

ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

INTERA - Red-Hill-Incident
Site J1 PFAS 1633

JOB NUMBER

380-238318-1

Eurofins Pomona

Job Notes

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

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

Compliance Statement

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

Authorization



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Definitions/Glossary

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

Job ID: 380-238318-1
SDG: Site J1 PFAS 1633

Qualifiers

LCMS

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.

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: 380-238318-1

Job ID: 380-238318-1

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Job Narrative 380-238318-1

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 9/25/2026 7:20 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 5.3°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 RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-939713 and analytical batch 320-939894 recovered outside control limits for the following analytes: 11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid.

Method QSM B-24: One or more continuing calibration verifications (CCV) and/or continuing calibration blanks (CCB) in analytical batches 320-939894 recovered outside control limits for one or more Extracted Internal Standards/Isotope Dilution Analytes (EIS/IDAs). Recovery for the affected EIS/IDAs in associated laboratory QC aliquots and client samples were evaluated and corrective action was performed as required. Otherwise, the data have been reported.

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

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Detection Summary

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

Job ID: 380-238318-1
SDG: Site J1 PFAS 1633

Client Sample ID: BWS2253-J1-AQ

Lab Sample ID: 380-238318-1

No Detections.

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

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: 380-238318-1
SDG: Site J1 PFAS 1633

Client Sample ID: BWS2253-J1-AQ

Lab Sample ID: 380-238318-1

Date Collected: 09/24/26 12:15

Matrix: Drinking Water

Date Received: 09/25/26 07:20

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)	<3.1		3.1	ng/L		09/28/26 20:44	09/30/26 02:33	1
Perfluoropentanoic acid (PFPeA)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
Perfluorohexanoic acid (PFHxA)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
Perfluoroheptanoic acid (PFHpA)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
Perfluorooctanoic acid (PFOA)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
Perfluorononanoic acid (PFNA)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
Perfluorodecanoic acid (PFDA)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
Perfluoroundecanoic acid (PFUnA)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
Perfluorododecanoic acid (PFDoA)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
Perfluorotridecanoic acid (PFTriDA)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
Perfluorotetradecanoic acid (PFTeDA)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
Perfluorobutanesulfonic acid (PFBS)	<3.1		3.1	ng/L		09/28/26 20:44	09/30/26 02:33	1
Perfluoropentanesulfonic acid (PFPeS)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
Perfluorohexanesulfonic acid (PFHxS)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
Perfluoroheptanesulfonic acid (PFHpS)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
Perfluorooctanesulfonic acid (PFOS)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
Perfluorononanesulfonic acid (PFNS)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
Perfluorodecanesulfonic acid (PFDS)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
Perfluorododecanesulfonic acid (PFDoS)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<3.1		3.1	ng/L		09/28/26 20:44	09/30/26 02:33	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<3.1		3.1	ng/L		09/28/26 20:44	09/30/26 02:33	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<3.1		3.1	ng/L		09/28/26 20:44	09/30/26 02:33	1
Perfluorooctanesulfonamide (PFOSA)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<7.7		7.7	ng/L		09/28/26 20:44	09/30/26 02:33	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<7.7		7.7	ng/L		09/28/26 20:44	09/30/26 02:33	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.1		1.1	ng/L		09/28/26 20:44	09/30/26 02:33	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1

