

ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

INTERA - Red-Hill-Incident
Site J

JOB NUMBER

380-106710-1

Eurofins Eaton Analytical Pomona

Job Notes

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

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

Compliance Statement

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

Authorization



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Definitions/Glossary

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

Job ID: 380-106710-1
SDG: Site J

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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: 380-106710-1

Job ID: 380-106710-1

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Job Narrative 380-106710-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The sample was received on 8/1/2024 8:45 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 0.6°C.

Receipt Exceptions

The container label for the following sample(s): #1(A,B) did not match the information listed on the Chain-of-Custody (COC). samples have the incorrect collection time of 10:10 a.m.. BWS2253-J1-AQ (380-106710-1).

PFAS

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

Detection Summary

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

Job ID: 380-106710-1
SDG: Site J

Client Sample ID: BWS2253-J1-AQ

Lab Sample ID: 380-106710-1

No Detections.

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

This Detection Summary does not include radiochemical test results.

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Client Sample Results

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

Job ID: 380-106710-1
 SDG: Site J

Client Sample ID: BWS2253-J1-AQ

Lab Sample ID: 380-106710-1

Date Collected: 07/31/24 11:15

Matrix: Drinking Water

Date Received: 08/01/24 08:45

Method: EPA Draft 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<8.0		8.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
Perfluoropentanoic acid (PFPeA)	<4.0		4.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
Perfluorodecanoic acid (PFDA)	<3.2		3.2	ng/L		08/05/24 11:33	08/13/24 14:18	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
Perfluorotetradecanoic acid (PFTeDA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<8.0		8.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<8.0		8.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<8.0		8.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
Perfluorooctanesulfonamide (PFOSA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<20		20	ng/L		08/05/24 11:33	08/13/24 14:18	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<20		20	ng/L		08/05/24 11:33	08/13/24 14:18	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<8.0		8.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<8.0		8.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<4.0		4.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<4.0		4.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<4.0		4.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid	<8.0		8.0	ng/L		08/05/24 11:33	08/13/24 14:18	1

Client Sample Results

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

Job ID: 380-106710-1
 SDG: Site J

Client Sample ID: BWS2253-J1-AQ

Lab Sample ID: 380-106710-1

Date Collected: 07/31/24 11:15

Matrix: Drinking Water

Date Received: 08/01/24 08:45

Method: EPA Draft 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid	<8.0		8.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<4.0		4.0	ng/L		08/05/24 11:33	08/13/24 14:18	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<10		10	ng/L		08/05/24 11:33	08/13/24 14:18	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<50		50	ng/L		08/05/24 11:33	08/13/24 14:18	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<50		50	ng/L		08/05/24 11:33	08/13/24 14:18	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C4 PFBA	89.5		5 - 130			08/05/24 11:33	08/13/24 14:18	1
13C5 PFPeA	100		40 - 130			08/05/24 11:33	08/13/24 14:18	1
13C5 PFHxA	90.8		40 - 130			08/05/24 11:33	08/13/24 14:18	1
13C4 PFHpA	88.5		40 - 130			08/05/24 11:33	08/13/24 14:18	1
13C8 PFOA	89.9		40 - 130			08/05/24 11:33	08/13/24 14:18	1
13C9 PFNA	94.2		40 - 130			08/05/24 11:33	08/13/24 14:18	1
13C6 PFDA	90.5		40 - 130			08/05/24 11:33	08/13/24 14:18	1
13C7 PFUnA	81.0		30 - 130			08/05/24 11:33	08/13/24 14:18	1
13C2 PFDoA	77.4		10 - 130			08/05/24 11:33	08/13/24 14:18	1
13C2 PFTeDA	67.1		10 - 130			08/05/24 11:33	08/13/24 14:18	1
13C3 PFBS	91.4		40 - 135			08/05/24 11:33	08/13/24 14:18	1
13C3 PFHxS	89.3		40 - 130			08/05/24 11:33	08/13/24 14:18	1
13C8 PFOS	90.8		40 - 130			08/05/24 11:33	08/13/24 14:18	1
13C8 PFOSA	96.5		40 - 130			08/05/24 11:33	08/13/24 14:18	1
d3-NMeFOSAA	95.8		40 - 170			08/05/24 11:33	08/13/24 14:18	1
d5-NEtFOSAA	86.4		25 - 135			08/05/24 11:33	08/13/24 14:18	1
13C2 4:2 FTS	107		40 - 200			08/05/24 11:33	08/13/24 14:18	1
13C2 6:2 FTS	98.9		40 - 200			08/05/24 11:33	08/13/24 14:18	1
13C2 8:2 FTS	105		40 - 300			08/05/24 11:33	08/13/24 14:18	1
13C3 HFPO-DA	89.4		40 - 130			08/05/24 11:33	08/13/24 14:18	1
d7-N-MeFOSE-M	64.1		10 - 130			08/05/24 11:33	08/13/24 14:18	1
d9-N-EtFOSE-M	59.7		10 - 130			08/05/24 11:33	08/13/24 14:18	1
d5-NEtPFOSA	55.7		10 - 130			08/05/24 11:33	08/13/24 14:18	1
d3-NMePFOSA	61.0		10 - 130			08/05/24 11:33	08/13/24 14:18	1

