

ANALYTICAL REPORT

PREPARED FOR

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City & County of Honolulu
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Honolulu, Hawaii 96843

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JOB DESCRIPTION

INTERA - Red-Hill-Incident
Site H1 PFAS 1633

JOB NUMBER

380-212192-1

Eurofins Pomona

Job Notes

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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
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Definitions/Glossary

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

Job ID: 380-212192-1
SDG: Site H1 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: 380-212192-1

Job ID: 380-212192-1

Eurofins Pomona

Job Narrative 380-212192-1

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 5/6/2026 10:10 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 1.7°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 continuing calibration verification (CCV) associated with batch 320-915818 recovered above the upper control limit for Nonafluoro-3,6-dioxaheptanoic acid (NFDHA). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are:(CCV 320-915818/16), (LCS 320-915716/3-A), (LCSD 320-915716/4-A), (LLCS 320-915716/2-A) and (MB 320-915716/1-A).

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: 380-212192-1
SDG: Site H1 PFAS 1633

Client Sample ID: BWS2253-H1-AQ

Lab Sample ID: 380-212192-1

No Detections.

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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: 380-212192-1
SDG: Site H1 PFAS 1633

Client Sample ID: BWS2253-H1-AQ

Lab Sample ID: 380-212192-1

Date Collected: 05/05/26 12:00

Matrix: Water

Date Received: 05/06/26 10:10

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)	<3.4		3.4	ng/L		05/07/26 19:38	05/09/26 05:26	1
Perfluoropentanoic acid (PFPeA)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
Perfluorohexanoic acid (PFHxA)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
Perfluoroheptanoic acid (PFHpA)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
Perfluorooctanoic acid (PFOA)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
Perfluorononanoic acid (PFNA)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
Perfluorodecanoic acid (PFDA)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
Perfluoroundecanoic acid (PFUnA)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
Perfluorododecanoic acid (PFDoA)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
Perfluorotridecanoic acid (PFTrDA)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
Perfluorotetradecanoic acid (PFTeDA)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
Perfluorobutanesulfonic acid (PFBS)	<3.4		3.4	ng/L		05/07/26 19:38	05/09/26 05:26	1
Perfluoropentanesulfonic acid (PFPeS)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
Perfluorohexanesulfonic acid (PFHxS)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
Perfluoroheptanesulfonic acid (PFHpS)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
Perfluorooctanesulfonic acid (PFOS)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
Perfluorononanesulfonic acid (PFNS)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
Perfluorodecanesulfonic acid (PFDS)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
Perfluorododecanesulfonic acid (PFDoS)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<3.4		3.4	ng/L		05/07/26 19:38	05/09/26 05:26	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<3.4		3.4	ng/L		05/07/26 19:38	05/09/26 05:26	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<3.4		3.4	ng/L		05/07/26 19:38	05/09/26 05:26	1
Perfluorooctanesulfonamide (PFOSA)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<8.4		8.4	ng/L		05/07/26 19:38	05/09/26 05:26	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<8.4		8.4	ng/L		05/07/26 19:38	05/09/26 05:26	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.3		1.3	ng/L		05/07/26 19:38	05/09/26 05:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1