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Client Sample Results

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

Job ID: 380-238318-1
SDG: Site J1 PFAS 1633

Client Sample ID: BWS2253-J1-AQ

Lab Sample ID: 380-238318-1

Date Collected: 09/24/26 12:15

Matrix: Drinking Water

Date Received: 09/25/26 07:20

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid	<1.5	*1	1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFESA)	<1.5		1.5	ng/L		09/28/26 20:44	09/30/26 02:33	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<3.1		3.1	ng/L		09/28/26 20:44	09/30/26 02:33	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<7.7		7.7	ng/L		09/28/26 20:44	09/30/26 02:33	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<7.7		7.7	ng/L		09/28/26 20:44	09/30/26 02:33	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C4 PFBA	93.8		5 - 130			09/28/26 20:44	09/30/26 02:33	1
13C5 PFPeA	84.4		40 - 130			09/28/26 20:44	09/30/26 02:33	1
13C5 PFHxA	99.9		40 - 130			09/28/26 20:44	09/30/26 02:33	1
13C4 PFHpA	98.6		40 - 130			09/28/26 20:44	09/30/26 02:33	1
13C8 PFOA	94.4		40 - 130			09/28/26 20:44	09/30/26 02:33	1
13C9 PFNA	93.1		40 - 130			09/28/26 20:44	09/30/26 02:33	1
13C6 PFDA	91.8		40 - 130			09/28/26 20:44	09/30/26 02:33	1
13C7 PFUnA	90.4		30 - 130			09/28/26 20:44	09/30/26 02:33	1
13C2 PFDoA	77.8		10 - 130			09/28/26 20:44	09/30/26 02:33	1
13C2 PFTeDA	85.0		10 - 130			09/28/26 20:44	09/30/26 02:33	1
13C6 PFTriDA	77.9		20 - 150			09/28/26 20:44	09/30/26 02:33	1
13C3 PFBS	99.6		40 - 135			09/28/26 20:44	09/30/26 02:33	1
13C3 PFHxS	95.7		40 - 130			09/28/26 20:44	09/30/26 02:33	1
13C8 PFOS	98.9		40 - 130			09/28/26 20:44	09/30/26 02:33	1
13C8 PFOSA	90.6		40 - 130			09/28/26 20:44	09/30/26 02:33	1
d3-NMeFOSAA	111		40 - 170			09/28/26 20:44	09/30/26 02:33	1
d5-NEtFOSAA	118		25 - 135			09/28/26 20:44	09/30/26 02:33	1
13C2 4:2 FTS	102		40 - 200			09/28/26 20:44	09/30/26 02:33	1
13C2 6:2 FTS	95.6		40 - 200			09/28/26 20:44	09/30/26 02:33	1
13C2 8:2 FTS	79.0		40 - 300			09/28/26 20:44	09/30/26 02:33	1
13C3 HFPO-DA	96.6		40 - 130			09/28/26 20:44	09/30/26 02:33	1
d7-N-MeFOSE-M	75.7		10 - 130			09/28/26 20:44	09/30/26 02:33	1
d9-N-EtFOSE-M	69.3		10 - 130			09/28/26 20:44	09/30/26 02:33	1
d5-NEtPFOSA	74.4		10 - 130			09/28/26 20:44	09/30/26 02:33	1
d3-NMePFOSA	81.4		10 - 130			09/28/26 20:44	09/30/26 02:33	1
13C3-3:3 FTCA	72.2		20 - 150			09/28/26 20:44	09/30/26 02:33	1
13C3-5:3 FTCA	82.0		20 - 150			09/28/26 20:44	09/30/26 02:33	1

Action Limit Summary

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

Job ID: 380-238318-1
SDG: Site J1 PFAS 1633

Client Sample ID: BWS2253-J1-AQ

Lab Sample ID: 380-238318-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Perfluorooctanoic acid (PFOA)	<1.5		ng/L	4	1.5	QSM B-24	Total/NA
Perfluorononanoic acid (PFNA)	<1.5		ng/L	10	1.5	QSM B-24	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<1.5		ng/L	10	1.5	QSM B-24	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<1.5		ng/L	4	1.5	QSM B-24	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.1		ng/L	10	1.1	QSM B-24	Total/NA

Isotope Dilution Summary

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

Job ID: 380-238318-1
SDG: Site J1 PFAS 1633

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

Matrix: Drinking 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)
380-238318-1	BWS2253-J1-AQ	93.8	84.4	99.9	98.6	94.4	93.1	91.8	90.4
		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)
380-238318-1	BWS2253-J1-AQ	77.8	85.0	77.9	99.6	95.7	98.9	90.6	111
		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)
380-238318-1	BWS2253-J1-AQ	118	102	95.6	79.0	96.6	75.7	69.3	74.4
		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	d3NMFSA (10-130)	C3-3:3 FTCA (20-150)	C3-5:3 FTCA (20-150)					
380-238318-1	BWS2253-J1-AQ	81.4	72.2	82.0					
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									
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									

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)
LCS 320-939713/3-A	Lab Control Sample	93.3	70.5	100	92.2	99.5	91.7	93.2	88.9