Action Limit Summary

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

Job ID: 380-106710-1
SDG: Site J

Client Sample ID: BWS2253-J1-AQ

Lab Sample ID: 380-106710-1

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 Limit	RL	Method	Prep Type
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	Draft 1633	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	Draft 1633	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	Draft 1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	Draft 1633	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<8.0		ng/L	10	8.0	Draft 1633	Total/NA

Isotope Dilution Summary

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

Job ID: 380-106710-1
 SDG: Site J

Method: Draft 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Drinking Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (5-130)	PFPeA (40-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (30-130)
380-106710-1	BWS2253-J1-AQ	89.5	100	90.8	88.5	89.9	94.2	90.5	81.0

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFDaA (10-130)	PFTDA (10-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-170)	d5NEFOS (25-135)
380-106710-1	BWS2253-J1-AQ	77.4	67.1	91.4	89.3	90.8	96.5	95.8	86.4

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	M242FTS (40-200)	M262FTS (40-200)	M282FTS (40-300)	HFPODA (40-130)	NMFM (10-130)	NEFM (10-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
380-106710-1	BWS2253-J1-AQ	107	98.9	105	89.4	64.1	59.7	55.7	61.0

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
- C3PFBS = 13C3 PFBS
- C3PFHS = 13C3 PFHxS
- C8PFOS = 13C8 PFOS
- PFOSA = 13C8 PFOSA
- d3NMFOS = d3-NMeFOSAA
- d5NEFOS = d5-NEtFOSAA
- M242FTS = 13C2 4:2 FTS
- M262FTS = 13C2 6:2 FTS
- M282FTS = 13C2 8:2 FTS
- HFPODA = 13C3 HFPO-DA
- NMFM = d7-N-MeFOSE-M
- NEFM = d9-N-EtFOSE-M
- d5NPFSA = d5-NEtPFOSA
- d3NMFSA = d3-NMePFOSA

Method: Draft 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (5-130)	PFPeA (40-130)	13C5PHA (40-130)	C4PFHA (40-130)	C8PFOA (40-130)	C9PFNA (40-130)	C6PFDA (40-130)	13C7PUA (30-130)
LCS 320-787603/3-A	Lab Control Sample	89.6	96.4	89.6	93.2	88.7	90.6	92.7	95.6
LLCS 320-787603/2-A	Lab Control Sample	92.3	95.3	93.0	85.9	83.3	87.6	92.6	99.1
MB 320-787603/1-A	Method Blank	89.3	91.9	91.1	86.7	87.1	93.7	93.5	99.7

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFDaA (10-130)	PFTDA (10-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-170)	d5NEFOS (25-135)
LCS 320-787603/3-A	Lab Control Sample	90.0	87.6	90.2	92.6	90.1	91.8	94.2	97.4
LLCS 320-787603/2-A	Lab Control Sample	88.7	81.4	88.4	89.2	95.4	82.2	93.2	88.5

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Isotope Dilution Summary

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

Job ID: 380-106710-1
 SDG: Site J

Method: Draft 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFD _o A (10-130)	PFTDA (10-130)	C3PFBS (40-135)	C3PFHS (40-130)	C8PFOS (40-130)	PFOSA (40-130)	d3NMFOS (40-170)	d5NEFOS (25-135)
MB 320-787603/1-A	Method Blank	93.7	96.9	93.1	92.9	94.1	90.9	98.1	100

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	M242FTS (40-200)	M262FTS (40-200)	M282FTS (40-300)	HFPODA (40-130)	NMFM (10-130)	NEFM (10-130)	d5NPFSA (10-130)	d3NMFSA (10-130)
LCS 320-787603/3-A	Lab Control Sample	92.5	93.8	94.0	89.4	79.9	77.8	60.7	64.1
LLCS 320-787603/2-A	Lab Control Sample	101	97.7	104	89.6	68.4	68.9	62.3	64.6
MB 320-787603/1-A	Method Blank	98.5	96.9	103	82.5	75.5	75.5	58.2	61.2

