

ANALYTICAL REPORT

PREPARED FOR

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

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JOB DESCRIPTION

INTERA - Red-Hill-Incident
Site S1 PFAS 1633

JOB NUMBER

380-222674-1

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Job Notes

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

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

Compliance Statement

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

Authorization



Authorized for release by
Maria Lopez, Project Manager
Maria.Lopez@et.eurofinsus.com
(626)386-1145

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Definitions/Glossary

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

Job ID: 380-222674-1
SDG: Site S1 PFAS 1633

Qualifiers

LCMS

Qualifier	Qualifier Description
I	Ion ratio outside 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: 380-222674-1

Job ID: 380-222674-1

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Job Narrative 380-222674-1

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

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

Receipt

The sample was received on 7/2/2026 9:20 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 0.5°C.

PFAS

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

Method QSM B-24: The low level continuing calibration verifications (CCVL) in analytical batch(s) 320-926885 recovered above the upper control limit for one or more Isotope Dilution Analytes (IDAs)/Extracted Internal Standards (EISs). Recovery for the affected IDAs in associated laboratory QC aliquots and client samples were evaluated and corrective action was performed as required. The affected IDA's was within control limits for BWS2153-S1-AQ (380-222674-1), thus valid for reporting. (XWB4)

Method QSM B-24: The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. The associated analytes have been flagged: BWS2153-S1-AQ (380-222674-1).

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: 380-222674-1
SDG: Site S1 PFAS 1633

Client Sample ID: BWS2153-S1-AQ

Lab Sample ID: 380-222674-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	4.7		1.9	ng/L	1		QSM B-24	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.3		1.9	ng/L	1		QSM B-24	Total/NA
Perfluorooctanesulfonic acid (PFOS)	17	I	1.9	ng/L	1		QSM B-24	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample Results

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

Job ID: 380-222674-1
SDG: Site S1 PFAS 1633

Client Sample ID: BWS2153-S1-AQ

Lab Sample ID: 380-222674-1

Date Collected: 07/01/26 09:00

Matrix: Water

Date Received: 07/02/26 09:20

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)	<3.8		3.8	ng/L		07/14/26 20:31	07/16/26 02:48	1
Perfluoropentanoic acid (PFPeA)	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
Perfluorohexanoic acid (PFHxA)	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
Perfluorooctanoic acid (PFOA)	4.7		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
Perfluorononanoic acid (PFNA)	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
Perfluorotridecanoic acid (PFTTrDA)	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
Perfluorotetradecanoic acid (PFTeDA)	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
Perfluorobutanesulfonic acid (PFBS)	<3.8		3.8	ng/L		07/14/26 20:31	07/16/26 02:48	1
Perfluoropentanesulfonic acid (PFPeS)	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
Perfluorohexanesulfonic acid (PFHxS)	3.3		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
Perfluoroheptanesulfonic acid (PFHpS)	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
Perfluorooctanesulfonic acid (PFOS)	17	I	1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
Perfluorononanesulfonic acid (PFNS)	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
Perfluorodecanesulfonic acid (PFDS)	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
Perfluorododecanesulfonic acid (PFDoS)	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<3.8		3.8	ng/L		07/14/26 20:31	07/16/26 02:48	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<3.8		3.8	ng/L		07/14/26 20:31	07/16/26 02:48	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<3.8		3.8	ng/L		07/14/26 20:31	07/16/26 02:48	1
Perfluorooctanesulfonamide (PFOSA)	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<9.4		9.4	ng/L		07/14/26 20:31	07/16/26 02:48	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<9.4		9.4	ng/L		07/14/26 20:31	07/16/26 02:48	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.4		1.4	ng/L		07/14/26 20:31	07/16/26 02:48	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1