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Client Sample Results

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

Job ID: 380-212192-1
SDG: Site H1 PFAS 1633

Client Sample ID: BWS2253-H1-AQ

Lab Sample ID: 380-212192-1

Date Collected: 05/05/26 12:00

Matrix: Water

Date Received: 05/06/26 10:10

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	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFESA)	<1.7		1.7	ng/L		05/07/26 19:38	05/09/26 05:26	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<3.4		3.4	ng/L		05/07/26 19:38	05/09/26 05:26	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<8.4		8.4	ng/L		05/07/26 19:38	05/09/26 05:26	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<8.4		8.4	ng/L		05/07/26 19:38	05/09/26 05:26	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C4 PFBA	75.3		5 - 130			05/07/26 19:38	05/09/26 05:26	1
13C5 PFPeA	92.5		40 - 130			05/07/26 19:38	05/09/26 05:26	1
13C5 PFHxA	97.4		40 - 130			05/07/26 19:38	05/09/26 05:26	1
13C4 PFHpA	83.7		40 - 130			05/07/26 19:38	05/09/26 05:26	1
13C8 PFOA	89.4		40 - 130			05/07/26 19:38	05/09/26 05:26	1
13C9 PFNA	101		40 - 130			05/07/26 19:38	05/09/26 05:26	1
13C6 PFDA	92.0		40 - 130			05/07/26 19:38	05/09/26 05:26	1
13C7 PFUnA	89.7		30 - 130			05/07/26 19:38	05/09/26 05:26	1
13C2 PFDoA	86.2		10 - 130			05/07/26 19:38	05/09/26 05:26	1
13C2 PFTeDA	81.0		10 - 130			05/07/26 19:38	05/09/26 05:26	1
13C6 PFTriDA	87.5		20 - 150			05/07/26 19:38	05/09/26 05:26	1
13C3 PFBS	106		40 - 135			05/07/26 19:38	05/09/26 05:26	1
13C3 PFHxS	93.3		40 - 130			05/07/26 19:38	05/09/26 05:26	1
13C8 PFOS	85.8		40 - 130			05/07/26 19:38	05/09/26 05:26	1
13C8 PFOSA	86.6		40 - 130			05/07/26 19:38	05/09/26 05:26	1
d3-NMeFOSAA	87.9		40 - 170			05/07/26 19:38	05/09/26 05:26	1
d5-NEtFOSAA	91.0		25 - 135			05/07/26 19:38	05/09/26 05:26	1
13C2 4:2 FTS	88.2		40 - 200			05/07/26 19:38	05/09/26 05:26	1
13C2 6:2 FTS	91.6		40 - 200			05/07/26 19:38	05/09/26 05:26	1
13C2 8:2 FTS	68.9		40 - 300			05/07/26 19:38	05/09/26 05:26	1
13C3 HFPO-DA	79.5		40 - 130			05/07/26 19:38	05/09/26 05:26	1
d7-N-MeFOSE-M	72.4		10 - 130			05/07/26 19:38	05/09/26 05:26	1
d9-N-EtFOSE-M	74.2		10 - 130			05/07/26 19:38	05/09/26 05:26	1
d5-NEtPFOSA	57.6		10 - 130			05/07/26 19:38	05/09/26 05:26	1
d3-NMePFOSA	58.6		10 - 130			05/07/26 19:38	05/09/26 05:26	1
13C3-3:3 FTCA	91.6		20 - 150			05/07/26 19:38	05/09/26 05:26	1
13C3-5:3 FTCA	75.4		20 - 150			05/07/26 19:38	05/09/26 05:26	1

Action Limit Summary

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

Job ID: 380-212192-1
SDG: Site H1 PFAS 1633

Client Sample ID: BWS2253-H1-AQ

Lab Sample ID: 380-212192-1

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)	<1.7		ng/L	4	1.7	QSM B-24	Total/NA
Perfluorononanoic acid (PFNA)	<1.7		ng/L	10	1.7	QSM B-24	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<1.7		ng/L	10	1.7	QSM B-24	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<1.7		ng/L	4	1.7	QSM B-24	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.3		ng/L	10	1.3	QSM B-24	Total/NA

Isotope Dilution Summary

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

Job ID: 380-212192-1
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)
380-212192-1	BWS2253-H1-AQ	75.3	92.5	97.4	83.7	89.4	101	92.0	89.7
LCS 320-915716/3-A	Lab Control Sample	71.7	100	92.5	76.3	105	93.9	93.7	89.1
LCSD 320-915716/4-A	Lab Control Sample Dup	72.1	102	94.1	86.7	90.1	92.9	86.7	83.6
LLCS 320-915716/2-A	Lab Control Sample	69.3	99.2	87.5	77.3	96.7	84.9	88.6	80.0
MB 320-915716/1-A	Method Blank	80.2	96.6	92.0	89.6	99.2	96.8	94.1	76.6

		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)
380-212192-1	BWS2253-H1-AQ	86.2	81.0	87.5	106	93.3	85.8	86.6	87.9
LCS 320-915716/3-A	Lab Control Sample	83.4	72.8	72.8	90.3	85.4	88.0	68.4	78.9
LCSD 320-915716/4-A	Lab Control Sample Dup	75.0	64.4	68.3	90.3	87.9	87.6	68.7	86.1
LLCS 320-915716/2-A	Lab Control Sample	74.2	71.9	65.5	87.8	80.6	89.3	68.3	77.1
MB 320-915716/1-A	Method Blank	76.9	70.4	66.1	100	85.2	94.9	65.4	80.0