Surrogate Legend

- PFBA = 13C4 PFBA
- PFPeA = 13C5 PFPeA
- 13C5PHA = 13C5 PFHxA
- C4PFHA = 13C4 PFHpA
- C8PFOA = 13C8 PFOA
- C9PFNA = 13C9 PFNA
- C6PFDA = 13C6 PFDA
- 13C7PUA = 13C7 PFUnA
- PFD_oA = 13C2 PFD_oA
- PFTDA = 13C2 PFTeDA
- C3PFBS = 13C3 PFBS
- C3PFHS = 13C3 PFHxS
- C8PFOS = 13C8 PFOS
- PFOSA = 13C8 PFOSA
- d3NMFOS = d3-NMeFOSAA
- d5NEFOS = d5-NEtFOSAA
- M242FTS = 13C2 4:2 FTS
- M262FTS = 13C2 6:2 FTS
- M282FTS = 13C2 8:2 FTS
- HFPODA = 13C3 HFPO-DA
- NMFM = d7-N-MeFOSE-M
- NEFM = d9-N-EtFOSE-M
- d5NPFSA = d5-NEtPFOSA
- d3NMFSA = d3-NMePFOSA

QC Sample Results

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

Job ID: 380-106710-1
 SDG: Site J

Method: Draft 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 320-787603/1-A
Matrix: Water
Analysis Batch: 790525

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 787603

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<8.0		8.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
Perfluoropentanoic acid (PFPeA)	<4.0		4.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
Perfluorodecanoic acid (PFDA)	<3.2		3.2	ng/L		08/05/24 11:33	08/13/24 02:36	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
Perfluorotetradecanoic acid (PFTeDA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<8.0		8.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<8.0		8.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<8.0		8.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
Perfluorooctanesulfonamide (PFOSA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<20		20	ng/L		08/05/24 11:33	08/13/24 02:36	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<20		20	ng/L		08/05/24 11:33	08/13/24 02:36	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<8.0		8.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<8.0		8.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<4.0		4.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<4.0		4.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<4.0		4.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<8.0		8.0	ng/L		08/05/24 11:33	08/13/24 02:36	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-106710-1
 SDG: Site J

Method: Draft 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 320-787603/1-A
Matrix: Water
Analysis Batch: 790525

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 787603

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid	<8.0		8.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<4.0		4.0	ng/L		08/05/24 11:33	08/13/24 02:36	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<10		10	ng/L		08/05/24 11:33	08/13/24 02:36	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<50		50	ng/L		08/05/24 11:33	08/13/24 02:36	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<50		50	ng/L		08/05/24 11:33	08/13/24 02:36	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	89.3		5 - 130	08/05/24 11:33	08/13/24 02:36	1
13C5 PFPeA	91.9		40 - 130	08/05/24 11:33	08/13/24 02:36	1
13C5 PFHxA	91.1		40 - 130	08/05/24 11:33	08/13/24 02:36	1
13C4 PFHpA	86.7		40 - 130	08/05/24 11:33	08/13/24 02:36	1
13C8 PFOA	87.1		40 - 130	08/05/24 11:33	08/13/24 02:36	1
13C9 PFNA	93.7		40 - 130	08/05/24 11:33	08/13/24 02:36	1
13C6 PFDA	93.5		40 - 130	08/05/24 11:33	08/13/24 02:36	1
13C7 PFUnA	99.7		30 - 130	08/05/24 11:33	08/13/24 02:36	1
13C2 PFDoA	93.7		10 - 130	08/05/24 11:33	08/13/24 02:36	1
13C2 PFTeDA	96.9		10 - 130	08/05/24 11:33	08/13/24 02:36	1
13C3 PFBS	93.1		40 - 135	08/05/24 11:33	08/13/24 02:36	1
13C3 PFHxS	92.9		40 - 130	08/05/24 11:33	08/13/24 02:36	1
13C8 PFOS	94.1		40 - 130	08/05/24 11:33	08/13/24 02:36	1
13C8 PFOSA	90.9		40 - 130	08/05/24 11:33	08/13/24 02:36	1
d3-NMeFOSAA	98.1		40 - 170	08/05/24 11:33	08/13/24 02:36	1
d5-NEtFOSAA	100		25 - 135	08/05/24 11:33	08/13/24 02:36	1
13C2 4:2 FTS	98.5		40 - 200	08/05/24 11:33	08/13/24 02:36	1
13C2 6:2 FTS	96.9		40 - 200	08/05/24 11:33	08/13/24 02:36	1
13C2 8:2 FTS	103		40 - 300	08/05/24 11:33	08/13/24 02:36	1
13C3 HFPO-DA	82.5		40 - 130	08/05/24 11:33	08/13/24 02:36	1
d7-N-MeFOSE-M	75.5		10 - 130	08/05/24 11:33	08/13/24 02:36	1
d9-N-EtFOSE-M	75.5		10 - 130	08/05/24 11:33	08/13/24 02:36	1
d5-NEtPFOSA	58.2		10 - 130	08/05/24 11:33	08/13/24 02:36	1
d3-NMePFOSA	61.2		10 - 130	08/05/24 11:33	08/13/24 02:36	1

