

ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

HRS-340E - RED-HILL - INTERA

JOB NUMBER

380-67744-1

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: HRS-340E - RED-HILL - INTERA

Job ID: 380-67744-1

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/Site: HRS-340E - RED-HILL - INTERA

Job ID: 380-67744-1

Job ID: 380-67744-1

Laboratory: Eurofins Eaton Analytical Pomona

Narrative

Job Narrative 380-67744-1

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 are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample 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 10/19/2023 9:15 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 0.8°C

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: HRS-340E - RED-HILL - INTERA

Job ID: 380-67744-1

Client Sample ID: BWS2253-J1-AQ

Lab Sample ID: 380-67744-1

No Detections.

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This Detection Summary does not include radiochemical test results.

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
 Project/Site: HRS-340E - RED-HILL - INTERA

Job ID: 380-67744-1

Client Sample ID: BWS2253-J1-AQ

Lab Sample ID: 380-67744-1

Date Collected: 10/18/23 11:00

Matrix: Water

Date Received: 10/19/23 09:15

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)	<7.0		7.0	ng/L		11/10/23 12:15	11/12/23 05:38	1
Perfluoropentanoic acid (PFPeA)	<3.5		3.5	ng/L		11/10/23 12:15	11/12/23 05:38	1
Perfluorohexanoic acid (PFHxA)	<1.8		1.8	ng/L		11/10/23 12:15	11/12/23 05:38	1
Perfluoroheptanoic acid (PFHpA)	<1.8		1.8	ng/L		11/10/23 12:15	11/12/23 05:38	1
Perfluorooctanoic acid (PFOA)	<1.8		1.8	ng/L		11/10/23 12:15	11/12/23 05:38	1
Perfluorononanoic acid (PFNA)	<1.8		1.8	ng/L		11/10/23 12:15	11/12/23 05:38	1
Perfluorodecanoic acid (PFDA)	<2.8		2.8	ng/L		11/10/23 12:15	11/12/23 05:38	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	ng/L		11/10/23 12:15	11/12/23 05:38	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	ng/L		11/10/23 12:15	11/12/23 05:38	1
Perfluorotridecanoic acid (PFTrDA)	<1.8		1.8	ng/L		11/10/23 12:15	11/12/23 05:38	1
Perfluorotetradecanoic acid (PFTeDA)	<1.8		1.8	ng/L		11/10/23 12:15	11/12/23 05:38	1
Perfluorobutanesulfonic acid (PFBS)	<1.8		1.8	ng/L		11/10/23 12:15	11/12/23 05:38	1
Perfluoropentanesulfonic acid (PFPeS)	<1.8		1.8	ng/L		11/10/23 12:15	11/12/23 05:38	1
Perfluorohexanesulfonic acid (PFHxS)	<1.8		1.8	ng/L		11/10/23 12:15	11/12/23 05:38	1
Perfluoroheptanesulfonic acid (PFHpS)	<1.8		1.8	ng/L		11/10/23 12:15	11/12/23 05:38	1
Perfluorooctanesulfonic acid (PFOS)	<1.8		1.8	ng/L		11/10/23 12:15	11/12/23 05:38	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	ng/L		11/10/23 12:15	11/12/23 05:38	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	ng/L		11/10/23 12:15	11/12/23 05:38	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	ng/L		11/10/23 12:15	11/12/23 05:38	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<7.0		7.0	ng/L		11/10/23 12:15	11/12/23 05:38	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<7.0		7.0	ng/L		11/10/23 12:15	11/12/23 05:38	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<7.0		7.0	ng/L		11/10/23 12:15	11/12/23 05:38	1
Perfluorooctanesulfonamide (PFOSA)	<1.8		1.8	ng/L		11/10/23 12:15	11/12/23 05:38	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<1.8		1.8	ng/L		11/10/23 12:15	11/12/23 05:38	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<1.8		1.8	ng/L		11/10/23 12:15	11/12/23 05:38	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<1.8		1.8	ng/L		11/10/23 12:15	11/12/23 05:38	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.8		1.8	ng/L		11/10/23 12:15	11/12/23 05:38	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<18		18	ng/L		11/10/23 12:15	11/12/23 05:38	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<18		18	ng/L		11/10/23 12:15	11/12/23 05:38	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<7.0		7.0	ng/L		11/10/23 12:15	11/12/23 05:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<7.0		7.0	ng/L		11/10/23 12:15	11/12/23 05:38	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<3.5		3.5	ng/L		11/10/23 12:15	11/12/23 05:38	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<3.5		3.5	ng/L		11/10/23 12:15	11/12/23 05:38	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<3.5		3.5	ng/L		11/10/23 12:15	11/12/23 05:38	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid	<7.0		7.0	ng/L		11/10/23 12:15	11/12/23 05:38	1

