



ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

INTERA - Red-Hill-Incident
Site D2 PFAS 1633

JOB NUMBER

380-217268-1

Eurofins Pomona

Job Notes

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

Compliance Statement

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

Authorization



Authorized for release by
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Definitions/Glossary

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

Job ID: 380-217268-1
SDG: Site D2 PFAS 1633

Qualifiers

LCMS

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

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

Job ID: 380-217268-1

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Job Narrative 380-217268-1

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 6/2/2026 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 5.9°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 following samples yielded discolored extracts: BWS2254-D2-AQ (380-217268-1).

Method QSM B-24: The low level continuing calibration verification (CCVL) associated with batch 320-920264 recovered above the upper control limit for isotope dilution analyte (IDA) M2-4:2 FTS and M2-6:2 FTS. The associated target analytes were within control limits in the CCV. The samples and method blank (MB) associated with this CCV were non-detects, the low level laboratory control sample, laboratory control sample, and laboratory control sample duplicate (LLCS/LCS/LCSD) were within control limits for the affected analyte; therefore, the data have been reported: BWS2254-D2-AQ (380-217268-1), (CCVL 320-920264/2), (LCS 320-920066/3-A), (LCSD 320-920066/4-A), (LLCS 320-920066/2-A) and (MB 320-920066/1-A).

Method QSM B-24: The continuing calibration verification (CCV) associated with batch 320-920264 recovered above the upper control limit for Nonafluoro-3,6-dioxaheptanoic acid (NFDHA). The samples and method blank (MB) associated with this CCV were non-detects, the low level laboratory control sample, laboratory control sample, and laboratory control sample duplicate (LLCS/LCS/LCSD) were within control limits for the affected analyte; therefore, the data have been reported: (CCV 320-920264/18), (LCS 320-920066/3-A), (LCSD 320-920066/4-A), (LLCS 320-920066/2-A) and (MB 320-920066/1-A).

Method QSM B-24: The low level laboratory control sample (LLCS) for preparation batch 320-920066 and analytical batch 320-920264 recovered outside control limits for the following analyte: 4,8-Dioxa-3H-perfluorononanoic acid (ADONA). These analytes were biased high in the LLCS and were not detected in the associated samples; therefore, the data have been reported.

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

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Detection Summary

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

Job ID: 380-217268-1
SDG: Site D2 PFAS 1633

Client Sample ID: BWS2254-D2-AQ

Lab Sample ID: 380-217268-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	5.9		1.5	ng/L	1		QSM B-24	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	11		1.5	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: 380-217268-1
SDG: Site D2 PFAS 1633

Client Sample ID: BWS2254-D2-AQ

Lab Sample ID: 380-217268-1

Date Collected: 06/01/26 10:45

Matrix: Water

Date Received: 06/02/26 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)	<3.0		3.0	ng/L		06/03/26 20:01	06/05/26 09:43	1
Perfluoropentanoic acid (PFPeA)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
Perfluorohexanoic acid (PFHxA)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
Perfluoroheptanoic acid (PFHpA)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
Perfluorooctanoic acid (PFOA)	5.9		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
Perfluorononanoic acid (PFNA)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
Perfluorodecanoic acid (PFDA)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
Perfluoroundecanoic acid (PFUnA)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
Perfluorododecanoic acid (PFDoA)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
Perfluorotridecanoic acid (PFTTrDA)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
Perfluorotetradecanoic acid (PFTeDA)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
Perfluorobutanesulfonic acid (PFBS)	<3.0		3.0	ng/L		06/03/26 20:01	06/05/26 09:43	1
Perfluoropentanesulfonic acid (PFPeS)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
Perfluorohexanesulfonic acid (PFHxS)	11		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
Perfluoroheptanesulfonic acid (PFHpS)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
Perfluorooctanesulfonic acid (PFOS)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
Perfluorononanesulfonic acid (PFNS)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
Perfluorodecanesulfonic acid (PFDS)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
Perfluorododecanesulfonic acid (PFDoS)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<3.0		3.0	ng/L		06/03/26 20:01	06/05/26 09:43	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<3.0		3.0	ng/L		06/03/26 20:01	06/05/26 09:43	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<3.0		3.0	ng/L		06/03/26 20:01	06/05/26 09:43	1
Perfluorooctanesulfonamide (PFOSA)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<7.5		7.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<7.5		7.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.1		1.1	ng/L		06/03/26 20:01	06/05/26 09:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.5	*+	1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1