Lab Sample ID: LCS 320-787603/3-A
Matrix: Water
Analysis Batch: 790525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 787603

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Perfluorobutanoic acid (PFBA)	128	128		ng/L		100	70 - 140
Perfluoropentanoic acid (PFPeA)	64.0	60.8		ng/L		95	65 - 135
Perfluorohexanoic acid (PFHxA)	32.0	31.8		ng/L		99	70 - 145
Perfluoroheptanoic acid (PFHpA)	32.0	31.9		ng/L		100	70 - 150
Perfluorooctanoic acid (PFOA)	32.0	29.7		ng/L		93	70 - 150
Perfluorononanoic acid (PFNA)	32.0	30.3		ng/L		95	70 - 150
Perfluorodecanoic acid (PFDA)	32.0	29.2		ng/L		91	70 - 140

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-106710-1
 SDG: Site J

Method: Draft 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-787603/3-A
Matrix: Water
Analysis Batch: 790525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 787603

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	32.0	32.7		ng/L		102	70 - 145
Perfluorododecanoic acid (PFDoA)	32.0	33.0		ng/L		103	70 - 140
Perfluorotridecanoic acid (PFTrDA)	32.0	31.1		ng/L		97	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	32.0	31.3		ng/L		98	60 - 140
Perfluorobutanesulfonic acid (PFBS)	28.4	28.5		ng/L		100	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	30.1	29.5		ng/L		98	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	29.2	25.9		ng/L		89	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	30.5	28.3		ng/L		93	70 - 150
Perfluorooctanesulfonic acid (PFOS)	29.8	29.6		ng/L		99	55 - 150
Perfluorononanesulfonic acid (PFNS)	30.8	31.2		ng/L		101	65 - 145
Perfluorodecanesulfonic acid (PFDS)	30.8	30.0		ng/L		97	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	31.0	28.2		ng/L		91	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	121		ng/L		101	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	122	126		ng/L		104	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	123	125		ng/L		101	60 - 150
Perfluorooctanesulfonamide (PFOSA)	32.0	32.7		ng/L		102	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	32.0	30.6		ng/L		96	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	32.0	33.1		ng/L		103	65 - 145
N-methylperfluorooctanesulfonamide (NMeFOSAA)	32.0	30.0		ng/L		94	50 - 140
N-ethylperfluorooctanesulfonamide (NEtFOSAA)	32.0	31.4		ng/L		98	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	320	321		ng/L		100	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	320	325		ng/L		102	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	128	126		ng/L		99	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	121	122		ng/L		101	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	64.0	62.4		ng/L		98	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	64.0	60.8		ng/L		95	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	64.0	63.7		ng/L		99	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	120	115		ng/L		96	70 - 155

QC Sample Results

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

Job ID: 380-106710-1
 SDG: Site J

Method: Draft 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 320-787603/3-A
Matrix: Water
Analysis Batch: 790525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 787603

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	121	118		ng/L		98	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	57.1	56.6		ng/L		99	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	160	149		ng/L		93	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	799	782		ng/L		98	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	799	757		ng/L		95	50 - 145

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	89.6		5 - 130
13C5 PFPeA	96.4		40 - 130
13C5 PFHxA	89.6		40 - 130
13C4 PFHpA	93.2		40 - 130
13C8 PFOA	88.7		40 - 130
13C9 PFNA	90.6		40 - 130
13C6 PFDA	92.7		40 - 130
13C7 PFUnA	95.6		30 - 130
13C2 PFDoA	90.0		10 - 130
13C2 PFTeDA	87.6		10 - 130
13C3 PFBS	90.2		40 - 135
13C3 PFHxS	92.6		40 - 130
13C8 PFOS	90.1		40 - 130
13C8 PFOSA	91.8		40 - 130
d3-NMeFOSAA	94.2		40 - 170
d5-NEtFOSAA	97.4		25 - 135
13C2 4:2 FTS	92.5		40 - 200
13C2 6:2 FTS	93.8		40 - 200
13C2 8:2 FTS	94.0		40 - 300
13C3 HFPO-DA	89.4		40 - 130
d7-N-MeFOSE-M	79.9		10 - 130
d9-N-EtFOSE-M	77.8		10 - 130
d5-NEtPFOSA	60.7		10 - 130
d3-NMePFOSA	64.1		10 - 130

