results

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

Job ID: 380-211840-1
SDG: Site D2 PFAS 1633

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

Lab Sample ID: MB 320-916313/1-A

Matrix: Water

Analysis Batch: 917006

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 916313

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<4.0		4.0	ng/L		05/12/26 05:20	05/14/26 22:48	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<10		10	ng/L		05/12/26 05:20	05/14/26 22:48	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<10		10	ng/L		05/12/26 05:20	05/14/26 22:48	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	103		5 - 130	05/12/26 05:20	05/14/26 22:48	1
13C5 PFPeA	104		40 - 130	05/12/26 05:20	05/14/26 22:48	1
13C5 PFHxA	103		40 - 130	05/12/26 05:20	05/14/26 22:48	1
13C4 PFHpA	93.6		40 - 130	05/12/26 05:20	05/14/26 22:48	1
13C8 PFOA	111		40 - 130	05/12/26 05:20	05/14/26 22:48	1
13C9 PFNA	108		40 - 130	05/12/26 05:20	05/14/26 22:48	1
13C6 PFDA	103		40 - 130	05/12/26 05:20	05/14/26 22:48	1
13C7 PFUnA	97.8		30 - 130	05/12/26 05:20	05/14/26 22:48	1
13C2 PFDoA	94.7		10 - 130	05/12/26 05:20	05/14/26 22:48	1
13C2 PFTeDA	90.9		10 - 130	05/12/26 05:20	05/14/26 22:48	1
13C6 PFTrDA	92.5		20 - 150	05/12/26 05:20	05/14/26 22:48	1
13C3 PFBS	115		40 - 135	05/12/26 05:20	05/14/26 22:48	1
13C3 PFHxS	103		40 - 130	05/12/26 05:20	05/14/26 22:48	1
13C8 PFOS	101		40 - 130	05/12/26 05:20	05/14/26 22:48	1
13C8 PFOSA	95.0		40 - 130	05/12/26 05:20	05/14/26 22:48	1
d3-NMeFOSAA	87.9		40 - 170	05/12/26 05:20	05/14/26 22:48	1
d5-NEtFOSAA	88.0		25 - 135	05/12/26 05:20	05/14/26 22:48	1
13C2 4:2 FTS	95.0		40 - 200	05/12/26 05:20	05/14/26 22:48	1
13C2 6:2 FTS	105		40 - 200	05/12/26 05:20	05/14/26 22:48	1
13C2 8:2 FTS	97.4		40 - 300	05/12/26 05:20	05/14/26 22:48	1
13C3 HFPO-DA	94.4		40 - 130	05/12/26 05:20	05/14/26 22:48	1
d7-N-MeFOSE-M	91.0		10 - 130	05/12/26 05:20	05/14/26 22:48	1
d9-N-EtFOSE-M	89.2		10 - 130	05/12/26 05:20	05/14/26 22:48	1
d5-NEtPFOSA	81.1		10 - 130	05/12/26 05:20	05/14/26 22:48	1
d3-NMePFOSA	86.7		10 - 130	05/12/26 05:20	05/14/26 22:48	1
13C3-3:3 FTCA	107		20 - 150	05/12/26 05:20	05/14/26 22:48	1
13C3-5:3 FTCA	101		20 - 150	05/12/26 05:20	05/14/26 22:48	1

Lab Sample ID: LCS 320-916313/3-A

Matrix: Water

Analysis Batch: 917006

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 916313

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	82.1		ng/L		103	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	39.8		ng/L		99	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	41.6		ng/L		104	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	38.9		ng/L		97	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	40.4		ng/L		101	70 - 150