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Client Sample Results

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

Job ID: 380-217268-1
SDG: Site D2 PFAS 1633

Client Sample ID: BWS2254-D2-AQ

Lab Sample ID: 380-217268-1

Date Collected: 06/01/26 10:45

Matrix: Water

Date Received: 06/02/26 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
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<3.0		3.0	ng/L		06/03/26 20:01	06/05/26 09:43	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<7.5		7.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<7.5		7.5	ng/L		06/03/26 20:01	06/05/26 09:43	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C4 PFBA	93.7		5 - 130			06/03/26 20:01	06/05/26 09:43	1
13C5 PFPeA	108		40 - 130			06/03/26 20:01	06/05/26 09:43	1
13C5 PFHxA	83.6		40 - 130			06/03/26 20:01	06/05/26 09:43	1
13C4 PFHpA	87.3		40 - 130			06/03/26 20:01	06/05/26 09:43	1
13C8 PFOA	90.2		40 - 130			06/03/26 20:01	06/05/26 09:43	1
13C9 PFNA	88.7		40 - 130			06/03/26 20:01	06/05/26 09:43	1
13C6 PFDA	80.4		40 - 130			06/03/26 20:01	06/05/26 09:43	1
13C7 PFUnA	85.2		30 - 130			06/03/26 20:01	06/05/26 09:43	1
13C2 PFDoA	82.7		10 - 130			06/03/26 20:01	06/05/26 09:43	1
13C2 PFTeDA	72.1		10 - 130			06/03/26 20:01	06/05/26 09:43	1
13C6 PFTrDA	79.3		20 - 150			06/03/26 20:01	06/05/26 09:43	1
13C3 PFBS	98.1		40 - 135			06/03/26 20:01	06/05/26 09:43	1
13C3 PFHxS	90.3		40 - 130			06/03/26 20:01	06/05/26 09:43	1
13C8 PFOS	84.9		40 - 130			06/03/26 20:01	06/05/26 09:43	1
13C8 PFOSA	89.1		40 - 130			06/03/26 20:01	06/05/26 09:43	1
d3-NMeFOSAA	99.6		40 - 170			06/03/26 20:01	06/05/26 09:43	1
d5-NEtFOSAA	89.2		25 - 135			06/03/26 20:01	06/05/26 09:43	1
13C2 4:2 FTS	111		40 - 200			06/03/26 20:01	06/05/26 09:43	1
13C2 6:2 FTS	107		40 - 200			06/03/26 20:01	06/05/26 09:43	1
13C2 8:2 FTS	85.3		40 - 300			06/03/26 20:01	06/05/26 09:43	1
13C3 HFPO-DA	66.8		40 - 130			06/03/26 20:01	06/05/26 09:43	1
d7-N-MeFOSE-M	76.5		10 - 130			06/03/26 20:01	06/05/26 09:43	1
d9-N-EtFOSE-M	73.1		10 - 130			06/03/26 20:01	06/05/26 09:43	1
d5-NEtPFOSA	62.8		10 - 130			06/03/26 20:01	06/05/26 09:43	1
d3-NMePFOSA	70.7		10 - 130			06/03/26 20:01	06/05/26 09:43	1
13C3-3:3 FTCA	98.7		20 - 150			06/03/26 20:01	06/05/26 09:43	1
13C3-5:3 FTCA	86.1		20 - 150			06/03/26 20:01	06/05/26 09:43	1

Action Limit Summary

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

Job ID: 380-217268-1
SDG: Site D2 PFAS 1633

Client Sample ID: BWS2254-D2-AQ

Lab Sample ID: 380-217268-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Perfluorooctanoic acid (PFOA)	5.9		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)	11		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: 380-217268-1
SDG: Site D2 PFAS 1633

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

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (5-130)	PFPeA (40-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (30-130)
380-217268-1	BWS2254-D2-AQ	93.7	108	83.6	87.3	90.2	88.7	80.4	85.2
LCS 320-920066/3-A	Lab Control Sample	82.1	95.6	86.8	88.6	86.3	87.3	80.7	78.9
LCSD 320-920066/4-A	Lab Control Sample Dup	90.7	91.7	86.0	90.3	87.1	95.6	89.8	87.9
LLCS 320-920066/2-A	Lab Control Sample	87.4	93.2	75.8	88.6	89.0	89.0	85.3	99.6
MB 320-920066/1-A	Method Blank	84.5	94.8	80.5	82.2	90.1	89.9	84.8	91.6

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFDaA (10-130)	PFTDA (10-130)	C6PFTTrDA (20-150)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-170)
380-217268-1	BWS2254-D2-AQ	82.7	72.1	79.3	98.1	90.3	84.9	89.1	99.6
LCS 320-920066/3-A	Lab Control Sample	80.2	74.1	79.8	96.9	90.7	85.7	84.6	93.2
LCSD 320-920066/4-A	Lab Control Sample Dup	90.6	75.5	75.5	104	90.6	93.2	93.0	102
LLCS 320-920066/2-A	Lab Control Sample	89.3	86.0	81.8	96.5	95.0	92.3	90.5	99.7
MB 320-920066/1-A	Method Blank	91.3	82.3	79.3	93.3	91.5	90.4	88.4	99.2