Lab Sample ID: LLCS 320-787603/2-A
Matrix: Water
Analysis Batch: 790525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 787603

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	12.8	11.5		ng/L		90	70 - 140
Perfluoropentanoic acid (PFPeA)	6.40	5.44		ng/L		85	65 - 135
Perfluorohexanoic acid (PFHxA)	3.20	2.68		ng/L		84	70 - 145
Perfluoroheptanoic acid (PFHpA)	3.20	3.01		ng/L		94	70 - 150
Perfluorooctanoic acid (PFOA)	3.20	2.89		ng/L		90	70 - 150
Perfluorononanoic acid (PFNA)	3.20	3.08		ng/L		96	70 - 150
Perfluorodecanoic acid (PFDA)	3.20	3.25		ng/L		102	70 - 140

QC Sample Results

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

Job ID: 380-106710-1
 SDG: Site J

Method: Draft 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-787603/2-A
Matrix: Water
Analysis Batch: 790525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 787603

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	3.20	2.91		ng/L		91	70 - 145
Perfluorododecanoic acid (PFDoA)	3.20	2.79		ng/L		87	70 - 140
Perfluorotridecanoic acid (PFTrDA)	3.20	2.73		ng/L		85	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	3.20	2.71		ng/L		85	60 - 140
Perfluorobutanesulfonic acid (PFBS)	2.84	2.56		ng/L		90	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.01	2.68		ng/L		89	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	2.92	2.52		ng/L		86	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.05	2.78		ng/L		91	70 - 150
Perfluorooctanesulfonic acid (PFOS)	2.98	2.56		ng/L		86	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.08	2.31		ng/L		75	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.08	2.59		ng/L		84	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.10	2.16		ng/L		70	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	12.0	10.5		ng/L		87	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	12.2	12.1		ng/L		99	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	12.3	11.2		ng/L		91	60 - 150
Perfluorooctanesulfonamide (PFOSA)	3.20	3.13		ng/L		98	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	3.20	2.27		ng/L		71	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	3.20	2.55		ng/L		80	65 - 145
N-methylperfluorooctanesulfonamide (NMeFOSAA)	3.20	2.70		ng/L		84	50 - 140
N-ethylperfluorooctanesulfonamide (NEtFOSAA)	3.20	2.87		ng/L		90	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	32.0	27.0		ng/L		84	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	32.0	26.7		ng/L		83	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	12.8	10.5		ng/L		82	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	12.1	10.6		ng/L		88	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	6.40	5.82		ng/L		91	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	6.40	5.54		ng/L		87	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	6.40	5.36		ng/L		84	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	12.0	10.6		ng/L		88	70 - 155

QC Sample Results

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

Job ID: 380-106710-1
 SDG: Site J

Method: Draft 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 320-787603/2-A
 Matrix: Water
 Analysis Batch: 790525

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 787603

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	12.1	10.0		ng/L		83	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	5.71	5.36		ng/L		94	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	16.0	13.5		ng/L		85	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	79.9	65.6		ng/L		82	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	79.9	63.6		ng/L		80	50 - 145

Isotope Dilution	LLCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	92.3		5 - 130
13C5 PFPeA	95.3		40 - 130
13C5 PFHxA	93.0		40 - 130
13C4 PFHpA	85.9		40 - 130
13C8 PFOA	83.3		40 - 130
13C9 PFNA	87.6		40 - 130
13C6 PFDA	92.6		40 - 130
13C7 PFUnA	99.1		30 - 130
13C2 PFDoA	88.7		10 - 130
13C2 PFTeDA	81.4		10 - 130
13C3 PFBS	88.4		40 - 135
13C3 PFHxS	89.2		40 - 130
13C8 PFOS	95.4		40 - 130
13C8 PFOSA	82.2		40 - 130
d3-NMeFOSAA	93.2		40 - 170
d5-NEtFOSAA	88.5		25 - 135
13C2 4:2 FTS	101		40 - 200
13C2 6:2 FTS	97.7		40 - 200
13C2 8:2 FTS	104		40 - 300
13C3 HFPO-DA	89.6		40 - 130
d7-N-MeFOSE-M	68.4		10 - 130
d9-N-EtFOSE-M	68.9		10 - 130
d5-NEtPFOSA	62.3		10 - 130
d3-NMePFOSA	64.6		10 - 130