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Isotope Dilution Summary

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

Job ID: 380-238318-1
SDG: Site J1 PFAS 1633

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

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)
LCSD 320-939713/4-A	Lab Control Sample Dup	95.5	84.1	106	96.6	86.8	98.2	91.2	93.5
LLCS 320-939713/2-A	Lab Control Sample	97.0	90.7	109	91.1	90.0	102	97.9	104
MB 320-939713/1-A	Method Blank	91.0	77.7	97.7	87.7	86.9	92.5	103	99.3
		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 (30-170)
LCS 320-939713/3-A	Lab Control Sample	84.5	99.0	100	99.8	98.2	101	88.9	125
LCSD 320-939713/4-A	Lab Control Sample Dup	86.3	84.6	88.4	99.1	98.1	99.0	74.7	106
LLCS 320-939713/2-A	Lab Control Sample	97.6	101	105	106	101	105	83.8	121
MB 320-939713/1-A	Method Blank	94.3	111	104	91.3	93.7	94.3	81.9	116
		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)
LCS 320-939713/3-A	Lab Control Sample	134	108	121	105	85.3	86.4	83.8	69.5
LCSD 320-939713/4-A	Lab Control Sample Dup	101	128	128	101	95.2	72.0	65.4	60.4
LLCS 320-939713/2-A	Lab Control Sample	124	116	107	102	101	83.9	85.6	81.6
MB 320-939713/1-A	Method Blank	119	95.9	109	90.8	82.4	90.3	82.0	78.0
		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)					
LCS 320-939713/3-A	Lab Control Sample	72.8	68.3	72.1					
LCSD 320-939713/4-A	Lab Control Sample Dup	59.7	73.2	80.3					
LLCS 320-939713/2-A	Lab Control Sample	78.9	81.3	88.5					
MB 320-939713/1-A	Method Blank	78.8	67.3	74.6					

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
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

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Isotope Dilution Summary

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident
d3NMFSA = d3-NMePFOSA
C3-3:3 FTCA = 13C3-3:3 FTCA
C3-5:3 FTCA = 13C3-5:3 FTCA

Job ID: 380-238318-1
SDG: Site J1 PFAS 1633

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QC Sample Results

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

Job ID: 380-238318-1
SDG: Site J1 PFAS 1633

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

Lab Sample ID: MB 320-939713/1-A

Matrix: Water

Analysis Batch: 939894

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 939713

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<4.0		4.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
Perfluorotridecanoic acid (PFTriDA)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
Perfluorotetradecanoic acid (PFTeDA)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
Perfluorobutanesulfonic acid (PFBS)	<4.0		4.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<4.0		4.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<4.0		4.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<4.0		4.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
Perfluorooctanesulfonamide (PFOSA)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<10		10	ng/L		09/28/26 20:44	09/29/26 23:16	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<10		10	ng/L		09/28/26 20:44	09/29/26 23:16	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.5		1.5	ng/L		09/28/26 20:44	09/29/26 23:16	1
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
Nonfluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1

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QC Sample Results

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

Job ID: 380-238318-1
SDG: Site J1 PFAS 1633

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

Lab Sample ID: MB 320-939713/1-A

Matrix: Water

Analysis Batch: 939894

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 939713

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		09/28/26 20:44	09/29/26 23:16	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<4.0		4.0	ng/L		09/28/26 20:44	09/29/26 23:16	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<10		10	ng/L		09/28/26 20:44	09/29/26 23:16	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<10		10	ng/L		09/28/26 20:44	09/29/26 23:16	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	91.0		5 - 130	09/28/26 20:44	09/29/26 23:16	1
13C5 PFPeA	77.7		40 - 130	09/28/26 20:44	09/29/26 23:16	1
13C5 PFHxA	97.7		40 - 130	09/28/26 20:44	09/29/26 23:16	1
13C4 PFHpA	87.7		40 - 130	09/28/26 20:44	09/29/26 23:16	1
13C8 PFOA	86.9		40 - 130	09/28/26 20:44	09/29/26 23:16	1
13C9 PFNA	92.5		40 - 130	09/28/26 20:44	09/29/26 23:16	1
13C6 PFDA	103		40 - 130	09/28/26 20:44	09/29/26 23:16	1
13C7 PFUnA	99.3		30 - 130	09/28/26 20:44	09/29/26 23:16	1
13C2 PFDoA	94.3		10 - 130	09/28/26 20:44	09/29/26 23:16	1
13C2 PFTeDA	111		10 - 130	09/28/26 20:44	09/29/26 23:16	1
13C6 PFTrDA	104		20 - 150	09/28/26 20:44	09/29/26 23:16	1
13C3 PFBS	91.3		40 - 135	09/28/26 20:44	09/29/26 23:16	1
13C3 PFHxS	93.7		40 - 130	09/28/26 20:44	09/29/26 23:16	1
13C8 PFOS	94.3		40 - 130	09/28/26 20:44	09/29/26 23:16	1
13C8 PFOSA	81.9		40 - 130	09/28/26 20:44	09/29/26 23:16	1
d3-NMeFOSAA	116		40 - 170	09/28/26 20:44	09/29/26 23:16	1
d5-NEtFOSAA	119		25 - 135	09/28/26 20:44	09/29/26 23:16	1
13C2 4:2 FTS	95.9		40 - 200	09/28/26 20:44	09/29/26 23:16	1
13C2 6:2 FTS	109		40 - 200	09/28/26 20:44	09/29/26 23:16	1
13C2 8:2 FTS	90.8		40 - 300	09/28/26 20:44	09/29/26 23:16	1
13C3 HFPO-DA	82.4		40 - 130	09/28/26 20:44	09/29/26 23:16	1
d7-N-MeFOSE-M	90.3		10 - 130	09/28/26 20:44	09/29/26 23:16	1
d9-N-EtFOSE-M	82.0		10 - 130	09/28/26 20:44	09/29/26 23:16	1
d5-NEtPFOSA	78.0		10 - 130	09/28/26 20:44	09/29/26 23:16	1
d3-NMePFOSA	78.8		10 - 130	09/28/26 20:44	09/29/26 23:16	1
13C3-3:3 FTCA	67.3		20 - 150	09/28/26 20:44	09/29/26 23:16	1
13C3-5:3 FTCA	74.6		20 - 150	09/28/26 20:44	09/29/26 23:16	1