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Client Sample Results

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

Job ID: 380-222674-1
SDG: Site S1 PFAS 1633

Client Sample ID: BWS2153-S1-AQ

Lab Sample ID: 380-222674-1

Date Collected: 07/01/26 09:00

Matrix: Water

Date Received: 07/02/26 09:20

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
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<1.9		1.9	ng/L		07/14/26 20:31	07/16/26 02:48	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<3.8		3.8	ng/L		07/14/26 20:31	07/16/26 02:48	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<9.4		9.4	ng/L		07/14/26 20:31	07/16/26 02:48	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<9.4		9.4	ng/L		07/14/26 20:31	07/16/26 02:48	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C4 PFBA	104		5 - 130			07/14/26 20:31	07/16/26 02:48	1
13C5 PFPeA	105		40 - 130			07/14/26 20:31	07/16/26 02:48	1
13C5 PFHxA	101		40 - 130			07/14/26 20:31	07/16/26 02:48	1
13C4 PFHpA	116		40 - 130			07/14/26 20:31	07/16/26 02:48	1
13C8 PFOA	93.9		40 - 130			07/14/26 20:31	07/16/26 02:48	1
13C9 PFNA	103		40 - 130			07/14/26 20:31	07/16/26 02:48	1
13C6 PFDA	89.4		40 - 130			07/14/26 20:31	07/16/26 02:48	1
13C7 PFUnA	106		30 - 130			07/14/26 20:31	07/16/26 02:48	1
13C2 PFDoA	97.0		10 - 130			07/14/26 20:31	07/16/26 02:48	1
13C2 PFTeDA	88.9		10 - 130			07/14/26 20:31	07/16/26 02:48	1
13C6 PFTrDA	90.6		20 - 150			07/14/26 20:31	07/16/26 02:48	1
13C3 PFBS	77.3		40 - 135			07/14/26 20:31	07/16/26 02:48	1
13C3 PFHxS	97.9		40 - 130			07/14/26 20:31	07/16/26 02:48	1
13C8 PFOS	88.1		40 - 130			07/14/26 20:31	07/16/26 02:48	1
13C8 PFOSA	56.7		40 - 130			07/14/26 20:31	07/16/26 02:48	1
d3-NMeFOSAA	101		40 - 170			07/14/26 20:31	07/16/26 02:48	1
d5-NEtFOSAA	111		25 - 135			07/14/26 20:31	07/16/26 02:48	1
13C2 4:2 FTS	147		40 - 200			07/14/26 20:31	07/16/26 02:48	1
13C2 6:2 FTS	142		40 - 200			07/14/26 20:31	07/16/26 02:48	1
13C2 8:2 FTS	117		40 - 300			07/14/26 20:31	07/16/26 02:48	1
13C3 HFPO-DA	105		40 - 130			07/14/26 20:31	07/16/26 02:48	1
d7-N-MeFOSE-M	53.3		10 - 130			07/14/26 20:31	07/16/26 02:48	1
d9-N-EtFOSE-M	50.9		10 - 130			07/14/26 20:31	07/16/26 02:48	1
d5-NEtPFOSA	50.7		10 - 130			07/14/26 20:31	07/16/26 02:48	1
d3-NMePFOSA	52.2		10 - 130			07/14/26 20:31	07/16/26 02:48	1
13C3-3:3 FTCA	106		20 - 150			07/14/26 20:31	07/16/26 02:48	1
13C3-5:3 FTCA	90.4		20 - 150			07/14/26 20:31	07/16/26 02:48	1

Action Limit Summary

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

Job ID: 380-222674-1
SDG: Site S1 PFAS 1633

Client Sample ID: BWS2153-S1-AQ

Lab Sample ID: 380-222674-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Perfluorooctanoic acid (PFOA)	4.7		ng/L	4	1.9	QSM B-24	Total/NA
Perfluorononanoic acid (PFNA)	<1.9		ng/L	10	1.9	QSM B-24	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.3		ng/L	10	1.9	QSM B-24	Total/NA
Perfluorooctanesulfonic acid (PFOS)	17 I		ng/L	4	1.9	QSM B-24	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.4		ng/L	10	1.4	QSM B-24	Total/NA