QC Association Summary

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

Job ID: 380-106710-1
SDG: Site J

LCMS

Prep Batch: 787603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-106710-1	BWS2253-J1-AQ	Total/NA	Drinking Water	1633	
MB 320-787603/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-787603/3-A	Lab Control Sample	Total/NA	Water	1633	
LLCS 320-787603/2-A	Lab Control Sample	Total/NA	Water	1633	

Analysis Batch: 790525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-787603/1-A	Method Blank	Total/NA	Water	Draft 1633	787603
LCS 320-787603/3-A	Lab Control Sample	Total/NA	Water	Draft 1633	787603
LLCS 320-787603/2-A	Lab Control Sample	Total/NA	Water	Draft 1633	787603

Analysis Batch: 790558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-106710-1	BWS2253-J1-AQ	Total/NA	Drinking Water	Draft 1633	787603

Lab Chronicle

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

Job ID: 380-106710-1
SDG: Site J

Client Sample ID: BWS2253-J1-AQ

Lab Sample ID: 380-106710-1

Date Collected: 07/31/24 11:15

Matrix: Drinking Water

Date Received: 08/01/24 08:45

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Analyst</u>	<u>Lab</u>	<u>Prepared or Analyzed</u>
Total/NA	Prep	1633			787603	ATB	EET SAC	08/05/24 11:33
Total/NA	Analysis	Draft 1633		1	790558	RS1	EET SAC	08/13/24 14:18

Laboratory References:

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

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Accreditation/Certification Summary

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

Job ID: 380-106710-1
 SDG: Site J

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 (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	01-20-27
Arizona	State	AZ0708	08-11-25
Arkansas DEQ	State	88-0691	05-18-25
California	State	2897	01-31-26
Colorado	State	CA00044	08-31-24
Florida	NELAP	E87570	06-30-25
Georgia	State	4040	01-29-25
Hawaii	State	Eurofins Sacramento	01-29-25
Illinois	NELAP	200060	03-31-25
Kansas	NELAP	E-10375	10-31-25
Louisiana	NELAP	01944	06-30-25
Louisiana (All)	NELAP	01944	06-30-25
Maine	State	CA00004	04-14-26
Michigan	State	9947	01-29-25
Nevada	State	CA00044	10-31-24
New Hampshire	NELAP	2997	04-19-25
New Jersey	NELAP	CA005	06-30-25
New York	NELAP	11666	04-01-25
Ohio	State	41252	01-29-25
Oregon	NELAP	4040	01-29-25
Texas	NELAP	T104704399-23-17	05-31-25
US Fish & Wildlife	US Federal Programs	A22139	04-30-25
USDA	US Federal Programs	P330-18-00239	02-28-26
Utah	NELAP	CA000442023-16	02-28-25
Virginia	NELAP	460278	03-14-25
Washington	State	C581	05-05-25
West Virginia (DW)	State	9930C	01-31-25
Wisconsin	State	998204680	08-31-25
Wyoming	State Program	8TMS-L	01-28-19 *

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

Method Summary

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

Job ID: 380-106710-1
SDG: Site J

Method	Method Description	Protocol	Laboratory
Draft 1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	EET SAC
1633	Solid-Phase Extraction (SPE)	EPA	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

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

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Sample Summary

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

Job ID: 380-106710-1
SDG: Site J

<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Collected</u>	<u>Received</u>
380-106710-1	BWS2253-J1-AQ	Drinking Water	07/31/24 11:15	08/01/24 08:45