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QC Sample Results

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

Job ID: 380-211840-1
SDG: Site D2 PFAS 1633

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

Lab Sample ID: LCS 320-916313/3-A

Matrix: Water

Analysis Batch: 917006

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 916313

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanoic acid (PFNA)	40.0	40.8		ng/L		102	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	38.8		ng/L		97	70 - 140
Perfluoroundecanoic acid (PFUnA)	40.0	42.9		ng/L		107	70 - 145
Perfluorododecanoic acid (PFDoA)	40.0	41.1		ng/L		103	70 - 140
Perfluorotridecanoic acid (PFTrDA)	40.0	41.3		ng/L		103	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	40.0	38.8		ng/L		97	60 - 140
Perfluorobutanesulfonic acid (PFBS)	35.5	35.0		ng/L		98	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	37.2		ng/L		99	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	34.3		ng/L		94	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	37.1		ng/L		97	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	34.8		ng/L		93	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	36.2		ng/L		94	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	36.7		ng/L		95	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	36.0		ng/L		93	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	77.8		ng/L		104	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	76.3		ng/L		100	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	80.1		ng/L		104	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	40.4		ng/L		101	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	40.0		ng/L		100	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	42.6		ng/L		107	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	41.2		ng/L		103	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	37.6		ng/L		94	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	209		ng/L		104	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	205		ng/L		103	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	31.2		ng/L		104	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	36.8		ng/L		97	65 - 145
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	43.5		ng/L		109	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	40.4		ng/L		101	50 - 150

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QC Sample Results

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

Job ID: 380-211840-1
SDG: Site D2 PFAS 1633

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

Lab Sample ID: LCS 320-916313/3-A

Matrix: Water

Analysis Batch: 917006

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 916313

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	42.1		ng/L		105	55 - 140
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	37.4	38.5		ng/L		103	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	37.8	36.0		ng/L		95	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	35.7	36.5		ng/L		102	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	80.0	74.4		ng/L		93	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	200	201		ng/L		101	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	200	170		ng/L		85	50 - 145

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	100		5 - 130
13C5 PFPeA	99.9		40 - 130
13C5 PFHxA	101		40 - 130
13C4 PFHpA	98.1		40 - 130
13C8 PFOA	101		40 - 130
13C9 PFNA	105		40 - 130
13C6 PFDA	102		40 - 130
13C7 PFUnA	94.3		30 - 130
13C2 PFDoA	93.2		10 - 130
13C2 PFTeDA	97.2		10 - 130
13C6 PFTrDA	91.9		20 - 150
13C3 PFBS	105		40 - 135
13C3 PFHxS	102		40 - 130
13C8 PFOS	102		40 - 130
13C8 PFOSA	91.8		40 - 130
d3-NMeFOSAA	84.2		40 - 170
d5-NEtFOSAA	80.9		25 - 135
13C2 4:2 FTS	98.9		40 - 200
13C2 6:2 FTS	103		40 - 200
13C2 8:2 FTS	91.3		40 - 300
13C3 HFPO-DA	97.6		40 - 130
d7-N-MeFOSE-M	87.2		10 - 130
d9-N-EtFOSE-M	91.5		10 - 130
d5-NEtPFOSA	76.3		10 - 130
d3-NMePFOSA	84.3		10 - 130
13C3-3:3 FTCA	101		20 - 150
13C3-5:3 FTCA	95.6		20 - 150

Lab Sample ID: LCSD 320-916313/4-A

Matrix: Water

Analysis Batch: 917006

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 916313

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Perfluorobutanoic acid (PFBA)	80.0	79.9		ng/L		100	70 - 140	3	30
Perfluoropentanoic acid (PFPeA)	40.0	40.2		ng/L		101	65 - 135	1	30