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	d5NEFOS (25-135)	M242FTS (40-200)	M262FTS (40-200)	M282FTS (40-300)	HFPODA (40-130)	NMFM (10-130)	NEFM (10-130)	d5NPFSA (10-130)
380-217268-1	BWS2254-D2-AQ	89.2	111	107	85.3	66.8	76.5	73.1	62.8
LCS 320-920066/3-A	Lab Control Sample	87.6	109	96.1	85.1	68.7	81.0	77.9	59.3
LCSD 320-920066/4-A	Lab Control Sample Dup	97.5	109	107	91.1	67.0	83.0	75.7	60.2
LLCS 320-920066/2-A	Lab Control Sample	96.1	121	99.7	82.7	66.9	85.1	82.8	69.1
MB 320-920066/1-A	Method Blank	95.4	113	97.9	86.1	68.2	84.5	80.6	68.2

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)
380-217268-1	BWS2254-D2-AQ	70.7	98.7	86.1
LCS 320-920066/3-A	Lab Control Sample	64.8	84.6	90.4
LCSD 320-920066/4-A	Lab Control Sample Dup	66.9	90.8	100
LLCS 320-920066/2-A	Lab Control Sample	75.4	89.6	95.6
MB 320-920066/1-A	Method Blank	72.8	83.8	94.0

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

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Isotope Dilution Summary

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

Job ID: 380-217268-1
SDG: Site D2 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
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

QC Sample Results

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

Job ID: 380-217268-1
SDG: Site D2 PFAS 1633

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

Lab Sample ID: MB 320-920066/1-A

Matrix: Water

Analysis Batch: 920264

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 920066

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<4.0		4.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
Perfluorotetradecanoic acid (PFTeDA)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
Perfluorobutanesulfonic acid (PFBS)	<4.0		4.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<4.0		4.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<4.0		4.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<4.0		4.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
Perfluorooctanesulfonamide (PFOSA)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<10		10	ng/L		06/03/26 20:01	06/05/26 03:41	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<10		10	ng/L		06/03/26 20:01	06/05/26 03:41	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.5		1.5	ng/L		06/03/26 20:01	06/05/26 03:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1

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QC Sample Results

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

Job ID: 380-217268-1
SDG: Site D2 PFAS 1633

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

Lab Sample ID: MB 320-920066/1-A

Matrix: Water

Analysis Batch: 920264

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 920066

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		06/03/26 20:01	06/05/26 03:41	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<4.0		4.0	ng/L		06/03/26 20:01	06/05/26 03:41	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<10		10	ng/L		06/03/26 20:01	06/05/26 03:41	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<10		10	ng/L		06/03/26 20:01	06/05/26 03:41	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	84.5		5 - 130	06/03/26 20:01	06/05/26 03:41	1
13C5 PFPeA	94.8		40 - 130	06/03/26 20:01	06/05/26 03:41	1
13C5 PFHxA	80.5		40 - 130	06/03/26 20:01	06/05/26 03:41	1
13C4 PFHpA	82.2		40 - 130	06/03/26 20:01	06/05/26 03:41	1
13C8 PFOA	90.1		40 - 130	06/03/26 20:01	06/05/26 03:41	1
13C9 PFNA	89.9		40 - 130	06/03/26 20:01	06/05/26 03:41	1
13C6 PFDA	84.8		40 - 130	06/03/26 20:01	06/05/26 03:41	1
13C7 PFUnA	91.6		30 - 130	06/03/26 20:01	06/05/26 03:41	1
13C2 PFDoA	91.3		10 - 130	06/03/26 20:01	06/05/26 03:41	1
13C2 PFTeDA	82.3		10 - 130	06/03/26 20:01	06/05/26 03:41	1
13C6 PFTrDA	79.3		20 - 150	06/03/26 20:01	06/05/26 03:41	1
13C3 PFBS	93.3		40 - 135	06/03/26 20:01	06/05/26 03:41	1
13C3 PFHxS	91.5		40 - 130	06/03/26 20:01	06/05/26 03:41	1
13C8 PFOS	90.4		40 - 130	06/03/26 20:01	06/05/26 03:41	1
13C8 PFOSA	88.4		40 - 130	06/03/26 20:01	06/05/26 03:41	1
d3-NMeFOSAA	99.2		40 - 170	06/03/26 20:01	06/05/26 03:41	1
d5-NEtFOSAA	95.4		25 - 135	06/03/26 20:01	06/05/26 03:41	1
13C2 4:2 FTS	113		40 - 200	06/03/26 20:01	06/05/26 03:41	1
13C2 6:2 FTS	97.9		40 - 200	06/03/26 20:01	06/05/26 03:41	1
13C2 8:2 FTS	86.1		40 - 300	06/03/26 20:01	06/05/26 03:41	1
13C3 HFPO-DA	68.2		40 - 130	06/03/26 20:01	06/05/26 03:41	1
d7-N-MeFOSE-M	84.5		10 - 130	06/03/26 20:01	06/05/26 03:41	1
d9-N-EtFOSE-M	80.6		10 - 130	06/03/26 20:01	06/05/26 03:41	1
d5-NEtPFOSA	68.2		10 - 130	06/03/26 20:01	06/05/26 03:41	1
d3-NMePFOSA	72.8		10 - 130	06/03/26 20:01	06/05/26 03:41	1
13C3-3:3 FTCA	83.8		20 - 150	06/03/26 20:01	06/05/26 03:41	1
13C3-5:3 FTCA	94.0		20 - 150	06/03/26 20:01	06/05/26 03:41	1