Lab Sample ID: LCS 320-939713/3-A

Matrix: Water

Analysis Batch: 939894

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 939713

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	82.7		ng/L		103	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	46.5		ng/L		116	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	40.1		ng/L		100	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	40.4		ng/L		101	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	41.4		ng/L		103	70 - 150

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QC Sample Results

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

Job ID: 380-238318-1
SDG: Site J1 PFAS 1633

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

Lab Sample ID: LCS 320-939713/3-A

Matrix: Water

Analysis Batch: 939894

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 939713

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanoic acid (PFNA)	40.0	40.7		ng/L		102	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	38.0		ng/L		95	70 - 140
Perfluoroundecanoic acid (PFUnA)	40.0	43.9		ng/L		110	70 - 145
Perfluorododecanoic acid (PFDoA)	40.0	45.9		ng/L		115	70 - 140
Perfluorotridecanoic acid (PFTrDA)	40.0	39.0		ng/L		98	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	40.0	39.8		ng/L		100	60 - 140
Perfluorobutanesulfonic acid (PFBS)	71.0	79.0		ng/L		111	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	40.3		ng/L		107	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	35.2		ng/L		96	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	45.0		ng/L		118	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	41.1		ng/L		110	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	45.9		ng/L		119	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	43.2		ng/L		112	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	45.9		ng/L		118	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	83.0		ng/L		111	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	77.0		ng/L		101	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	93.2		ng/L		121	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	41.5		ng/L		104	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	43.5		ng/L		109	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	43.6		ng/L		109	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	43.2		ng/L		108	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	41.8		ng/L		105	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	204		ng/L		102	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	202		ng/L		101	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	31.5		ng/L		105	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	40.4		ng/L		107	65 - 145
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	47.6		ng/L		119	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	35.1		ng/L		88	50 - 150

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QC Sample Results

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

Job ID: 380-238318-1
SDG: Site J1 PFAS 1633

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

Lab Sample ID: LCS 320-939713/3-A

Matrix: Water

Analysis Batch: 939894

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 939713

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	45.7		ng/L		114	55 - 140
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	37.4	48.1		ng/L		129	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	37.8	49.2		ng/L		130	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	35.7	38.0		ng/L		106	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	80.0	84.4		ng/L		105	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	200	208		ng/L		104	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	200	165		ng/L		83	50 - 145

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	93.3		5 - 130
13C5 PFPeA	70.5		40 - 130
13C5 PFHxA	100		40 - 130
13C4 PFHpA	92.2		40 - 130
13C8 PFOA	99.5		40 - 130
13C9 PFNA	91.7		40 - 130
13C6 PFDA	93.2		40 - 130
13C7 PFUnA	88.9		30 - 130
13C2 PFDoA	84.5		10 - 130
13C2 PFTeDA	99.0		10 - 130
13C6 PFTrDA	100		20 - 150
13C3 PFBS	99.8		40 - 135
13C3 PFHxS	98.2		40 - 130
13C8 PFOS	101		40 - 130
13C8 PFOSA	88.9		40 - 130
d3-NMeFOSAA	125		40 - 170
d5-NEtFOSAA	134		25 - 135
13C2 4:2 FTS	108		40 - 200
13C2 6:2 FTS	121		40 - 200
13C2 8:2 FTS	105		40 - 300
13C3 HFPO-DA	85.3		40 - 130
d7-N-MeFOSE-M	86.4		10 - 130
d9-N-EtFOSE-M	83.8		10 - 130
d5-NEtPFOSA	69.5		10 - 130
d3-NMePFOSA	72.8		10 - 130
13C3-3:3 FTCA	68.3		20 - 150
13C3-5:3 FTCA	72.1		20 - 150