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QC Sample Results

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

Job ID: 380-211840-1
SDG: Site D2 PFAS 1633

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

Lab Sample ID: LCSD 320-916313/4-A

Matrix: Water

Analysis Batch: 917006

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 916313

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	40.0	42.4		ng/L		106	70 - 145	2	30
Perfluoroheptanoic acid (PFHpA)	40.0	41.8		ng/L		105	70 - 150	7	30
Perfluorooctanoic acid (PFOA)	40.0	40.2		ng/L		100	70 - 150	1	30
Perfluorononanoic acid (PFNA)	40.0	40.8		ng/L		102	70 - 150	0	30
Perfluorodecanoic acid (PFDA)	40.0	38.7		ng/L		97	70 - 140	0	30
Perfluoroundecanoic acid (PFUnA)	40.0	41.4		ng/L		104	70 - 145	3	30
Perfluorododecanoic acid (PFDoA)	40.0	39.9		ng/L		100	70 - 140	3	30
Perfluorotridecanoic acid (PFTrDA)	40.0	41.5		ng/L		104	65 - 140	1	30
Perfluorotetradecanoic acid (PFTeDA)	40.0	42.1		ng/L		105	60 - 140	8	30
Perfluorobutanesulfonic acid (PFBS)	35.5	35.4		ng/L		100	60 - 145	1	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	39.8		ng/L		106	65 - 140	7	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	36.4		ng/L		100	65 - 145	6	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	35.3		ng/L		93	70 - 150	5	30
Perfluorooctanesulfonic acid (PFOS)	37.2	35.1		ng/L		94	55 - 150	1	30
Perfluorononanesulfonic acid (PFNS)	38.5	36.4		ng/L		94	65 - 145	0	30
Perfluorodecanesulfonic acid (PFDS)	38.6	37.7		ng/L		98	60 - 145	3	30
Perfluorododecanesulfonic acid (PFDoS)	38.8	36.0		ng/L		93	50 - 145	0	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	79.2		ng/L		106	70 - 145	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	80.9		ng/L		106	65 - 155	6	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	83.4		ng/L		109	60 - 150	4	30
Perfluorooctanesulfonamide (PFOSA)	40.0	41.1		ng/L		103	70 - 145	2	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	41.0		ng/L		102	60 - 150	2	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	43.1		ng/L		108	65 - 145	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	41.5		ng/L		104	50 - 140	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	41.5		ng/L		104	70 - 145	10	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	208		ng/L		104	70 - 145	0	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	222		ng/L		111	70 - 135	8	30
Hexafluoropropylene Oxide	30.0	31.9		ng/L		106	70 - 140	2	30
Dimer Acid (HFPO-DA)									
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	40.6		ng/L		107	65 - 145	10	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	42.8		ng/L		107	60 - 150	2	30

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QC Sample Results

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

Job ID: 380-211840-1
SDG: Site D2 PFAS 1633

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

Lab Sample ID: LCSD 320-916313/4-A

Matrix: Water

Analysis Batch: 917006

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 916313

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	36.0		ng/L		90	50 - 150	11	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	43.0		ng/L		107	55 - 140	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	37.4	38.9		ng/L		104	70 - 155	1	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	37.8	37.5		ng/L		99	55 - 160	4	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	35.7	37.8		ng/L		106	70 - 140	4	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)	80.0	74.6		ng/L		93	65 - 130	0	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)	200	206		ng/L		103	70 - 135	2	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	200	189		ng/L		95	50 - 145	11	30
Isotope Dilution	LCSD %Recovery	LCSD Qualifier	LCSD Limits						
13C4 PFBA	103		5 - 130						
13C5 PFPeA	102		40 - 130						
13C5 PFHxA	99.7		40 - 130						
13C4 PFHpA	95.2		40 - 130						
13C8 PFOA	104		40 - 130						
13C9 PFNA	109		40 - 130						
13C6 PFDA	108		40 - 130						
13C7 PFUnA	102		30 - 130						
13C2 PFDoA	92.9		10 - 130						
13C2 PFTeDA	92.8		10 - 130						
13C6 PFTrDA	91.6		20 - 150						
13C3 PFBS	114		40 - 135						
13C3 PFHxS	102		40 - 130						
13C8 PFOS	103		40 - 130						
13C8 PFOSA	93.2		40 - 130						
d3-NMeFOSAA	84.8		40 - 170						
d5-NEtFOSAA	82.6		25 - 135						
13C2 4:2 FTS	104		40 - 200						
13C2 6:2 FTS	106		40 - 200						
13C2 8:2 FTS	93.7		40 - 300						
13C3 HFPO-DA	100		40 - 130						
d7-N-MeFOSE-M	87.1		10 - 130						
d9-N-EtFOSE-M	79.9		10 - 130						
d5-NEtPFOSA	72.6		10 - 130						
d3-NMePFOSA	78.6		10 - 130						
13C3-3:3 FTCA	109		20 - 150						
13C3-5:3 FTCA	102		20 - 150						