Lab Sample ID: LCS 320-920066/3-A

Matrix: Water

Analysis Batch: 920264

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 920066

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	80.0	82.2		ng/L		103	70 - 140
Perfluoropentanoic acid (PFPeA)	40.0	36.6		ng/L		91	65 - 135
Perfluorohexanoic acid (PFHxA)	40.0	40.3		ng/L		101	70 - 145
Perfluoroheptanoic acid (PFHpA)	40.0	38.4		ng/L		96	70 - 150
Perfluorooctanoic acid (PFOA)	40.0	38.8		ng/L		97	70 - 150

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QC Sample Results

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

Job ID: 380-217268-1
SDG: Site D2 PFAS 1633

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

Lab Sample ID: LCS 320-920066/3-A

Matrix: Water

Analysis Batch: 920264

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 920066

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanoic acid (PFNA)	40.0	43.3		ng/L		108	70 - 150
Perfluorodecanoic acid (PFDA)	40.0	40.1		ng/L		100	70 - 140
Perfluoroundecanoic acid (PFUnA)	40.0	41.8		ng/L		104	70 - 145
Perfluorododecanoic acid (PFDoA)	40.0	40.4		ng/L		101	70 - 140
Perfluorotridecanoic acid (PFTrDA)	40.0	38.7		ng/L		97	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	40.0	38.4		ng/L		96	60 - 140
Perfluorobutanesulfonic acid (PFBS)	35.5	36.4		ng/L		103	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	37.6	36.3		ng/L		97	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	36.5	34.0		ng/L		93	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	38.2	34.4		ng/L		90	70 - 150
Perfluorooctanesulfonic acid (PFOS)	37.2	35.7		ng/L		96	55 - 150
Perfluorononanesulfonic acid (PFNS)	38.5	38.5		ng/L		100	65 - 145
Perfluorodecanesulfonic acid (PFDS)	38.6	37.4		ng/L		97	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	38.8	40.6		ng/L		105	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	79.3		ng/L		106	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	82.6		ng/L		108	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	80.0		ng/L		104	60 - 150
Perfluorooctanesulfonamide (PFOSA)	40.0	38.0		ng/L		95	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	38.9		ng/L		97	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	40.8		ng/L		102	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	38.8		ng/L		97	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	37.5		ng/L		94	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	193		ng/L		97	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	199		ng/L		100	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	33.1		ng/L		110	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	46.4		ng/L		123	65 - 145
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	36.4		ng/L		91	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	40.0	44.2		ng/L		110	50 - 150

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QC Sample Results

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

Job ID: 380-217268-1
SDG: Site D2 PFAS 1633

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

Lab Sample ID: LCS 320-920066/3-A

Matrix: Water

Analysis Batch: 920264

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 920066

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	36.0		ng/L		90	55 - 140
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	37.4	36.9		ng/L		99	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	37.8	36.6		ng/L		97	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	35.7	33.4		ng/L		94	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	80.0	82.4		ng/L		103	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	200	201		ng/L		101	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	200	183		ng/L		91	50 - 145