		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)
380-212192-1	BWS2253-H1-AQ	91.0	88.2	91.6	68.9	79.5	72.4	74.2	57.6
LCS 320-915716/3-A	Lab Control Sample	76.4	95.1	82.5	87.8	83.0	61.5	66.4	55.5
LCSD 320-915716/4-A	Lab Control Sample Dup	80.5	89.4	80.2	81.4	81.2	56.9	65.2	50.4
LLCS 320-915716/2-A	Lab Control Sample	70.9	84.2	81.8	83.6	82.0	61.3	65.1	52.9
MB 320-915716/1-A	Method Blank	72.6	90.4	85.8	85.1	89.5	55.5	70.1	47.6

		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)
380-212192-1	BWS2253-H1-AQ	58.6	91.6	75.4
LCS 320-915716/3-A	Lab Control Sample	54.5	94.9	75.6
LCSD 320-915716/4-A	Lab Control Sample Dup	52.2	91.2	76.0
LLCS 320-915716/2-A	Lab Control Sample	51.1	89.0	70.4
MB 320-915716/1-A	Method Blank	50.1	95.5	79.2

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

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: 380-212192-1
SDG: Site H1 PFAS 1633

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QC Sample Results

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

Job ID: 380-212192-1
SDG: Site H1 PFAS 1633

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

Lab Sample ID: MB 320-915716/1-A

Matrix: Water

Analysis Batch: 915818

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 915716

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<4.0		4.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
Perfluorotridecanoic acid (PFTriDA)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
Perfluorotetradecanoic acid (PFTeDA)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
Perfluorobutanesulfonic acid (PFBS)	<4.0		4.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<4.0		4.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<4.0		4.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<4.0		4.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
Perfluorooctanesulfonamide (PFOSA)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<10		10	ng/L		05/07/26 19:38	05/08/26 22:51	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<10		10	ng/L		05/07/26 19:38	05/08/26 22:51	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.5		1.5	ng/L		05/07/26 19:38	05/08/26 22:51	1
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
Nonfluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1

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QC Sample Results

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

Job ID: 380-212192-1
SDG: Site H1 PFAS 1633

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

Lab Sample ID: MB 320-915716/1-A

Matrix: Water

Analysis Batch: 915818

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 915716

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		05/07/26 19:38	05/08/26 22:51	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<4.0		4.0	ng/L		05/07/26 19:38	05/08/26 22:51	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<10		10	ng/L		05/07/26 19:38	05/08/26 22:51	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<10		10	ng/L		05/07/26 19:38	05/08/26 22:51	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	80.2		5 - 130	05/07/26 19:38	05/08/26 22:51	1
13C5 PFPeA	96.6		40 - 130	05/07/26 19:38	05/08/26 22:51	1
13C5 PFHxA	92.0		40 - 130	05/07/26 19:38	05/08/26 22:51	1
13C4 PFHpA	89.6		40 - 130	05/07/26 19:38	05/08/26 22:51	1
13C8 PFOA	99.2		40 - 130	05/07/26 19:38	05/08/26 22:51	1
13C9 PFNA	96.8		40 - 130	05/07/26 19:38	05/08/26 22:51	1
13C6 PFDA	94.1		40 - 130	05/07/26 19:38	05/08/26 22:51	1
13C7 PFUnA	76.6		30 - 130	05/07/26 19:38	05/08/26 22:51	1
13C2 PFDoA	76.9		10 - 130	05/07/26 19:38	05/08/26 22:51	1
13C2 PFTeDA	70.4		10 - 130	05/07/26 19:38	05/08/26 22:51	1
13C6 PFTrDA	66.1		20 - 150	05/07/26 19:38	05/08/26 22:51	1
13C3 PFBS	100		40 - 135	05/07/26 19:38	05/08/26 22:51	1
13C3 PFHxS	85.2		40 - 130	05/07/26 19:38	05/08/26 22:51	1
13C8 PFOS	94.9		40 - 130	05/07/26 19:38	05/08/26 22:51	1
13C8 PFOSA	65.4		40 - 130	05/07/26 19:38	05/08/26 22:51	1
d3-NMeFOSAA	80.0		40 - 170	05/07/26 19:38	05/08/26 22:51	1
d5-NEtFOSAA	72.6		25 - 135	05/07/26 19:38	05/08/26 22:51	1
13C2 4:2 FTS	90.4		40 - 200	05/07/26 19:38	05/08/26 22:51	1
13C2 6:2 FTS	85.8		40 - 200	05/07/26 19:38	05/08/26 22:51	1
13C2 8:2 FTS	85.1		40 - 300	05/07/26 19:38	05/08/26 22:51	1
13C3 HFPO-DA	89.5		40 - 130	05/07/26 19:38	05/08/26 22:51	1
d7-N-MeFOSE-M	55.5		10 - 130	05/07/26 19:38	05/08/26 22:51	1
d9-N-EtFOSE-M	70.1		10 - 130	05/07/26 19:38	05/08/26 22:51	1
d5-NEtPFOSA	47.6		10 - 130	05/07/26 19:38	05/08/26 22:51	1
d3-NMePFOSA	50.1		10 - 130	05/07/26 19:38	05/08/26 22:51	1
13C3-3:3 FTCA	95.5		20 - 150	05/07/26 19:38	05/08/26 22:51	1
13C3-5:3 FTCA	79.2		20 - 150	05/07/26 19:38	05/08/26 22:51	1