Lab Sample ID: LCSD 320-939713/4-A

Matrix: Water

Analysis Batch: 939894

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 939713

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	80.0	81.4		ng/L		102	70 - 140	2	30
Perfluoropentanoic acid (PFPeA)	40.0	43.6		ng/L		109	65 - 135	6	30

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QC Sample Results

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

Job ID: 380-238318-1
SDG: Site J1 PFAS 1633

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

Lab Sample ID: LCSD 320-939713/4-A

Matrix: Water

Analysis Batch: 939894

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 939713

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	40.0	34.5		ng/L		86	70 - 145	15	30
Perfluoroheptanoic acid (PFHpA)	40.0	41.6		ng/L		104	70 - 150	3	30
Perfluorooctanoic acid (PFOA)	40.0	42.1		ng/L		105	70 - 150	2	30
Perfluorononanoic acid (PFNA)	40.0	36.8		ng/L		92	70 - 150	10	30
Perfluorodecanoic acid (PFDA)	40.0	38.4		ng/L		96	70 - 140	1	30
Perfluoroundecanoic acid (PFUnA)	40.0	40.7		ng/L		102	70 - 145	8	30
Perfluorododecanoic acid (PFDoA)	40.0	41.0		ng/L		102	70 - 140	11	30
Perfluorotridecanoic acid (PFTrDA)	40.0	40.0		ng/L		100	65 - 140	2	30
Perfluorotetradecanoic acid (PFTeDA)	40.0	41.3		ng/L		103	60 - 140	4	30
Perfluorobutanesulfonic acid (PFBS)	71.0	73.3		ng/L		103	60 - 145	7	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	38.6		ng/L		103	65 - 140	4	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	34.3		ng/L		94	65 - 145	3	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	38.1		ng/L		100	70 - 150	17	30
Perfluorooctanesulfonic acid (PFOS)	37.2	36.2		ng/L		97	55 - 150	12	30
Perfluorononanesulfonic acid (PFNS)	38.5	41.4		ng/L		108	65 - 145	10	30
Perfluorodecanesulfonic acid (PFDS)	38.6	36.5		ng/L		95	60 - 145	17	30
Perfluorododecanesulfonic acid (PFDoS)	38.8	37.6		ng/L		97	50 - 145	20	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	77.5		ng/L		103	70 - 145	7	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	82.5		ng/L		108	65 - 155	7	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	84.9		ng/L		111	60 - 150	9	30
Perfluorooctanesulfonamide (PFOSA)	40.0	41.6		ng/L		104	70 - 145	0	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	45.8		ng/L		115	60 - 150	5	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	42.2		ng/L		105	65 - 145	3	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	40.9		ng/L		102	50 - 140	5	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	39.5		ng/L		99	70 - 145	6	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	199		ng/L		99	70 - 145	3	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	208		ng/L		104	70 - 135	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	30.6		ng/L		102	70 - 140	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	38.2		ng/L		101	65 - 145	6	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	45.3		ng/L		113	60 - 150	5	30