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	82.1		5 - 130
13C5 PFPeA	95.6		40 - 130
13C5 PFHxA	86.8		40 - 130
13C4 PFHpA	88.6		40 - 130
13C8 PFOA	86.3		40 - 130
13C9 PFNA	87.3		40 - 130
13C6 PFDA	80.7		40 - 130
13C7 PFUnA	78.9		30 - 130
13C2 PFDoA	80.2		10 - 130
13C2 PFTeDA	74.1		10 - 130
13C6 PFTriDA	79.8		20 - 150
13C3 PFBS	96.9		40 - 135
13C3 PFHxS	90.7		40 - 130
13C8 PFOS	85.7		40 - 130
13C8 PFOSA	84.6		40 - 130
d3-NMeFOSAA	93.2		40 - 170
d5-NEtFOSAA	87.6		25 - 135
13C2 4:2 FTS	109		40 - 200
13C2 6:2 FTS	96.1		40 - 200
13C2 8:2 FTS	85.1		40 - 300
13C3 HFPO-DA	68.7		40 - 130
d7-N-MeFOSE-M	81.0		10 - 130
d9-N-EtFOSE-M	77.9		10 - 130
d5-NEtPFOSA	59.3		10 - 130
d3-NMePFOSA	64.8		10 - 130
13C3-3:3 FTCA	84.6		20 - 150
13C3-5:3 FTCA	90.4		20 - 150

Lab Sample ID: LCSD 320-920066/4-A

Matrix: Water

Analysis Batch: 920264

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 920066

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Perfluorobutanoic acid (PFBA)	80.0	78.6		ng/L		98	70 - 140	4	30
Perfluoropentanoic acid (PFPeA)	40.0	32.1		ng/L		80	65 - 135	13	30

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QC Sample Results

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

Job ID: 380-217268-1
SDG: Site D2 PFAS 1633

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

Lab Sample ID: LCSD 320-920066/4-A

Matrix: Water

Analysis Batch: 920264

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 920066

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	40.0	40.9		ng/L		102	70 - 145	2	30
Perfluoroheptanoic acid (PFHpA)	40.0	36.1		ng/L		90	70 - 150	6	30
Perfluorooctanoic acid (PFOA)	40.0	38.4		ng/L		96	70 - 150	1	30
Perfluorononanoic acid (PFNA)	40.0	41.9		ng/L		105	70 - 150	3	30
Perfluorodecanoic acid (PFDA)	40.0	39.3		ng/L		98	70 - 140	2	30
Perfluoroundecanoic acid (PFUnA)	40.0	38.7		ng/L		97	70 - 145	8	30
Perfluorododecanoic acid (PFDoA)	40.0	38.1		ng/L		95	70 - 140	6	30
Perfluorotridecanoic acid (PFTrDA)	40.0	39.1		ng/L		98	65 - 140	1	30
Perfluorotetradecanoic acid (PFTeDA)	40.0	38.0		ng/L		95	60 - 140	1	30
Perfluorobutanesulfonic acid (PFBS)	35.5	33.9		ng/L		95	60 - 145	7	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	41.4		ng/L		110	65 - 140	13	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	34.3		ng/L		94	65 - 145	1	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	37.4		ng/L		98	70 - 150	8	30
Perfluorooctanesulfonic acid (PFOS)	37.2	34.9		ng/L		94	55 - 150	2	30
Perfluorononanesulfonic acid (PFNS)	38.5	40.4		ng/L		105	65 - 145	5	30
Perfluorodecanesulfonic acid (PFDS)	38.6	38.8		ng/L		101	60 - 145	4	30
Perfluorododecanesulfonic acid (PFDoS)	38.8	34.7		ng/L		90	50 - 145	16	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	75.0	87.5		ng/L		117	70 - 145	10	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	76.2	76.5		ng/L		100	65 - 155	8	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	76.8	76.9		ng/L		100	60 - 150	4	30
Perfluorooctanesulfonamide (PFOSA)	40.0	37.1		ng/L		93	70 - 145	2	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	40.0	39.5		ng/L		99	60 - 150	2	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	40.0	42.1		ng/L		105	65 - 145	3	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	38.0		ng/L		95	50 - 140	2	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	36.3		ng/L		91	70 - 145	3	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	200	191		ng/L		95	70 - 145	1	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	200	197		ng/L		98	70 - 135	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	30.0	34.4		ng/L		115	70 - 140	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	39.3		ng/L		104	65 - 145	16	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	40.0	37.5		ng/L		94	60 - 150	3	30