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Chain of Custody Record



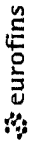
Client Information Client Contact: Mr. Erwin Kawata City & County of Honolulu Address: 630 South Beretania Street City: Honolulu State, Zip: HI, 96843 Phone: 808-748-5066(Tel) Email: ekawata@hbws.org Project Name: HRS-340E - RED-HILL - INTERA Site: Site J		Lab PM: Arada, Rachelle E-Mail: Rachelle.Arada@eurofins.com PWSID:		Sampler: N. Matthey/J. Joseph Phone: 858-205-0730		Carrier Tracking No(s): State of Origin: Hawaii		COC No: Page: Page 1 of 1 Job #:											
Due Date Requested: TAT Requested (days): Standard Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No PO #: C20525101 exp 05312023 WO #: Project #: 38000861 SSOW#:		Analysis Requested																	
Sample Identification BWS2253-J1-AQ BWS2253-J1-FB BWS2253-J1-FB		Sample Date 7/31/2024 7/31/2024 7/31/2024		Sample Time 11:15 11:15 11:15		Sample Type (C=Comp, G=grab) G G G		Preservation Code: Water Water Water		Field Filtered Sample (Yes or No) X X X		Perform MS/MSD (Yes or No) X X X		SUBCONTRACT-625-PATH only ties SUBCONTRACT-TFH-8045-P.M. JES. JER. SUBCONTRACT-625-PATH only ties SUBCONTRACT-704-Gas SUBCONTRACT-804-Gas PEAS 533 All Analytes PEAS 537.1 DW PREC. 537.4 Polymers PEAS 1633 DOD5 1633 Std List		Total Number of Containers X 21 8 4 0 4 8		Special Instructions/Notes: x = testing comes from another container. Subcontract Notes: 625-PATH-EEA-Pom - Ship to Calabasas 8045-TFH-D-AM, JP5, JP8 - EEA-Pom 8045-Gas-EEA-Pom 82008-EEA-POM PEAS 537.1-8-533-EEA-POM (PFAS 1633 - EEA SAC) Bill and Report to EEA - Pomona	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological										Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months									
Deliverable Requested <input type="checkbox"/> I, <input type="checkbox"/> II, <input type="checkbox"/> III, <input type="checkbox"/> IV, Other (specify)										Special Instructions/QC Requirements:									
Empty Kit Relinquished by:										Method of Shipment: FEDEX Priority Overnight									
Relinquished by: <i>[Signature]</i> Date/Time: 7/31/24 12:30 Company: INTERA inc										Relinquished by: <i>[Signature]</i> Date/Time: 08/01/24 08:45 Company: EEA SAC									
Relinquished by: <i>[Signature]</i> Date/Time:										Relinquished by: <i>[Signature]</i> Date/Time:									
Relinquished by:										Relinquished by:									
Custody Seals Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No. <i>Seal 1</i>										Cooler Temperature(s) °C and Other Remarks: 0, 16 °C									



Eurofins Eaton Analytical Pomona

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

Chain of Custody Record




Environment Testing

Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:
Client Contact:		Arada, Rachelle	Arada, Rachelle		380-142639.1
Shipping/Receiving		E-Mail:	E-Mail:	State of Origin:	Page: 1 of 1
Company:		Rachelle.Arada@et.eurofins.com		Hawaii	Job #:
Eurofins Environment Testing Northern Ca		State - Hawaii		Accreditations Required (See note):	380-106710-1
Address:		Due Date Requested:	Analysis Requested		
880 Riverside Parkway,		8/21/2024	Total Number of Containers		
City: West Sacramento		TAT Requested (days):			
State, Zip:		PO #:			
CA, 95605		WO #:			
Phone:		Project #:			
916-373-5600(Tel) 916-372-1059(Fax)		36000861			
Email:		SSOW#:			
Project Name:		Field Filtered Sample (Yes/No)		Perform MS/MSD (Yes or No)	
INTERA - Red-Hill-Incident		X		X	
Site:		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Hexachloro, Spent, Oil, Grease, Other)
Honolulu BWS Sites		7/31/24	11:15 Hawaiian		Water
Sample Identification - Client ID (Lab ID)		Special Instructions/Note:		Special Instructions/Note:	
BWS2253-J1-AQ (380-106710-1)					
Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, 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 Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Eaton Analytical, LLC.					
Possible Hazard Identification					
Unconfirmed					
Deliverable Requested: I, II, III, IV, Other (specify)		Primary Deliverable Rank: 2		Special Instructions/QC Requirements:	
Empty Kit Relinquished by		Date:		Time:	
Relinquished by		Company		Method of Shipment	
Relinquished by		Date/Time:		Received by:	
Relinquished by		Date/Time:		Date/Time:	
Relinquished by		Date/Time:		Date/Time:	
Custody Seals Intact		Custody Seal No.		Cooler Temperature(s) °C and Other Remarks:	
Δ Yes Δ No				0 6	