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QC Sample Results

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

Job ID: 380-238318-1
SDG: Site J1 PFAS 1633

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

Lab Sample ID: LCSD 320-939713/4-A

Matrix: Water

Analysis Batch: 939894

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 939713

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	33.7		ng/L		84	50 - 150	4	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	39.4		ng/L		99	55 - 140	15	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	37.4	41.3		ng/L		111	70 - 155	15	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	37.8	35.0	*1	ng/L		93	55 - 160	34	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	35.7	39.3		ng/L		110	70 - 140	4	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)	80.0	83.6		ng/L		105	65 - 130	1	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)	200	197		ng/L		99	70 - 135	5	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	200	164		ng/L		82	50 - 145	0	30
Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits						
13C4 PFBA	95.5		5 - 130						
13C5 PFPeA	84.1		40 - 130						
13C5 PFHxA	106		40 - 130						
13C4 PFHpA	96.6		40 - 130						
13C8 PFOA	86.8		40 - 130						
13C9 PFNA	98.2		40 - 130						
13C6 PFDA	91.2		40 - 130						
13C7 PFUnA	93.5		30 - 130						
13C2 PFDoA	86.3		10 - 130						
13C2 PFTeDA	84.6		10 - 130						
13C6 PFTrDA	88.4		20 - 150						
13C3 PFBS	99.1		40 - 135						
13C3 PFHxS	98.1		40 - 130						
13C8 PFOS	99.0		40 - 130						
13C8 PFOSA	74.7		40 - 130						
d3-NMeFOSAA	106		40 - 170						
d5-NEtFOSAA	101		25 - 135						
13C2 4:2 FTS	128		40 - 200						
13C2 6:2 FTS	128		40 - 200						
13C2 8:2 FTS	101		40 - 300						
13C3 HFPO-DA	95.2		40 - 130						
d7-N-MeFOSE-M	72.0		10 - 130						
d9-N-EtFOSE-M	65.4		10 - 130						
d5-NEtPFOSA	60.4		10 - 130						
d3-NMePFOSA	59.7		10 - 130						
13C3-3:3 FTCA	73.2		20 - 150						
13C3-5:3 FTCA	80.3		20 - 150						

QC Sample Results

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

Job ID: 380-238318-1
SDG: Site J1 PFAS 1633

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

Lab Sample ID: LLCS 320-939713/2-A

Matrix: Water

Analysis Batch: 939894

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 939713

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	8.89		ng/L		111	70 - 140
Perfluoropentanoic acid (PFPeA)	4.00	4.85		ng/L		121	65 - 135
Perfluorohexanoic acid (PFHxA)	4.00	4.11		ng/L		103	70 - 145
Perfluoroheptanoic acid (PFHpA)	4.00	4.70		ng/L		118	70 - 150
Perfluorooctanoic acid (PFOA)	4.00	5.04		ng/L		126	70 - 150
Perfluorononanoic acid (PFNA)	4.00	4.73		ng/L		118	70 - 150
Perfluorodecanoic acid (PFDA)	4.00	4.45		ng/L		111	70 - 140
Perfluoroundecanoic acid (PFUnA)	4.00	4.80		ng/L		120	70 - 145
Perfluorododecanoic acid (PFDoA)	4.00	5.08		ng/L		127	70 - 140
Perfluorotridecanoic acid (PFTrDA)	4.00	4.28		ng/L		107	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	4.00	4.76		ng/L		119	60 - 140
Perfluorobutanesulfonic acid (PFBS)	7.10	8.69		ng/L		122	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.76	4.44		ng/L		118	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	3.65	4.06		ng/L		111	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.82	4.21		ng/L		110	70 - 150
Perfluorooctanesulfonic acid (PFOS)	3.72	4.15		ng/L		112	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.85	4.44		ng/L		115	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.86	4.12		ng/L		107	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.88	4.57		ng/L		118	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	7.50	9.17		ng/L		122	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.62	9.97		ng/L		131	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.68	9.73		ng/L		127	60 - 150
Perfluorooctanesulfonamide (PFOSA)	4.00	4.42		ng/L		111	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	4.00	4.67		ng/L		117	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	4.00	4.36		ng/L		109	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.00	4.55		ng/L		114	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.00	4.27		ng/L		107	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	20.0	22.1		ng/L		110	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	20.0	21.5		ng/L		108	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.00	3.46		ng/L		115	70 - 140

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QC Sample Results

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

Job ID: 380-238318-1
SDG: Site J1 PFAS 1633

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

Lab Sample ID: LLCS 320-939713/2-A

Matrix: Water

Analysis Batch: 939894

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 939713

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	4.22		ng/L		111	65 - 145
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.00	5.16		ng/L		129	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.00	4.15		ng/L		104	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.00	4.41		ng/L		110	55 - 140
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	3.74	4.69		ng/L		125	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	3.78	4.67		ng/L		124	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	3.57	4.03		ng/L		113	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	8.00	8.80		ng/L		110	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	20.0	21.2		ng/L		106	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	20.0	17.0		ng/L		85	50 - 145