Isotope Dilution Summary

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

Job ID: 380-222674-1
SDG: Site S1 PFAS 1633

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

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (5-130)	PFPeA (40-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (30-130)
380-222674-1	BWS2153-S1-AQ	104	105	101	116	93.9	103	89.4	106
LCS 320-926694/3-A	Lab Control Sample	110	117	112	118	111	104	99.3	114
LCSD 320-926694/4-A	Lab Control Sample Dup	104	107	114	125	105	103	97.0	115
LLCS 320-926694/2-A	Lab Control Sample	105	115	101	130	105	115	104	113
MB 320-926694/1-A	Method Blank	119	107	109	113	108	112	105	124

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)
380-222674-1	BWS2153-S1-AQ	97.0	88.9	90.6	77.3	97.9	88.1	56.7	101
LCS 320-926694/3-A	Lab Control Sample	111	121	108	96.0	108	106	75.7	109
LCSD 320-926694/4-A	Lab Control Sample Dup	110	124	115	91.0	101	102	69.9	108
LLCS 320-926694/2-A	Lab Control Sample	113	119	110	96.3	102	108	70.5	106
MB 320-926694/1-A	Method Blank	123	127	117	92.0	99.2	103	72.5	112

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)
380-222674-1	BWS2153-S1-AQ	111	147	142	117	105	53.3	50.9	50.7
LCS 320-926694/3-A	Lab Control Sample	109	120	137	101	106	75.0	72.2	62.0
LCSD 320-926694/4-A	Lab Control Sample Dup	108	113	133	102	114	70.6	70.9	60.9
LLCS 320-926694/2-A	Lab Control Sample	102	124	133	110	112	67.7	65.5	58.9
MB 320-926694/1-A	Method Blank	104	126	134	99.8	106	73.3	70.4	59.9

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)
380-222674-1	BWS2153-S1-AQ	52.2	106	90.4
LCS 320-926694/3-A	Lab Control Sample	67.3	89.8	92.6
LCSD 320-926694/4-A	Lab Control Sample Dup	65.0	96.7	94.9
LLCS 320-926694/2-A	Lab Control Sample	62.8	93.0	101
MB 320-926694/1-A	Method Blank	64.9	85.4	88.3

Surrogate Legend

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

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Isotope Dilution Summary

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

Job ID: 380-222674-1
SDG: Site S1 PFAS 1633

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

- 1
- 2
- 3
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- 16

QC Sample Results

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

Job ID: 380-222674-1
SDG: Site S1 PFAS 1633

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

Lab Sample ID: MB 320-926694/1-A

Matrix: Water

Analysis Batch: 926885

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 926694

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<4.0		4.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
Perfluorotetradecanoic acid (PFTeDA)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
Perfluorobutanesulfonic acid (PFBS)	<4.0		4.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<4.0		4.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<4.0		4.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<4.0		4.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
Perfluorooctanesulfonamide (PFOSA)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<10		10	ng/L		07/14/26 20:31	07/15/26 19:57	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<10		10	ng/L		07/14/26 20:31	07/15/26 19:57	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.5		1.5	ng/L		07/14/26 20:31	07/15/26 19:57	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1