Lab Sample ID: LCS 320-915716/3-A

Matrix: Water

Analysis Batch: 915818

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 915716

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	76.1		ng/L		95	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	35.6		ng/L		89	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	34.2		ng/L		86	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	42.6		ng/L		107	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	34.0		ng/L		85	70 - 150

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QC Sample Results

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

Job ID: 380-212192-1
SDG: Site H1 PFAS 1633

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

Lab Sample ID: LCS 320-915716/3-A

Matrix: Water

Analysis Batch: 915818

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 915716

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanoic acid (PFNA)	40.0	38.9		ng/L		97	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	35.1		ng/L		88	70 - 140
Perfluoroundecanoic acid (PFUnA)	40.0	36.8		ng/L		92	70 - 145
Perfluorododecanoic acid (PFDoA)	40.0	36.9		ng/L		92	70 - 140
Perfluorotridecanoic acid (PFTrDA)	40.0	33.5		ng/L		84	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	40.0	34.2		ng/L		85	60 - 140
Perfluorobutanesulfonic acid (PFBS)	35.5	25.0		ng/L		70	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	32.1		ng/L		85	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	29.1		ng/L		80	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	37.8		ng/L		99	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	33.2		ng/L		89	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	32.2		ng/L		84	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	31.3		ng/L		81	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	28.1		ng/L		72	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	72.7		ng/L		97	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	82.6		ng/L		108	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	71.4		ng/L		93	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	38.8		ng/L		97	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	40.4		ng/L		101	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	39.8		ng/L		99	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	36.7		ng/L		92	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	37.7		ng/L		94	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	197		ng/L		98	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	207		ng/L		103	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	29.4		ng/L		98	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	34.7		ng/L		92	65 - 145
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	37.5		ng/L		94	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	41.8		ng/L		105	50 - 150

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QC Sample Results

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

Job ID: 380-212192-1
SDG: Site H1 PFAS 1633

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

Lab Sample ID: LCS 320-915716/3-A

Matrix: Water

Analysis Batch: 915818

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 915716

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	36.7		ng/L		92	55 - 140
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	37.4	32.8		ng/L		88	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	37.8	30.0		ng/L		79	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	35.7	28.8		ng/L		81	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	80.0	72.8		ng/L		91	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	200	206		ng/L		103	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	200	176		ng/L		88	50 - 145