Client Sample Results

Client: City & County of Honolulu
 Project/Site: HRS-340E - RED-HILL - INTERA

Job ID: 380-67744-1

Client Sample ID: BWS2253-J1-AQ

Lab Sample ID: 380-67744-1

Date Collected: 10/18/23 11:00

Matrix: Water

Date Received: 10/19/23 09:15

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	<7.0		7.0	ng/L		11/10/23 12:15	11/12/23 05:38	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<3.5		3.5	ng/L		11/10/23 12:15	11/12/23 05:38	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<8.8		8.8	ng/L		11/10/23 12:15	11/12/23 05:38	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<44		44	ng/L		11/10/23 12:15	11/12/23 05:38	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<44		44	ng/L		11/10/23 12:15	11/12/23 05:38	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	98.3		5 - 130	11/10/23 12:15	11/12/23 05:38	1
13C5 PFPeA	99.4		40 - 130	11/10/23 12:15	11/12/23 05:38	1
13C5 PFHxA	102		40 - 130	11/10/23 12:15	11/12/23 05:38	1
13C4 PFHpA	86.1		40 - 130	11/10/23 12:15	11/12/23 05:38	1
13C8 PFOA	74.5		40 - 130	11/10/23 12:15	11/12/23 05:38	1
13C9 PFNA	75.7		40 - 130	11/10/23 12:15	11/12/23 05:38	1
13C6 PFDA	86.4		40 - 130	11/10/23 12:15	11/12/23 05:38	1
13C7 PFUnA	77.6		30 - 130	11/10/23 12:15	11/12/23 05:38	1
13C2 PFDoA	82.1		10 - 130	11/10/23 12:15	11/12/23 05:38	1
13C2 PFTeDA	59.1		10 - 130	11/10/23 12:15	11/12/23 05:38	1
13C3 PFBS	85.2		40 - 135	11/10/23 12:15	11/12/23 05:38	1
13C3 PFHxS	92.5		40 - 130	11/10/23 12:15	11/12/23 05:38	1
13C8 PFOS	89.1		40 - 130	11/10/23 12:15	11/12/23 05:38	1
13C8 PFOSA	85.1		40 - 130	11/10/23 12:15	11/12/23 05:38	1
d3-NMeFOSAA	95.3		40 - 170	11/10/23 12:15	11/12/23 05:38	1
d5-NEtFOSAA	95.1		25 - 135	11/10/23 12:15	11/12/23 05:38	1
13C2 4:2 FTS	124		40 - 200	11/10/23 12:15	11/12/23 05:38	1
13C2 6:2 FTS	103		40 - 200	11/10/23 12:15	11/12/23 05:38	1
13C2 8:2 FTS	89.7		40 - 300	11/10/23 12:15	11/12/23 05:38	1
13C3 HFPO-DA	102		40 - 130	11/10/23 12:15	11/12/23 05:38	1
d7-N-MeFOSE-M	65.0		10 - 130	11/10/23 12:15	11/12/23 05:38	1
d9-N-EtFOSE-M	61.1		10 - 130	11/10/23 12:15	11/12/23 05:38	1
d5-NEtPFOSA	52.1		10 - 130	11/10/23 12:15	11/12/23 05:38	1
d3-NMePFOSA	56.2		10 - 130	11/10/23 12:15	11/12/23 05:38	1