Isotope Dilution	LLCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	97.0		5 - 130
13C5 PFPeA	90.7		40 - 130
13C5 PFHxA	109		40 - 130
13C4 PFHpA	91.1		40 - 130
13C8 PFOA	90.0		40 - 130
13C9 PFNA	102		40 - 130
13C6 PFDA	97.9		40 - 130
13C7 PFUnA	104		30 - 130
13C2 PFDoA	97.6		10 - 130
13C2 PFTeDA	101		10 - 130
13C6 PFTriDA	105		20 - 150
13C3 PFBS	106		40 - 135
13C3 PFHxS	101		40 - 130
13C8 PFOS	105		40 - 130
13C8 PFOSA	83.8		40 - 130
d3-NMeFOSAA	121		40 - 170
d5-NEtFOSAA	124		25 - 135
13C2 4:2 FTS	116		40 - 200
13C2 6:2 FTS	107		40 - 200
13C2 8:2 FTS	102		40 - 300
13C3 HFPO-DA	101		40 - 130
d7-N-MeFOSE-M	83.9		10 - 130
d9-N-EtFOSE-M	85.6		10 - 130
d5-NEtPFOSA	81.6		10 - 130
d3-NMePFOSA	78.9		10 - 130
13C3-3:3 FTCA	81.3		20 - 150
13C3-5:3 FTCA	88.5		20 - 150

QC Association Summary

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

Job ID: 380-238318-1
SDG: Site J1 PFAS 1633

LCMS

Prep Batch: 939713

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-238318-1	BWS2253-J1-AQ	Total/NA	Drinking Water	1633	
MB 320-939713/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-939713/3-A	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-939713/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-939713/2-A	Lab Control Sample	Total/NA	Water	1633	

Analysis Batch: 939894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-238318-1	BWS2253-J1-AQ	Total/NA	Drinking Water	QSM B-24	939713
MB 320-939713/1-A	Method Blank	Total/NA	Water	QSM B-24	939713
LCS 320-939713/3-A	Lab Control Sample	Total/NA	Water	QSM B-24	939713
LCSD 320-939713/4-A	Lab Control Sample Dup	Total/NA	Water	QSM B-24	939713
LLCS 320-939713/2-A	Lab Control Sample	Total/NA	Water	QSM B-24	939713

Lab Chronicle

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

Job ID: 380-238318-1
SDG: Site J1 PFAS 1633

Client Sample ID: BWS2253-J1-AQ
Date Collected: 09/24/26 12:15
Date Received: 09/25/26 07:20

Lab Sample ID: 380-238318-1
Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	1633			939713	A3L	EET SAC	09/28/26 20:44
Total/NA	Analysis	QSM B-24		1	939894	P1P	EET SAC	09/30/26 02:33

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: 380-238318-1
SDG: Site J1 PFAS 1633

Laboratory: Eurofins Sacramento

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

Authority	Program	Identification Number	Expiration Date
Alaska	State	CA00044	06-30-27
Alaska (UST)	State	17-020	02-22-27
ANAB	Dept. of Defense ELAP	L2468	01-20-27
ANAB	Dept. of Energy	L2468.01	01-20-27
ANAB	ISO/IEC 17025	L2468.03	01-20-27
Arizona	State	AZ0708	08-11-27
Arkansas DEQ	State	88-0691	05-17-27
California	State	2897	01-31-28
Colorado	State	CA00044	08-31-27
Florida	NELAP	E87570	06-30-27
Georgia	State	4040	01-29-27
Illinois	NELAP	200060	03-31-27
Kansas	NELAP	E-10375	10-31-26
Louisiana (All)	NELAP	01944	06-30-27
Maine	State	CA00004	04-14-28
Massachusetts	State	M-CA044	07-01-27
Minnesota	NELAP	006-999-474	12-31-26
Nevada	State	CA00044	07-31-27
New Jersey	NELAP	CA005	06-30-27
New York	NELAP	11666	04-01-27
Ohio	State	41252	01-29-27
Oregon	NELAP	4040	01-29-27
Texas	NELAP	T104704399-23-17	05-31-27
US Fish & Wildlife	US Federal Programs	A22139	04-30-27
USDA	US Federal Programs	525-23-59-76739	03-01-27
Utah	NELAP	CA000442026-20	02-28-27
Virginia	NELAP	460278	09-30-26
Washington	State	C581	05-06-27
West Virginia (DW)	State	9930C	01-31-27
West Virginia DEP	State	422	07-31-27
Wisconsin	State	998204680	08-31-27
Wyoming	State Program	8TMS-L	01-28-19 *

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

Eurofins Pomona

Method Summary

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

Job ID: 380-238318-1
SDG: Site J1 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: 380-238318-1
SDG: Site J1 PFAS 1633

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-238318-1	BWS2253-J1-AQ	Drinking Water	09/24/26 12:15	09/25/26 07:20	Hawaii