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QC Sample Results

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

Job ID: 380-222674-1
SDG: Site S1 PFAS 1633

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

Lab Sample ID: MB 320-926694/1-A

Matrix: Water

Analysis Batch: 926885

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 926694

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<4.0		4.0	ng/L		07/14/26 20:31	07/15/26 19:57	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<10		10	ng/L		07/14/26 20:31	07/15/26 19:57	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<10		10	ng/L		07/14/26 20:31	07/15/26 19:57	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	119		5 - 130	07/14/26 20:31	07/15/26 19:57	1
13C5 PFPeA	107		40 - 130	07/14/26 20:31	07/15/26 19:57	1
13C5 PFHxA	109		40 - 130	07/14/26 20:31	07/15/26 19:57	1
13C4 PFHpA	113		40 - 130	07/14/26 20:31	07/15/26 19:57	1
13C8 PFOA	108		40 - 130	07/14/26 20:31	07/15/26 19:57	1
13C9 PFNA	112		40 - 130	07/14/26 20:31	07/15/26 19:57	1
13C6 PFDA	105		40 - 130	07/14/26 20:31	07/15/26 19:57	1
13C7 PFUnA	124		30 - 130	07/14/26 20:31	07/15/26 19:57	1
13C2 PFDoA	123		10 - 130	07/14/26 20:31	07/15/26 19:57	1
13C6 PFTeDA	127		10 - 130	07/14/26 20:31	07/15/26 19:57	1
13C6 PFTrDA	117		20 - 150	07/14/26 20:31	07/15/26 19:57	1
13C3 PFBS	92.0		40 - 135	07/14/26 20:31	07/15/26 19:57	1
13C3 PFHxS	99.2		40 - 130	07/14/26 20:31	07/15/26 19:57	1
13C8 PFOS	103		40 - 130	07/14/26 20:31	07/15/26 19:57	1
13C8 PFOSA	72.5		40 - 130	07/14/26 20:31	07/15/26 19:57	1
d3-NMeFOSAA	112		40 - 170	07/14/26 20:31	07/15/26 19:57	1
d5-NEtFOSAA	104		25 - 135	07/14/26 20:31	07/15/26 19:57	1
13C2 4:2 FTS	126		40 - 200	07/14/26 20:31	07/15/26 19:57	1
13C2 6:2 FTS	134		40 - 200	07/14/26 20:31	07/15/26 19:57	1
13C2 8:2 FTS	99.8		40 - 300	07/14/26 20:31	07/15/26 19:57	1
13C3 HFPO-DA	106		40 - 130	07/14/26 20:31	07/15/26 19:57	1
d7-N-MeFOSE-M	73.3		10 - 130	07/14/26 20:31	07/15/26 19:57	1
d9-N-EtFOSE-M	70.4		10 - 130	07/14/26 20:31	07/15/26 19:57	1
d5-NEtPFOSA	59.9		10 - 130	07/14/26 20:31	07/15/26 19:57	1
d3-NMePFOSA	64.9		10 - 130	07/14/26 20:31	07/15/26 19:57	1
13C3-3:3 FTCA	85.4		20 - 150	07/14/26 20:31	07/15/26 19:57	1
13C3-5:3 FTCA	88.3		20 - 150	07/14/26 20:31	07/15/26 19:57	1

Lab Sample ID: LCS 320-926694/3-A

Matrix: Water

Analysis Batch: 926885

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 926694

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	81.8		ng/L		102	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	37.6		ng/L		94	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	39.0		ng/L		98	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	38.0		ng/L		95	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	35.0		ng/L		87	70 - 150

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QC Sample Results

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

Job ID: 380-222674-1
SDG: Site S1 PFAS 1633

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

Lab Sample ID: LCS 320-926694/3-A

Matrix: Water

Analysis Batch: 926885

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 926694

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanoic acid (PFNA)	40.0	36.2		ng/L		90	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	42.6		ng/L		106	70 - 140
Perfluoroundecanoic acid (PFUnA)	40.0	38.8		ng/L		97	70 - 145
Perfluorododecanoic acid (PFDoA)	40.0	39.2		ng/L		98	70 - 140
Perfluorotridecanoic acid (PFTrDA)	40.0	41.2		ng/L		103	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	40.0	35.5		ng/L		89	60 - 140
Perfluorobutanesulfonic acid (PFBS)	71.0	68.1		ng/L		96	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	36.9		ng/L		98	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	37.2		ng/L		102	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	39.5		ng/L		103	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	34.8		ng/L		94	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	41.0		ng/L		107	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	38.6		ng/L		100	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	31.9		ng/L		82	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	75.4		ng/L		101	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	74.8		ng/L		98	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	86.0		ng/L		112	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	40.5		ng/L		101	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	41.9		ng/L		105	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	41.5		ng/L		104	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	39.6		ng/L		99	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	37.5		ng/L		94	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	201		ng/L		100	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	206		ng/L		103	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	32.9		ng/L		110	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	44.5		ng/L		118	65 - 145
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	34.4		ng/L		86	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	40.9		ng/L		102	50 - 150