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QC Sample Results

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

Job ID: 380-217268-1
SDG: Site D2 PFAS 1633

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

Lab Sample ID: LCSD 320-920066/4-A

Matrix: Water

Analysis Batch: 920264

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 920066

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxahheptanoic acid (NFDHA)	40.0	44.0		ng/L		110	50 - 150	1	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	40.0	38.0		ng/L		95	55 - 140	6	30
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	37.4	37.1		ng/L		99	70 - 155	0	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	37.8	35.5		ng/L		94	55 - 160	3	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	35.7	36.9		ng/L		103	70 - 140	10	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)	80.0	79.6		ng/L		99	65 - 130	3	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)	200	188		ng/L		94	70 - 135	7	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	200	208		ng/L		104	50 - 145	13	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C4 PFBA	90.7		5 - 130
13C5 PFPeA	91.7		40 - 130
13C5 PFHxA	86.0		40 - 130
13C4 PFHpA	90.3		40 - 130
13C8 PFOA	87.1		40 - 130
13C9 PFNA	95.6		40 - 130
13C6 PFDA	89.8		40 - 130
13C7 PFUnA	87.9		30 - 130
13C2 PFDoA	90.6		10 - 130
13C2 PFTeDA	75.5		10 - 130
13C6 PFTrDA	75.5		20 - 150
13C3 PFBS	104		40 - 135
13C3 PFHxS	90.6		40 - 130
13C8 PFOS	93.2		40 - 130
13C8 PFOSA	93.0		40 - 130
d3-NMeFOSAA	102		40 - 170
d5-NEtFOSAA	97.5		25 - 135
13C2 4:2 FTS	109		40 - 200
13C2 6:2 FTS	107		40 - 200
13C2 8:2 FTS	91.1		40 - 300
13C3 HFPO-DA	67.0		40 - 130
d7-N-MeFOSE-M	83.0		10 - 130
d9-N-EtFOSE-M	75.7		10 - 130
d5-NEtPFOSA	60.2		10 - 130
d3-NMePFOSA	66.9		10 - 130
13C3-3:3 FTCA	90.8		20 - 150
13C3-5:3 FTCA	100		20 - 150

QC Sample Results

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

Job ID: 380-217268-1
SDG: Site D2 PFAS 1633

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

Lab Sample ID: LLCS 320-920066/2-A

Matrix: Water

Analysis Batch: 920264

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 920066

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	9.16		ng/L		114	70 - 140
Perfluoropentanoic acid (PFPeA)	4.00	4.23		ng/L		106	65 - 135
Perfluorohexanoic acid (PFHxA)	4.00	5.51		ng/L		138	70 - 145
Perfluoroheptanoic acid (PFHpA)	4.00	4.76		ng/L		119	70 - 150
Perfluorooctanoic acid (PFOA)	4.00	4.85		ng/L		121	70 - 150
Perfluorononanoic acid (PFNA)	4.00	5.10		ng/L		128	70 - 150
Perfluorodecanoic acid (PFDA)	4.00	5.25		ng/L		131	70 - 140
Perfluoroundecanoic acid (PFUnA)	4.00	4.75		ng/L		119	70 - 145
Perfluorododecanoic acid (PFDoA)	4.00	4.58		ng/L		114	70 - 140
Perfluorotridecanoic acid (PFTTrDA)	4.00	4.51		ng/L		113	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	4.00	4.56		ng/L		114	60 - 140
Perfluorobutanesulfonic acid (PFBS)	3.55	4.21		ng/L		119	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.76	4.22		ng/L		112	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	3.65	4.13		ng/L		113	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.82	4.25		ng/L		111	70 - 150
Perfluorooctanesulfonic acid (PFOS)	3.72	4.25		ng/L		114	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.85	4.65		ng/L		121	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.86	4.46		ng/L		116	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.88	4.83		ng/L		125	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	7.50	9.38		ng/L		125	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	7.62	9.84		ng/L		129	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	7.68	9.57		ng/L		125	60 - 150
Perfluorooctanesulfonamide (PFOSA)	4.00	4.46		ng/L		112	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	4.00	3.99		ng/L		100	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	4.00	4.28		ng/L		107	65 - 145
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.00	4.46		ng/L		111	50 - 140
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.00	4.26		ng/L		107	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	20.0	23.1		ng/L		116	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	20.0	22.8		ng/L		114	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.00	4.05		ng/L		135	70 - 140

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QC Sample Results

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

Job ID: 380-217268-1
SDG: Site D2 PFAS 1633

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

Lab Sample ID: LLCS 320-920066/2-A

Matrix: Water

Analysis Batch: 920264

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 920066

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	5.62	*+	ng/L		148	65 - 145
Perfluoro-4-methoxybutanoic acid (PFMBA)	4.00	4.37		ng/L		109	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	4.00	5.71		ng/L		143	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	4.00	3.93		ng/L		98	55 - 140
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	3.74	4.57		ng/L		122	70 - 155
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	3.78	4.07		ng/L		108	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	3.57	4.66		ng/L		131	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	8.00	9.54		ng/L		119	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	20.0	22.5		ng/L		113	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	20.0	23.6		ng/L		118	50 - 145