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	71.7		5 - 130
13C5 PFPeA	100		40 - 130
13C5 PFHxA	92.5		40 - 130
13C4 PFHpA	76.3		40 - 130
13C8 PFOA	105		40 - 130
13C9 PFNA	93.9		40 - 130
13C6 PFDA	93.7		40 - 130
13C7 PFUnA	89.1		30 - 130
13C2 PFDoA	83.4		10 - 130
13C2 PFTeDA	72.8		10 - 130
13C6 PFTrDA	72.8		20 - 150
13C3 PFBS	90.3		40 - 135
13C3 PFHxS	85.4		40 - 130
13C8 PFOS	88.0		40 - 130
13C8 PFOSA	68.4		40 - 130
d3-NMeFOSAA	78.9		40 - 170
d5-NEtFOSAA	76.4		25 - 135
13C2 4:2 FTS	95.1		40 - 200
13C2 6:2 FTS	82.5		40 - 200
13C2 8:2 FTS	87.8		40 - 300
13C3 HFPO-DA	83.0		40 - 130
d7-N-MeFOSE-M	61.5		10 - 130
d9-N-EtFOSE-M	66.4		10 - 130
d5-NEtPFOSA	55.5		10 - 130
d3-NMePFOSA	54.5		10 - 130
13C3-3:3 FTCA	94.9		20 - 150
13C3-5:3 FTCA	75.6		20 - 150

Lab Sample ID: LCSD 320-915716/4-A

Matrix: Water

Analysis Batch: 915818

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 915716

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Perfluorobutanoic acid (PFBA)	80.0	77.1		ng/L		96	70 - 140	1	30
Perfluoropentanoic acid (PFPeA)	40.0	37.7		ng/L		94	65 - 135	6	30

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QC Sample Results

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

Job ID: 380-212192-1
SDG: Site H1 PFAS 1633

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

Lab Sample ID: LCSD 320-915716/4-A

Matrix: Water

Analysis Batch: 915818

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 915716

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	40.0	41.6		ng/L		104	70 - 145	19	30
Perfluoroheptanoic acid (PFHpA)	40.0	37.8		ng/L		94	70 - 150	12	30
Perfluorooctanoic acid (PFOA)	40.0	41.8		ng/L		105	70 - 150	21	30
Perfluorononanoic acid (PFNA)	40.0	42.7		ng/L		107	70 - 150	9	30
Perfluorodecanoic acid (PFDA)	40.0	36.2		ng/L		91	70 - 140	3	30
Perfluoroundecanoic acid (PFUnA)	40.0	36.4		ng/L		91	70 - 145	1	30
Perfluorododecanoic acid (PFDoA)	40.0	42.6		ng/L		106	70 - 140	14	30
Perfluorotridecanoic acid (PFTrDA)	40.0	37.5		ng/L		94	65 - 140	11	30
Perfluorotetradecanoic acid (PFTeDA)	40.0	37.2		ng/L		93	60 - 140	8	30
Perfluorobutanesulfonic acid (PFBS)	35.5	25.7		ng/L		72	60 - 145	3	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	32.9		ng/L		87	65 - 140	2	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	28.5		ng/L		78	65 - 145	2	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	38.8		ng/L		102	70 - 150	2	30
Perfluorooctanesulfonic acid (PFOS)	37.2	35.7		ng/L		96	55 - 150	7	30
Perfluorononanesulfonic acid (PFNS)	38.5	31.4		ng/L		82	65 - 145	3	30
Perfluorodecanesulfonic acid (PFDS)	38.6	34.0		ng/L		88	60 - 145	8	30
Perfluorododecanesulfonic acid (PFDoS)	38.8	26.0		ng/L		67	50 - 145	8	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	77.8		ng/L		104	70 - 145	7	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	88.9		ng/L		117	65 - 155	7	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	75.6		ng/L		98	60 - 150	6	30
Perfluorooctanesulfonamide (PFOSA)	40.0	39.9		ng/L		100	70 - 145	3	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	39.9		ng/L		100	60 - 150	1	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	40.6		ng/L		102	65 - 145	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	37.3		ng/L		93	50 - 140	2	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	38.4		ng/L		96	70 - 145	2	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	202		ng/L		101	70 - 145	3	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	199		ng/L		100	70 - 135	4	30
Hexafluoropropylene Oxide	30.0	29.7		ng/L		99	70 - 140	1	30
Dimer Acid (HFPO-DA)									
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	35.4		ng/L		94	65 - 145	2	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	38.9		ng/L		97	60 - 150	4	30