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QC Sample Results

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

Job ID: 380-222674-1
SDG: Site S1 PFAS 1633

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

Lab Sample ID: LCS 320-926694/3-A

Matrix: Water

Analysis Batch: 926885

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 926694

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	38.0		ng/L		95	55 - 140
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	37.4	39.5		ng/L		106	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	37.8	37.9		ng/L		100	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	35.7	35.6		ng/L		100	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	80.0	74.9		ng/L		94	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	200	192		ng/L		96	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	200	148		ng/L		74	50 - 145

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	110		5 - 130
13C5 PFPeA	117		40 - 130
13C5 PFHxA	112		40 - 130
13C4 PFHpA	118		40 - 130
13C8 PFOA	111		40 - 130
13C9 PFNA	104		40 - 130
13C6 PFDA	99.3		40 - 130
13C7 PFUnA	114		30 - 130
13C2 PFDoA	111		10 - 130
13C2 PFTeDA	121		10 - 130
13C6 PFTTrDA	108		20 - 150
13C3 PFBS	96.0		40 - 135
13C3 PFHxS	108		40 - 130
13C8 PFOS	106		40 - 130
13C8 PFOSA	75.7		40 - 130
d3-NMeFOSAA	109		40 - 170
d5-NEtFOSAA	109		25 - 135
13C2 4:2 FTS	120		40 - 200
13C2 6:2 FTS	137		40 - 200
13C2 8:2 FTS	101		40 - 300
13C3 HFPO-DA	106		40 - 130
d7-N-MeFOSE-M	75.0		10 - 130
d9-N-EtFOSE-M	72.2		10 - 130
d5-NEtPFOSA	62.0		10 - 130
d3-NMePFOSA	67.3		10 - 130
13C3-3:3 FTCA	89.8		20 - 150
13C3-5:3 FTCA	92.6		20 - 150

Lab Sample ID: LCSD 320-926694/4-A

Matrix: Water

Analysis Batch: 926885

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 926694

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Perfluorobutanoic acid (PFBA)	80.0	83.5		ng/L		104	70 - 140	2	30
Perfluoropentanoic acid (PFPeA)	40.0	43.2		ng/L		108	65 - 135	14	30

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QC Sample Results

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

Job ID: 380-222674-1
SDG: Site S1 PFAS 1633

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

Lab Sample ID: LCSD 320-926694/4-A

Matrix: Water

Analysis Batch: 926885

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 926694

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	40.0	37.4		ng/L		93	70 - 145	4	30
Perfluoroheptanoic acid (PFHpA)	40.0	37.8		ng/L		95	70 - 150	0	30
Perfluorooctanoic acid (PFOA)	40.0	38.7		ng/L		97	70 - 150	10	30
Perfluorononanoic acid (PFNA)	40.0	41.3		ng/L		103	70 - 150	13	30
Perfluorodecanoic acid (PFDA)	40.0	43.6		ng/L		109	70 - 140	2	30
Perfluoroundecanoic acid (PFUnA)	40.0	33.4		ng/L		84	70 - 145	15	30
Perfluorododecanoic acid (PFDoA)	40.0	42.6		ng/L		106	70 - 140	8	30
Perfluorotridecanoic acid (PFTrDA)	40.0	37.9		ng/L		95	65 - 140	9	30
Perfluorotetradecanoic acid (PFTeDA)	40.0	35.0		ng/L		88	60 - 140	1	30
Perfluorobutanesulfonic acid (PFBS)	71.0	70.9		ng/L		100	60 - 145	4	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	39.5		ng/L		105	65 - 140	7	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	39.5		ng/L		108	65 - 145	6	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	36.5		ng/L		96	70 - 150	8	30
Perfluorooctanesulfonic acid (PFOS)	37.2	35.0		ng/L		94	55 - 150	1	30
Perfluorononanesulfonic acid (PFNS)	38.5	39.7		ng/L		103	65 - 145	3	30
Perfluorodecanesulfonic acid (PFDS)	38.6	38.5		ng/L		100	60 - 145	0	30
Perfluorododecanesulfonic acid (PFDoS)	38.8	32.5		ng/L		84	50 - 145	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	79.6		ng/L		106	70 - 145	5	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	79.2		ng/L		104	65 - 155	6	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	78.9		ng/L		103	60 - 150	9	30
Perfluorooctanesulfonamide (PFOSA)	40.0	41.0		ng/L		103	70 - 145	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	39.6		ng/L		99	60 - 150	6	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	40.6		ng/L		101	65 - 145	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	39.3		ng/L		98	50 - 140	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	37.0		ng/L		92	70 - 145	1	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	208		ng/L		104	70 - 145	4	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	208		ng/L		104	70 - 135	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	32.6		ng/L		109	70 - 140	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	41.9		ng/L		111	65 - 145	6	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	39.4		ng/L		98	60 - 150	13	30