QC Sample Results

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

Job ID: 380-211840-1
SDG: Site D2 PFAS 1633

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

Lab Sample ID: LLCS 320-916313/2-A

Matrix: Water

Analysis Batch: 917006

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 916313

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	8.39		ng/L		105	70 - 140
Perfluoropentanoic acid (PFPeA)	4.00	4.25		ng/L		106	65 - 135
Perfluorohexanoic acid (PFHxA)	4.00	4.37		ng/L		109	70 - 145
Perfluoroheptanoic acid (PFHpA)	4.00	4.67		ng/L		117	70 - 150
Perfluorooctanoic acid (PFOA)	4.00	4.37		ng/L		109	70 - 150
Perfluorononanoic acid (PFNA)	4.00	4.45		ng/L		111	70 - 150
Perfluorodecanoic acid (PFDA)	4.00	4.40		ng/L		110	70 - 140
Perfluoroundecanoic acid (PFUnA)	4.00	4.47		ng/L		112	70 - 145
Perfluorododecanoic acid (PFDoA)	4.00	4.36		ng/L		109	70 - 140
Perfluorotridecanoic acid (PFTrDA)	4.00	4.46		ng/L		111	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	4.00	4.33		ng/L		108	60 - 140
Perfluorobutanesulfonic acid (PFBS)	3.55	3.69	J	ng/L		104	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.76	3.94		ng/L		105	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	3.65	3.70		ng/L		101	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.82	4.26		ng/L		112	70 - 150
Perfluorooctanesulfonic acid (PFOS)	3.72	4.06		ng/L		109	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.85	3.81		ng/L		99	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.86	3.59		ng/L		93	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.88	3.75		ng/L		97	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	7.50	8.58		ng/L		114	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.62	8.51		ng/L		112	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.68	7.70		ng/L		100	60 - 150
Perfluorooctanesulfonamide (PFOSA)	4.00	4.21		ng/L		105	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	4.00	4.30		ng/L		108	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	4.00	4.51		ng/L		113	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.00	4.59		ng/L		115	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.00	4.25		ng/L		106	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	20.0	22.4		ng/L		112	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	20.0	22.1		ng/L		110	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.00	3.56		ng/L		119	70 - 140

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QC Sample Results

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

Job ID: 380-211840-1
SDG: Site D2 PFAS 1633

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

Lab Sample ID: LLCS 320-916313/2-A

Matrix: Water

Analysis Batch: 917006

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 916313

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	4.70		ng/L		124	65 - 145
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.00	4.41		ng/L		110	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.00	4.70		ng/L		118	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.00	4.33		ng/L		108	55 - 140
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	3.74	4.28		ng/L		115	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	3.78	3.88		ng/L		103	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	3.57	3.97		ng/L		111	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	8.00	7.76		ng/L		97	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	20.0	21.0		ng/L		105	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	20.0	19.7		ng/L		99	50 - 145

Isotope Dilution	LLCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	100		5 - 130
13C5 PFPeA	103		40 - 130
13C5 PFHxA	97.0		40 - 130
13C4 PFHpA	88.8		40 - 130
13C8 PFOA	104		40 - 130
13C9 PFNA	105		40 - 130
13C6 PFDA	102		40 - 130
13C7 PFUnA	101		30 - 130
13C2 PFDoA	97.1		10 - 130
13C2 PFTeDA	97.6		10 - 130
13C6 PFTTrDA	95.7		20 - 150
13C3 PFBS	110		40 - 135
13C3 PFHxS	103		40 - 130
13C8 PFOS	95.3		40 - 130
13C8 PFOSA	89.3		40 - 130
d3-NMeFOSAA	83.3		40 - 170
d5-NEtFOSAA	78.3		25 - 135
13C2 4:2 FTS	92.9		40 - 200
13C2 6:2 FTS	111		40 - 200
13C2 8:2 FTS	96.2		40 - 300
13C3 HFPO-DA	90.0		40 - 130
d7-N-MeFOSE-M	81.3		10 - 130
d9-N-EtFOSE-M	80.1		10 - 130
d5-NEtPFOSA	70.7		10 - 130
d3-NMePFOSA	76.5		10 - 130
13C3-3:3 FTCA	100		20 - 150
13C3-5:3 FTCA	101		20 - 150