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QC Sample Results

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

Job ID: 380-212192-1
SDG: Site H1 PFAS 1633

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

Lab Sample ID: LCSD 320-915716/4-A

Matrix: Water

Analysis Batch: 915818

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 915716

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	46.5		ng/L		116	50 - 150	11	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	39.2		ng/L		98	55 - 140	6	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	37.4	35.0		ng/L		94	70 - 155	6	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	37.8	31.8		ng/L		84	55 - 160	6	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	35.7	31.2		ng/L		87	70 - 140	8	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)	80.0	76.1		ng/L		95	65 - 130	4	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)	200	198		ng/L		99	70 - 135	4	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	200	172		ng/L		86	50 - 145	2	30
Isotope Dilution	LCSD %Recovery	LCSD Qualifier	LCSD Limits						
13C4 PFBA	72.1		5 - 130						
13C5 PFPeA	102		40 - 130						
13C5 PFHxA	94.1		40 - 130						
13C4 PFHpA	86.7		40 - 130						
13C8 PFOA	90.1		40 - 130						
13C9 PFNA	92.9		40 - 130						
13C6 PFDA	86.7		40 - 130						
13C7 PFUnA	83.6		30 - 130						
13C2 PFDoA	75.0		10 - 130						
13C2 PFTeDA	64.4		10 - 130						
13C6 PFTrDA	68.3		20 - 150						
13C3 PFBS	90.3		40 - 135						
13C3 PFHxS	87.9		40 - 130						
13C8 PFOS	87.6		40 - 130						
13C8 PFOSA	68.7		40 - 130						
d3-NMeFOSAA	86.1		40 - 170						
d5-NEtFOSAA	80.5		25 - 135						
13C2 4:2 FTS	89.4		40 - 200						
13C2 6:2 FTS	80.2		40 - 200						
13C2 8:2 FTS	81.4		40 - 300						
13C3 HFPO-DA	81.2		40 - 130						
d7-N-MeFOSE-M	56.9		10 - 130						
d9-N-EtFOSE-M	65.2		10 - 130						
d5-NEtPFOSA	50.4		10 - 130						
d3-NMePFOSA	52.2		10 - 130						
13C3-3:3 FTCA	91.2		20 - 150						
13C3-5:3 FTCA	76.0		20 - 150						

QC Sample Results

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

Job ID: 380-212192-1
SDG: Site H1 PFAS 1633

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

Lab Sample ID: LLCS 320-915716/2-A

Matrix: Water

Analysis Batch: 915818

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 915716

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	9.09		ng/L		114	70 - 140
Perfluoropentanoic acid (PFPeA)	4.00	4.34		ng/L		109	65 - 135
Perfluorohexanoic acid (PFHxA)	4.00	4.13		ng/L		103	70 - 145
Perfluoroheptanoic acid (PFHpA)	4.00	4.53		ng/L		113	70 - 150
Perfluorooctanoic acid (PFOA)	4.00	4.17		ng/L		104	70 - 150
Perfluorononanoic acid (PFNA)	4.00	4.52		ng/L		113	70 - 150
Perfluorodecanoic acid (PFDA)	4.00	4.11		ng/L		103	70 - 140
Perfluoroundecanoic acid (PFUnA)	4.00	4.61		ng/L		115	70 - 145
Perfluorododecanoic acid (PFDoA)	4.00	4.77		ng/L		119	70 - 140
Perfluorotridecanoic acid (PFTrDA)	4.00	4.34		ng/L		108	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	4.00	4.09		ng/L		102	60 - 140
Perfluorobutanesulfonic acid (PFBS)	3.55	2.90	J	ng/L		82	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.76	4.04		ng/L		107	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	3.65	3.58		ng/L		98	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.82	3.80		ng/L		100	70 - 150
Perfluorooctanesulfonic acid (PFOS)	3.72	3.68		ng/L		99	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.85	3.39		ng/L		88	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.86	3.32		ng/L		86	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.88	2.85		ng/L		74	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	7.50	8.36		ng/L		111	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.62	9.50		ng/L		125	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.68	8.43		ng/L		110	60 - 150
Perfluorooctanesulfonamide (PFOSA)	4.00	4.53		ng/L		113	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	4.00	4.26		ng/L		106	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	4.00	4.23		ng/L		106	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.00	4.09		ng/L		102	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.00	4.51		ng/L		113	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	20.0	22.8		ng/L		114	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	20.0	23.3		ng/L		116	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.00	3.53		ng/L		118	70 - 140