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QC Sample Results

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

Job ID: 380-222674-1
SDG: Site S1 PFAS 1633

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

Lab Sample ID: LCSD 320-926694/4-A

Matrix: Water

Analysis Batch: 926885

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 926694

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxahheptanoic acid (NFDHA)	40.0	39.5		ng/L		99	50 - 150	3	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	40.6		ng/L		102	55 - 140	7	30
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	37.4	37.9		ng/L		102	70 - 155	4	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	37.8	38.5		ng/L		102	55 - 160	2	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	35.7	39.5		ng/L		111	70 - 140	10	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)	80.0	75.8		ng/L		95	65 - 130	1	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)	200	201		ng/L		101	70 - 135	5	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	200	148		ng/L		74	50 - 145	0	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	LCSD Limits
13C4 PFBA	104		5 - 130
13C5 PFPeA	107		40 - 130
13C5 PFHxA	114		40 - 130
13C4 PFHpA	125		40 - 130
13C8 PFOA	105		40 - 130
13C9 PFNA	103		40 - 130
13C6 PFDA	97.0		40 - 130
13C7 PFUnA	115		30 - 130
13C2 PFDoA	110		10 - 130
13C2 PFTeDA	124		10 - 130
13C6 PFTrDA	115		20 - 150
13C3 PFBS	91.0		40 - 135
13C3 PFHxS	101		40 - 130
13C8 PFOS	102		40 - 130
13C8 PFOSA	69.9		40 - 130
d3-NMeFOSAA	108		40 - 170
d5-NEtFOSAA	108		25 - 135
13C2 4:2 FTS	113		40 - 200
13C2 6:2 FTS	133		40 - 200
13C2 8:2 FTS	102		40 - 300
13C3 HFPO-DA	114		40 - 130
d7-N-MeFOSE-M	70.6		10 - 130
d9-N-EtFOSE-M	70.9		10 - 130
d5-NEtPFOSA	60.9		10 - 130
d3-NMePFOSA	65.0		10 - 130
13C3-3:3 FTCA	96.7		20 - 150
13C3-5:3 FTCA	94.9		20 - 150