Isotope Dilution	LLCS %Recovery	LLCS Qualifier	Limits
13C4 PFBA	87.4		5 - 130
13C5 PFPeA	93.2		40 - 130
13C5 PFHxA	75.8		40 - 130
13C4 PFHpA	88.6		40 - 130
13C8 PFOA	89.0		40 - 130
13C9 PFNA	89.0		40 - 130
13C6 PFDA	85.3		40 - 130
13C7 PFUnA	99.6		30 - 130
13C2 PFDoA	89.3		10 - 130
13C2 PFTeDA	86.0		10 - 130
13C6 PFTrDA	81.8		20 - 150
13C3 PFBS	96.5		40 - 135
13C3 PFHxS	95.0		40 - 130
13C8 PFOS	92.3		40 - 130
13C8 PFOSA	90.5		40 - 130
d3-NMeFOSAA	99.7		40 - 170
d5-NEtFOSAA	96.1		25 - 135
13C2 4:2 FTS	121		40 - 200
13C2 6:2 FTS	99.7		40 - 200
13C2 8:2 FTS	82.7		40 - 300
13C3 HFPO-DA	66.9		40 - 130
d7-N-MeFOSE-M	85.1		10 - 130
d9-N-EtFOSE-M	82.8		10 - 130
d5-NEtPFOSA	69.1		10 - 130
d3-NMePFOSA	75.4		10 - 130
13C3-3:3 FTCA	89.6		20 - 150
13C3-5:3 FTCA	95.6		20 - 150

QC Association Summary

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

Job ID: 380-217268-1
SDG: Site D2 PFAS 1633

LCMS

Prep Batch: 920066

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-217268-1	BWS2254-D2-AQ	Total/NA	Water	1633	
MB 320-920066/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-920066/3-A	Lab Control Sample	Total/NA	Water	1633	
LCSD 320-920066/4-A	Lab Control Sample Dup	Total/NA	Water	1633	
LLCS 320-920066/2-A	Lab Control Sample	Total/NA	Water	1633	

Analysis Batch: 920264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-217268-1	BWS2254-D2-AQ	Total/NA	Water	QSM B-24	920066
MB 320-920066/1-A	Method Blank	Total/NA	Water	QSM B-24	920066
LCS 320-920066/3-A	Lab Control Sample	Total/NA	Water	QSM B-24	920066
LCSD 320-920066/4-A	Lab Control Sample Dup	Total/NA	Water	QSM B-24	920066
LLCS 320-920066/2-A	Lab Control Sample	Total/NA	Water	QSM B-24	920066

Lab Chronicle

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

Job ID: 380-217268-1
SDG: Site D2 PFAS 1633

Client Sample ID: BWS2254-D2-AQ
Date Collected: 06/01/26 10:45
Date Received: 06/02/26 09:20

Lab Sample ID: 380-217268-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	1633			920066	EBH	EET SAC	06/03/26 20:01
Total/NA	Analysis	QSM B-24		1	920264	K1S	EET SAC	06/05/26 09:43

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: 380-217268-1
SDG: Site D2 PFAS 1633

Laboratory: Eurofins Sacramento

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

Authority	Program	Identification Number	Expiration Date
Alaska	State	CA00044	06-30-26
Alaska (UST)	State	17-020	02-20-27
ANAB	Dept. of Defense ELAP	L2468	01-20-27
ANAB	Dept. of Energy	L2468.01	01-20-27
ANAB	ISO/IEC 17025	L2468.03	01-20-27
Arizona	State	AZ0708	08-11-26
Arkansas DEQ	State	88-0691	05-17-27
California	State	2897	01-31-28
Colorado	State	CA00044	08-31-26
Florida	NELAP	E87570	06-30-26
Georgia	State	4040	01-29-27
Illinois	NELAP	200060	03-31-27
Kansas	NELAP	E-10375	10-31-26
Louisiana	NELAP	01944	06-30-26
Louisiana (All)	NELAP	01944	06-30-26
Maine	State	CA00004	04-14-28
Massachusetts	State	M-CA044	06-30-26
Michigan	State	9947	08-03-26
Minnesota	NELAP	006-999-474	12-31-26
Nevada	State	CA00044	07-31-26
New Jersey	NELAP	CA005	06-30-26
New York	NELAP	11666	04-01-27
Ohio	State	41252	01-29-27
Oregon	NELAP	4040	01-29-27
Texas	NELAP	T104704399-23-17	05-31-27
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	07-31-26
Wisconsin	State	998204680	08-31-26
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: 380-217268-1
SDG: Site D2 PFAS 1633

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

Protocol References:

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

Laboratory References:

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

Sample Summary

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

Job ID: 380-217268-1
SDG: Site D2 PFAS 1633

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-217268-1	BWS2254-D2-AQ	Water	06/01/26 10:45	06/02/26 09:20	Hawaii