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QC Sample Results

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

Job ID: 380-212192-1
SDG: Site H1 PFAS 1633

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

Lab Sample ID: LLCS 320-915716/2-A

Matrix: Water

Analysis Batch: 915818

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 915716

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	4.26		ng/L		113	65 - 145
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.00	4.05		ng/L		101	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.00	5.85		ng/L		146	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.00	4.01		ng/L		100	55 - 140
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	3.74	3.60		ng/L		96	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	3.78	3.38		ng/L		90	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	3.57	3.83		ng/L		107	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	8.00	7.99		ng/L		100	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	20.0	23.8		ng/L		119	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	20.0	19.9		ng/L		100	50 - 145

Isotope Dilution	LLCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	69.3		5 - 130
13C5 PFPeA	99.2		40 - 130
13C5 PFHxA	87.5		40 - 130
13C4 PFHpA	77.3		40 - 130
13C8 PFOA	96.7		40 - 130
13C9 PFNA	84.9		40 - 130
13C6 PFDA	88.6		40 - 130
13C7 PFUnA	80.0		30 - 130
13C2 PFDoA	74.2		10 - 130
13C2 PFTeDA	71.9		10 - 130
13C6 PFTriDA	65.5		20 - 150
13C3 PFBS	87.8		40 - 135
13C3 PFHxS	80.6		40 - 130
13C8 PFOS	89.3		40 - 130
13C8 PFOSA	68.3		40 - 130
d3-NMeFOSAA	77.1		40 - 170
d5-NEtFOSAA	70.9		25 - 135
13C2 4:2 FTS	84.2		40 - 200
13C2 6:2 FTS	81.8		40 - 200
13C2 8:2 FTS	83.6		40 - 300
13C3 HFPO-DA	82.0		40 - 130
d7-N-MeFOSE-M	61.3		10 - 130
d9-N-EtFOSE-M	65.1		10 - 130
d5-NEtPFOSA	52.9		10 - 130
d3-NMePFOSA	51.1		10 - 130
13C3-3:3 FTCA	89.0		20 - 150
13C3-5:3 FTCA	70.4		20 - 150

QC Association Summary

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

Job ID: 380-212192-1
SDG: Site H1 PFAS 1633

LCMS

Prep Batch: 915716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-212192-1	BWS2253-H1-AQ	Total/NA	Water	1633	
MB 320-915716/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-915716/3-A	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-915716/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-915716/2-A	Lab Control Sample	Total/NA	Water	1633	

Analysis Batch: 915818

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-212192-1	BWS2253-H1-AQ	Total/NA	Water	QSM B-24	915716
MB 320-915716/1-A	Method Blank	Total/NA	Water	QSM B-24	915716
LCS 320-915716/3-A	Lab Control Sample	Total/NA	Water	QSM B-24	915716
LCSD 320-915716/4-A	Lab Control Sample Dup	Total/NA	Water	QSM B-24	915716
LLCS 320-915716/2-A	Lab Control Sample	Total/NA	Water	QSM B-24	915716

Lab Chronicle

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

Job ID: 380-212192-1
SDG: Site H1 PFAS 1633

Client Sample ID: BWS2253-H1-AQ
Date Collected: 05/05/26 12:00
Date Received: 05/06/26 10:10

Lab Sample ID: 380-212192-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	1633			915716	EBH	EET SAC	05/07/26 19:38
Total/NA	Analysis	QSM B-24		1	915818	SS	EET SAC	05/09/26 05:26

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: 380-212192-1
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	05-17-26
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
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: 380-212192-1
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: 380-212192-1
SDG: Site H1 PFAS 1633

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-212192-1	BWS2253-H1-AQ	Water	05/05/26 12:00	05/06/26 10:10	Hawaii

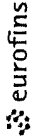
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Chain of Custody Record