QC Sample Results

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

Job ID: 380-222674-1
SDG: Site S1 PFAS 1633

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

Lab Sample ID: LLCS 320-926694/2-A

Matrix: Water

Analysis Batch: 926885

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 926694

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	8.75		ng/L		109	70 - 140
Perfluoropentanoic acid (PFPeA)	4.00	3.96		ng/L		99	65 - 135
Perfluorohexanoic acid (PFHxA)	4.00	4.64		ng/L		116	70 - 145
Perfluoroheptanoic acid (PFHpA)	4.00	3.93		ng/L		98	70 - 150
Perfluorooctanoic acid (PFOA)	4.00	3.97		ng/L		99	70 - 150
Perfluorononanoic acid (PFNA)	4.00	4.43		ng/L		111	70 - 150
Perfluorodecanoic acid (PFDA)	4.00	4.22		ng/L		105	70 - 140
Perfluoroundecanoic acid (PFUnA)	4.00	3.82		ng/L		95	70 - 145
Perfluorododecanoic acid (PFDoA)	4.00	3.88		ng/L		97	70 - 140
Perfluorotridecanoic acid (PFTTrDA)	4.00	4.03		ng/L		101	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	4.00	3.57		ng/L		89	60 - 140
Perfluorobutanesulfonic acid (PFBS)	7.10	7.56		ng/L		106	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.76	4.00		ng/L		106	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	3.65	4.24		ng/L		116	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.82	3.86		ng/L		101	70 - 150
Perfluorooctanesulfonic acid (PFOS)	3.72	3.59		ng/L		96	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.85	4.06		ng/L		105	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.86	3.81		ng/L		99	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.88	3.86		ng/L		99	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	7.50	7.81		ng/L		104	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.62	7.54		ng/L		99	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.68	8.53		ng/L		111	60 - 150
Perfluorooctanesulfonamide (PFOSA)	4.00	4.38		ng/L		109	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	4.00	4.30		ng/L		108	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	4.00	3.97		ng/L		99	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.00	4.55		ng/L		114	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.00	4.10		ng/L		102	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	20.0	21.3		ng/L		106	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	20.0	21.8		ng/L		109	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.00	3.23		ng/L		108	70 - 140

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QC Sample Results

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

Job ID: 380-222674-1
SDG: Site S1 PFAS 1633

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

Lab Sample ID: LLCS 320-926694/2-A

Matrix: Water

Analysis Batch: 926885

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 926694

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	4.72		ng/L		125	65 - 145
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.00	3.65		ng/L		91	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.00	4.69		ng/L		117	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.00	3.68		ng/L		92	55 - 140
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	3.74	3.69		ng/L		99	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	3.78	3.67		ng/L		97	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	3.57	4.36		ng/L		122	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	8.00	7.54		ng/L		94	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	20.0	19.4		ng/L		97	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	20.0	17.7		ng/L		88	50 - 145

Isotope Dilution	LLCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	105		5 - 130
13C5 PFPeA	115		40 - 130
13C5 PFHxA	101		40 - 130
13C4 PFHpA	130		40 - 130
13C8 PFOA	105		40 - 130
13C9 PFNA	115		40 - 130
13C6 PFDA	104		40 - 130
13C7 PFUnA	113		30 - 130
13C2 PFDoA	113		10 - 130
13C2 PFTeDA	119		10 - 130
13C6 PFTrDA	110		20 - 150
13C3 PFBS	96.3		40 - 135
13C3 PFHxS	102		40 - 130
13C8 PFOS	108		40 - 130
13C8 PFOSA	70.5		40 - 130
d3-NMeFOSAA	106		40 - 170
d5-NEtFOSAA	102		25 - 135
13C2 4:2 FTS	124		40 - 200
13C2 6:2 FTS	133		40 - 200
13C2 8:2 FTS	110		40 - 300
13C3 HFPO-DA	112		40 - 130
d7-N-MeFOSE-M	67.7		10 - 130
d9-N-EtFOSE-M	65.5		10 - 130
d5-NEtPFOSA	58.9		10 - 130
d3-NMePFOSA	62.8		10 - 130
13C3-3:3 FTCA	93.0		20 - 150
13C3-5:3 FTCA	101		20 - 150

QC Association Summary

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

Job ID: 380-222674-1
SDG: Site S1 PFAS 1633

LCMS

Prep Batch: 926694

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-222674-1	BWS2153-S1-AQ	Total/NA	Water	1633	
MB 320-926694/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-926694/3-A	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-926694/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-926694/2-A	Lab Control Sample	Total/NA	Water	1633	