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

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

Chain of Custody Record

eurofins | Environment Testing

Client Information		Sampler H Bentley (808) 321-0683		Lab P/N: Lopez, Maria		Carrier Tracking No(s):		COC No:	
Client Contact: Mr Erwin Kawata		Phone: 858-205-0730		E-Mail: Maria.Lopez@eurofins.com		State of Origin: Hawaii		Page: Page 1 of 1	
Company: City & County of Honolulu		PWSID:		Analysis Requested		Job #:		Preservation Codes: A - HCL N - None	
Address: 830 South Beretania Street Honolulu		Due Date Requested:		TAT Requested (days): Standard		Compliance Project: ☐ Yes ☒ No		Other:	
State Zip: HI, 96843		PO #:		WO #:		Project #: 38000861		Special Instructions/Note:	
Phone: 808-748-5066		Email: ekawata@hbws.org		Project Name: INTERA - Red-Hill-Incident		Site: J1		BILL TO POMONA EEA	
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (Newest, Solid, Organic, SP-Tissue, Avair, Dried/Drinking Water)	
BWS253-J1-AQ		9/24/26		12:15		G		Water	
Field Filtered Sample (Yes or No)		Field Filtered Sample (Yes or No)		Field Filtered Sample (Yes or No)		Field Filtered Sample (Yes or No)		Field Filtered Sample (Yes or No)	
1633 DOD6 - EPA Method 1633 Std List		1633 DOD6 - EPA Method 1633 Std List		1633 DOD6 - EPA Method 1633 Std List		1633 DOD6 - EPA Method 1633 Std List		1633 DOD6 - EPA Method 1633 Std List	
Total Number of Containers		Total Number of Containers		Total Number of Containers		Total Number of Containers		Total Number of Containers	
2		2		2		2		2	
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		Return To Client ☐ Disposal By Lab ☒ Archive For _____ Months		Special Instructions/QC Requirements		Method of Shipment		Date/Time:	
Empty Kit Relinquished by		Date/Time:		Date/Time:		Date/Time:		Date/Time:	
Relinquished by		Date/Time:		Date/Time:		Date/Time:		Date/Time:	
Relinquished by		Date/Time:		Date/Time:		Date/Time:		Date/Time:	
Relinquished by		Date/Time:		Date/Time:		Date/Time:		Date/Time:	
Custody Seals Intact: ☒ Yes ☐ No		Custody Seal No.:		Seal		Cooler Temperature(s) °C and Other Remarks:		Ver 05/06/2024	



Chain of Custody Record

[illegible]

Chain of Custody Record

Client Information		Sampler H Bentley (808) 321-0683	Lab PM Lopez, Maria	Carrier Tracking No(s)	COC No:
Client Contact: Mr Erwin Kawata		Phone: 858-205-0730	E-Mail: Maria.Lopez@eurofins.com	State of Origin Hawaii	Page: Page 1 of 1
Company: City & County of Honolulu		Job #:			
Address: 630 South Beretania Street Honolulu State, Zip HI, 96843 Phone: 808-748-5066 Email: ekawata@hbws.org		Analysis Requested			
Project Name INTERA - Red-Hill-Incident		Preservation Codes: A - HCL N - None			
Site: J1		Other:			
Due Date Requested		Total Number of containers			
TAT Requested (days) Standard		1633.D06 - EPA Method 1633 Std List			
Compliance Project: ☐ Yes ☒ No		Perform MS/MSD (Yes or No)			
PO #:		Field Filtered Sample (Yes or No)			
WO #:		1633.D06 - EPA Method 1633 Std List			
Project #: 38000861		N			
SSOW#:		N			
Sample Date		Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air, DW=Drinking Water)	Preservation Code:
9/24/26		12:15	G	Water	N
Sample Identification		Special Instructions/Note:			
BWS2253-J1-AQ		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		Received by:			
Relinquished by		Received by:			
Relinquished by		Received by:			
Custody Seals Intact: ☒ Yes ☐ No		Cooler Temperature(s) °C and Other Remarks: 5.5 / 5.3			

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-238318-1
SDG Number: Site J1 PFAS 1633

Login Number: 238318

List Number: 1

Creator: Sanchez, Joseph G

List Source: Eurofins Pomona

Question	Answer	Comment
The coolers custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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: 380-238318-1
SDG Number: Site J1 PFAS 1633

Login Number: 238318

List Number: 2

Creator: Oropeza, Salvador

List Source: Eurofins Sacramento

List Creation: 09/25/26 03:59 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	Seal
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	5.3C
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	H. Bentley
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	