QC Association Summary

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

Job ID: 380-211840-1
SDG: Site D2 PFAS 1633

LCMS

Prep Batch: 916313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-211840-1	BWS2254-D2-AQ	Total/NA	Water	1633	
MB 320-916313/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-916313/3-A	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-916313/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-916313/2-A	Lab Control Sample	Total/NA	Water	1633	

Analysis Batch: 917006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-211840-1	BWS2254-D2-AQ	Total/NA	Water	QSM B-24	916313
MB 320-916313/1-A	Method Blank	Total/NA	Water	QSM B-24	916313
LCS 320-916313/3-A	Lab Control Sample	Total/NA	Water	QSM B-24	916313
LCSD 320-916313/4-A	Lab Control Sample Dup	Total/NA	Water	QSM B-24	916313
LLCS 320-916313/2-A	Lab Control Sample	Total/NA	Water	QSM B-24	916313

Lab Chronicle

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

Job ID: 380-211840-1
SDG: Site D2 PFAS 1633

Client Sample ID: BWS2254-D2-AQ
Date Collected: 05/04/26 11:00
Date Received: 05/05/26 09:30

Lab Sample ID: 380-211840-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	1633			916313	DXT	EET SAC	05/12/26 05:20
Total/NA	Analysis	QSM B-24		1	917006	N1K	EET SAC	05/15/26 02:05

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: 380-211840-1
SDG: Site D2 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	05-17-26
California	State	2897	01-31-28
Colorado	State	CA00044	08-31-26
Florida	NELAP	E87570	06-30-26
Georgia	State	4040	01-29-27
Illinois	NELAP	200060	03-31-27
Kansas	NELAP	E-10375	10-31-26
Louisiana	NELAP	01944	06-30-26
Louisiana (All)	NELAP	01944	06-30-26
Maine	State	CA00004	04-14-28
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	04-30-27
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	07-31-26
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: 380-211840-1
SDG: Site D2 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: 380-211840-1
SDG: Site D2 PFAS 1633

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-211840-1	BWS2254-D2-AQ	Water	05/04/26 11:00	05/05/26 09:30	Hawaii

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

Chain of Custody Record

Client Information Client Contact: Mir Erwin Kawata Phone: 858-205-0730 Email: Maria.Lopez@et.eurofinsus.com Company:		Lab PM: Lopez, Maria State of Origin: Hawaii Page: 1 of 1 Job #:	
City & County of Honolulu Address: 6330 South Beretania Street City: Honolulu State, Zip: HI, 96843 Phone: 808-748-5066 Email: ekawata@hbws.org Project Name: INTERA - Red-Hill-Incident Site: D2		Analysis Requested Due Date Requested: TAT Requested (days): Standard Compliance Project: ☐ Yes ☒ No PO #: WO #: Project #: SOW #: PWSID:	
Sample Identification Sample ID: BWS254-D2-AQ Sample Date: 5/4/20 Sample Time: 11:00 Sample Type: G (Grab) Matrix: (V=Vase, S=Solid, O=Organic, BT=Tissue, AA=Air, DW=Drinking Water)		Preservation Code: G Field Filtered Sample (Yes or No): ☒ No Field Filtered Sample (Yes or No): ☒ No Special Instructions/Note: BILL TO POMONA EEA	
Possible Hazard Identification ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological		Sample Disposal / A fee may be assessed if samples are retained longer than 1 month ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months	
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:	
Empty Kit Relinquished by:		Method of Shipment:	
Relinquished by: H. Bentley Date/Time: 5/4/20 14:00 Company: INTERA		Relinquished by: [Signature] Date/Time: 5/5/20 09:30 Company: EETSLU	
Relinquished by:		Relinquished by:	
Relinquished by:		Relinquished by:	
Custody Seal No.: 2189771 Custody Seals Intact: ☒		Cooler Temperature(s) °C and Other Remarks: 1.5 °C	

Chain of Custody Record

[illegible]

Chain of Custody Record

[illegible]

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-211840-1
SDG Number: Site D2 PFAS 1633

Login Number: 211840

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: 380-211840-1
SDG Number: Site D2 PFAS 1633

Login Number: 211840

List Number: 2

Creator: Morazzini, Dominic S

List Source: Eurofins Sacramento

List Creation: 05/05/26 05:48 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	2189771
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	1.5
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	