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

eurofins | Environment Testing



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

Chain of Custody Record



eurofins | Environment Tasting

Client Information (Sub Contract Lab)		Sampler N/A	Lab Pkt: Lopez, Maria	Carrier Tracking No(s): N/A	COC No: 380-341049.1
Client Contact		Phone: N/A	E-Mail: Maria.Lopez@eurofins.com	State of Origin: Hawaii	Page: Page 1 of 1
Shipping/Receiving					Job #: 380-217268-1
Company		Eurofins Environment Testing Northern Ca			Preservation Codes: -
Address: 880 Riverside Parkway, City: West Sacramento State, Zip: CA, 95605 Phone: 916-373-5600(Tel) 916-372-1059(Fax) Email: N/A		Due Date Requested: 6/15/2026 TAT Requested (days): N/A			
Project Name: INTERA - Red-Hill-Incident		PO #: N/A			
Site: Honolulu BWS Sites		WO #: N/A			
Project #: 38000861		SSOW#: N/A			
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=other)
BWS2254-D2-AQ (380-217268-1)		6/1/26	10:45 Hawaiian	G	Water
		380-217268 Chain of Custody			
Special Instructions/Note:		Total Number of containers: 2			
Other: N/A					
Note: Since laboratory accreditations are subject to change, Eurofins Drinking Water and Wastewater West, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Drinking Water and Wastewater West, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Drinking Water and Wastewater West, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Drinking Water and Wastewater West, LLC.					
Possible Hazard Identification					
Unconfirmed					
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2					
Empty Kit Relinquished by: _____ Date: _____ Time: _____ Method of Shipment: _____					
Relinquished by: _____ Date/Time: _____ Company: _____ Received by: _____ Date/Time: _____ Company: _____					
Relinquished by: _____ Date/Time: _____ Company: _____ Received by: _____ Date/Time: _____ Company: _____					
Cooler Temperature(s) °C and Other Remarks: 5°C					
Custody Seals Intact: ☒ Yes ☐ No		Custody Seal No. 2189918		Ver 03/20/2026	

Chain of Custody Record

Client Information		Sampler H Bentley (806) 321-0683		Lab Piv Lopez, Maria		Carrier Tracking No(s).		COC No:	
Client Contact: Mr Erwin Kawata		Phone 858-205-0730		E-Mail: Maria Lopez@et.eurofinsus.com		State of Origin. Hawaii		Page: Page 1 of 1	
Company: City & County of Honolulu		PWSD:		Analysis Requested		Job #:		Preservation Codes A - HCL N - None	
Address: 630 South Beretania Street		Due Date Requested		1633 DOD6 - EPA Method 1633 Std List		Total Number of containers		Special Instructions/Note:	
City: Honolulu		TAT Requested (days) Standard		Perform MS/MSD (Yes or No)				Other:	
State Zip HI 96843		Compliance Project: ☐ Yes ☒ No		Field Filtered Sample (Yes or No)					
Phone: 808-748-5066		PO #:		Preservation Code:					
Email: ekawata@hbws.org		WO #:		Sample Type (C=Comp, G=grab)					
Project Name: INTERA - Red-Hill-Incident		Project #: 38000861		Sample Time					
Site: D2		SSOW#:		Sample Date					
Matrix (W=water, S=sediment, O=oil, BT=biological, DW=drinking water)		Sample Type (C=Comp, G=grab)		Preservation Code:					
Sample Identification		Sample Date		Sample Time		Preservation Code:			
BWS2254-D2-AQ		6/1/20		10:45		G Water		BILL TO POMONA EEA	
Possible Hazard Identification ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological		Deliverable Requested I II III IV Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months					
Empty Kit Relinquished by		Date:		Time		Method of Shipment			
Relinquished by		Date/Time: 6/1/20 14:00		Company INTERA		Received by		Date/Time: 6/2/20 09:20	
Relinquished by		Date/Time:		Company		Received by		Date/Time:	
Relinquished by		Date/Time:		Company		Received by		Date/Time:	
Custody Seals Intact: ☒ Yes ☐ No		Custody Seal No 2119918		Cooler Temperature(s) °C and Other Remarks: r.g					

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-217268-1
SDG Number: Site D2 PFAS 1633

Login Number: 217268

List Number: 1

Creator: Ngo, Theodore

List Source: Eurofins Pomona

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

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-217268-1
SDG Number: Site D2 PFAS 1633

Login Number: 217268

List Number: 2

Creator: Simmons, Jason C

List Source: Eurofins Sacramento

List Creation: 06/02/26 06:27 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	2189933
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	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	