Client Information					
Sampler H. Bentley (808) 321-0683	Lab Pmt: Lopez, Maria	Carrier Tracking No(s):		COC No:	
Phone: Mr Erwin Kawata	E-Mail: Maria.Lopez@et-eurofinus.com	State of Origin: Hawaii		Page: Page 1 of 1	
Company City & County of Honolulu	PWSID:	Job #:			
Analysis Requested					
Due Date Requested:					
TAT Requested (days): Standard					
Compliance Project: Δ Yes Δ No					
PO #:					
WO #:					
Project #: 38000961					
SSOW#:					
Site: H1					
Sample Identification					
BWS253-H1-AQ	Sample Date 5/5/26	Sample Time 12:00	Sample Type (C=Comp, G=grab)	Preservation Code G Water	Matrix (W-water, S-solid, O-oil, A-aqueous, D-dioxin, M-miscellaneous, V-vapor) N
Field Filled Sample (Yes or No)					
1633 DDBS - EPA Method 1633 SLD LSL					
TOTAL Number of Containers					
Special Instructions/Note: BILL TO POMONA EEA					
380-212192 COC					
Possible Hazard Identification ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological					
Deliverable Requested: I, II, III, IV, Other (specify)					
Empty Kit Relinquished by					
Relinquished by: H. Bentley					
Date/Time: 5/5/26 14:00	Date/Time: 05/06/26 10:10				
Relinquished by:	Received by:				
Relinquished by:	Received by:				
Relinquished by:	Received by:				
Custody Seal Intact: CA Yes Δ No	Cooler Temperature(s) °C and Other Remarks: 17°C				

Eurofins Pomona
941 Corporate Center Drive
Pomona, CA 91768-2642
Phone: 626-386-1100

Chain of Custody Record



Environment Testing

Client Information (Sub Contract Lab)		Sampler: N/A		Lab P/N: Lopez, Maria		Carrier Tracking No(s): N/A		COC No: 380-331180.1	
Client Contact:		Phone: N/A		E-Mail: Maria.Lopez@eurofins.com		State of Origin: Hawaii		Page: Page 1 of 1	
Shipping/Receiving		N/A		N/A		N/A		Job #: 380-212192-1	
Company:		Eurofins Environment Testing Northern Ca		Accreditations Required (See note):		State - Hawaii		Preservation Codes: -	
Address:		880 Riverside Parkway		Due Date Requested: 5/19/2026		Analysis Requested			
City:		West Sacramento		TAT Requested (days):		N/A			
State Zip:		CA, 95605		PO #:		N/A			
Phone:		916-373-5600(Tel) 916-372-1059(Fax)		WO #:		N/A			
Email:		N/A		Project #:		38000861			
Project Name:		INTERA - Red-Hill-Incident		SSOW#:		N/A			
Site:		Honolulu BWS Sites		Sample Date:		5/5/26			
Sample Identification - Client ID (Lab ID)		BWS253-H1-AQ (380-212192-1)		Sample Time:		12:00 Hawaiian			
				Sample Type (C=Comp, G=grab)		G			
				Matrix (Water, Sewer, On-site, Off-site)		Water			
				Field Filled Sample (Yes or No)		X			
				Perform MS/MSD (Yes or No)		X			
				SID List		1631 DO06/1633_SPE_126(MOD) EPA Method 1633			
				Total Number of Containers		2			
				Special Instructions/Note:					
				Other:		N/A			

Note: Since laboratory accreditations are subject to change, Eurofins Drinking Water and Wastewater West, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Drinking Water and Wastewater West, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Drinking Water and Wastewater West, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Drinking Water and Wastewater West, LLC.

Possible Hazard Identification
Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Empty Kit Relinquished by: Date: Time: Method of Shipment:

Relinquished by: Date/Time: Company: Received by: Date/Time: Company: *Signature*

Relinquished by: Date/Time: Company: Received by: Date/Time: Company: *Signature*

Relinquished by: Date/Time: Company: Received by: Date/Time: Company: *Signature*

Custody Seal Intact: ☒ Yes ☐ No **Custody Seal No.:** 2189765 **Cooler Temperature(s) °C and Other Remarks:** 1.7°C

Ver- 05/06/2024

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-212192-1
SDG Number: Site H1 PFAS 1633

Login Number: 212192

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: 380-212192-1
SDG Number: Site H1 PFAS 1633

Login Number: 212192

List Number: 2

Creator: Oropeza, Salvador

List Source: Eurofins Sacramento

List Creation: 05/06/26 05:45 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	2189765
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	1.7C
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	