Chain of Custody Record

Client Information		Sampler: N Mattner/J Joseph		Lab PM: Arada, Rachelle		Carrier Tracking No(s):		COC No:	
Client Contact: Mr Erwin Kawata		Phone: 858-205-0730		E-Mail: Rachelle.Arada@et.eurofins.com		State of Origin: Hawaii		Page: Page 1 of 1	
Company: City & County of Honolulu		PWSID:		Analysis Requested		Job #:		Preservation Codes:	
Address: 630 South Beretania Street		Due Date Requested		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		M - Hexane	
City: Honolulu		TAT Requested (days) Standard		SUBCONTRACT - 625 - PAH Only + Hqs		SUBCONTRACT - TPH 8045 D-M, JPS, JPS		N - None	
State, Zip: HI 96843		Compliance Project: Δ Yes Δ No		SUBCONTRACT - (MOD) Super Values List		SUBCONTRACT - 8045 Gas		O ASNaO2	
Phone: 808-748-5066 (Tel)		PO #: C20525101 exp 05312023		SUBCONTRACT - TPH 8045 D-M, JPS, JPS		SUBCONTRACT - All Analytes		P Na2O4S	
Email: ekawata@hbws.org		WO #: C20525101 exp 05312023		SUBCONTRACT - 625 - PAH Only + Hqs		SUBCONTRACT - 8045 Gas		Q Na2SO3	
Project Name: HRS-340E - RED-HILL - INTERA		Project #: 38000861		SUBCONTRACT - 625 - PAH Only + Hqs		SUBCONTRACT - All Analytes		R - NaHSO4	
Site: Site J		SSOW#:		SUBCONTRACT - 625 - PAH Only + Hqs		SUBCONTRACT - All Analytes		S - H2SO4	
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		T - TSP Dodecahydrate	
BWS2253-J1-AQ		7/31/2024		1115		G Water		U Acetone	
BWS2253-J1-FB		7/31/2024		1115		G Water		V MCAA	
BWS2253-J1-FB		7/31/2024		1115		G Water		W pH 4-5	
 380-106710 Chain of Custody		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		X - other (specify)	
		7/31/2024		1115		G Water		Special Instructions/Note: x = testing comes from another container	
		7/31/2024		1115		G Water		Subcontract Notes: 625-PAH - EEA-POM -> Ship to Calabrese 8045-TPH-D-M, JPS, JPS - EEA-POM 8045-Gas - EEA-POM 82606 - EEA-POM PEAS 53748-533 - EEA-POM PFAS 1633 - EEA SAC Bill and Report to EEA - Pomona	
Possible Hazard Identification		Date		Date		Date		Total Number of Containers	
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		7/31/24		1230		Company: INTERA, Inc		21	
Deliverable Requested I, II, III, IV Other (specify)		Date: 7/31/24		Time: 1230		Company: Company		8	
Empty Kit Relinquished by		Date: 7/31/24		Time: 1230		Company: Company		4	
Relinquished by: <i>[Signature]</i>		Date: 7/31/24		Time: 1230		Company: Company		0	
Relinquished by: <i>[Signature]</i>		Date: 7/31/24		Time: 1230		Company: Company		4	
Relinquished by: <i>[Signature]</i>		Date: 7/31/24		Time: 1230		Company: Company		8	
Custody Seals Intact: Seal		Date: 7/31/24		Time: 1230		Company: Company		Special Instructions/QC Requirements	
Custody Seal No. Seal		Date: 7/31/24		Time: 1230		Company: Company		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Custody Seal No. Seal		Date: 7/31/24		Time: 1230		Company: Company		<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months	
Custody Seal No. Seal		Date: 7/31/24		Time: 1230		Company: Company		Method of Shipment: FEDEX Priority Overnight	
Custody Seal No. Seal		Date: 7/31/24		Time: 1230		Company: Company		Received by: <i>[Signature]</i> Date/Time: 08/01/24 0845 Company: ETSAC	
Custody Seal No. Seal		Date: 7/31/24		Time: 1230		Company: Company		Received by: <i>[Signature]</i> Date/Time: 08/01/24 0845 Company: ETSAC	
Custody Seal No. Seal		Date: 7/31/24		Time: 1230		Company: Company		Received by: <i>[Signature]</i> Date/Time: 08/01/24 0845 Company: ETSAC	
Custody Seal No. Seal		Date: 7/31/24		Time: 1230		Company: Company		Cooler Temperature(s) °C and Other Remarks: 0.0°C	



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-106710-1

SDG Number: Site J

Login Number: 106710

List Number: 1

Creator: Ngo, Theodore

List Source: Eurofins Eaton Analytical Pomona

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



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-106710-1

SDG Number: Site J

Login Number: 106710

List Number: 2

Creator: Simmons, Jason C

List Source: Eurofins Sacramento

List Creation: 08/01/24 05:30 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	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.6c
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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