Analysis Batch: 926885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-222674-1	BWS2153-S1-AQ	Total/NA	Water	QSM B-24	926694
MB 320-926694/1-A	Method Blank	Total/NA	Water	QSM B-24	926694
LCS 320-926694/3-A	Lab Control Sample	Total/NA	Water	QSM B-24	926694
LCSD 320-926694/4-A	Lab Control Sample Dup	Total/NA	Water	QSM B-24	926694
LLCS 320-926694/2-A	Lab Control Sample	Total/NA	Water	QSM B-24	926694

Lab Chronicle

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

Job ID: 380-222674-1
SDG: Site S1 PFAS 1633

Client Sample ID: BWS2153-S1-AQ
Date Collected: 07/01/26 09:00
Date Received: 07/02/26 09:20

Lab Sample ID: 380-222674-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	1633			926694	A1M	EET SAC	07/14/26 20:31
Total/NA	Analysis	QSM B-24		1	926885	C1P	EET SAC	07/16/26 02:48

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: 380-222674-1
SDG: Site S1 PFAS 1633

Laboratory: Eurofins Sacramento

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

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

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

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Method Summary

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

Job ID: 380-222674-1
SDG: Site S1 PFAS 1633

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

Protocol References:

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

Laboratory References:

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

Sample Summary

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

Job ID: 380-222674-1
SDG: Site S1 PFAS 1633

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-222674-1	BWS2153-S1-AQ	Water	07/01/26 09:00	07/02/26 09:20	Hawaii

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

Chain of Custody Record

Client Information		Sampler: Lab P.M. Lopez, Maria		Carrier Tracking No(s):		COC No.	
Client Contact: Mr. Ervin Kawata		Phone: 858-205-0730		E-Mail: Maria.Lopez@eurofinsus.com		Page: Page 1 of 1	
Company: City & County of Honolulu		Address: 630 South Beretania Street		City: Honolulu		State of Origin: Hawaii	
City: Honolulu		State, Zip: HI, 96843		Phone: 808-748-5066		E-Mail: ekawata@hbws.org	
Project Name: INTERA - Red Hill Incident		Project #: 38000861		Site: S1		Preservation Codes: A - HCL, N - None	
Due Date Requested:		TAT Requested (days): Standard		Compliance Project: ☒ Yes ☒ No		PO #: WFO #:	
Sample Identification		Sample Date: 7/1/20		Sample Time: 9:00		Sample Type: G=grab	
Matrix: (Water, Soil, Sediment, etc.)		Preservation Code: G		Water		Special Instructions/Note: BILL TO POMONA EEA	
BWS2153-S1-AQ		Field Filled Sample (Yes or No): ☒ Yes		Perform MS/MSD (Yes or No): ☒ Yes		1633 DOD6 - EPA Method 1633 Std List	
Possible Hazard Identification: ☒ Non-Hazard, ☐ Flammable, ☐ Skin Irritant		Polson B: ☐ Unknown, ☐ Radiological		Deliverable Requested: I, II, III, IV, Other (specify)		Empty Kit Relinquished by: ☐ Return To Client, ☒ Disposal By Lab	
Relinquished by:		Date: 7/1/20		Time: 14:00		Company: INTERA	
Relinquished by:		Date: 7/1/20		Time: 14:00		Company: INTERA	
Relinquished by:		Date: 7/1/20		Time: 14:00		Company: INTERA	
Custody Seal Intact: ☒ Yes, ☐ No		Custody Seal No.: 2189974		Cooler Temperature(s) °C and Other Remarks: 0.5°C		Special Instructions/QC Requirements: Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	

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

Chain of Custody Record



Environment Testing

[illegible]

Environment Testing

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-222674-1
SDG Number: Site S1 PFAS 1633

Login Number: 222674

List Number: 1

Creator: Edrosa, Rey

List Source: Eurofins Pomona

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

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-222674-1
SDG Number: Site S1 PFAS 1633

Login Number: 222674

List Number: 2

Creator: Simmons, Jason C

List Source: Eurofins Sacramento

List Creation: 07/02/26 03:20 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	2189974
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	0.5c
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?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	