Isotope Dilution Summary

Client: City & County of Honolulu
 Project/Site: HRS-340E - RED-HILL - INTERA

Job ID: 380-67744-1

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)
320-106413-A-1-B MS	Matrix Spike	107	102	109	95.3	83.3	77.6	86.8	95.2
320-106413-A-1-C MSD	Matrix Spike Duplicate	107	105	108	99.1	82.8	76.4	96.9	87.8
380-67744-1	BWS2253-J1-AQ	98.3	99.4	102	86.1	74.5	75.7	86.4	77.6
LCS 320-719443/3-A	Lab Control Sample	98.1	91.1	95.3	88.1	79.9	67.9	81.5	85.3
LLCS 320-719443/2-A	Lab Control Sample	102	95.6	104	92.0	80.8	71.9	89.0	94.9
MB 320-719443/1-A	Method Blank	115	105	113	105	95.1	93.5	97.3	100

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)
320-106413-A-1-B MS	Matrix Spike	95.4	79.9	90.8	96.8	90.2	77.1	92.4	94.9
320-106413-A-1-C MSD	Matrix Spike Duplicate	96.3	91.2	86.1	98.9	91.6	77.0	92.2	89.1
380-67744-1	BWS2253-J1-AQ	82.1	59.1	85.2	92.5	89.1	85.1	95.3	95.1
LCS 320-719443/3-A	Lab Control Sample	92.9	77.0	82.4	93.8	92.4	78.1	91.0	100
LLCS 320-719443/2-A	Lab Control Sample	103	77.7	82.9	92.7	97.8	77.8	89.2	96.9
MB 320-719443/1-A	Method Blank	97.9	73.6	92.2	106	106	89.1	109	107

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)
320-106413-A-1-B MS	Matrix Spike	126	99.2	105	106	73.3	68.3	61.9	61.2
320-106413-A-1-C MSD	Matrix Spike Duplicate	127	112	103	108	75.6	70.9	62.2	62.4
380-67744-1	BWS2253-J1-AQ	124	103	89.7	102	65.0	61.1	52.1	56.2
LCS 320-719443/3-A	Lab Control Sample	115	102	122	93.4	76.3	71.0	58.7	59.8
LLCS 320-719443/2-A	Lab Control Sample	121	99.9	100	103	77.5	72.8	55.6	53.4
MB 320-719443/1-A	Method Blank	141	116	115	117	87.0	82.0	70.8	67.2

Surrogate Legend

- PFBA = 13C4 PFBA
- PFPeA = 13C5 PFPeA
- 13C5PHA = 13C5 PFHxA
- C4PFHA = 13C4 PFHpA
- C8PFOA = 13C8 PFOA
- C9PFNA = 13C9 PFNA
- C6PFDA = 13C6 PFDA
- 13C7PUA = 13C7 PFUnA
- PFDaA = 13C2 PFDaA
- PFTDA = 13C2 PFTeDA
- 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

Isotope Dilution Summary

Client: City & County of Honolulu
Project/Site: HRS-340E - RED-HILL - INTERA
d3NMFSA = d3-NMePFOSA

Job ID: 380-67744-1

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QC Sample Results

Client: City & County of Honolulu
 Project/Site: HRS-340E - RED-HILL - INTERA

Job ID: 380-67744-1

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

Lab Sample ID: MB 320-719443/1-A
Matrix: Water
Analysis Batch: 719797

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 719443

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<8.0		8.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
Perfluoropentanoic acid (PFPeA)	<4.0		4.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
Perfluorodecanoic acid (PFDA)	<3.2		3.2	ng/L		11/10/23 12:15	11/12/23 03:58	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
Perfluorotetradecanoic acid (PFTeDA)	<2.0		2.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<8.0		8.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<8.0		8.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<8.0		8.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
Perfluorooctanesulfonamide (PFOSA)	<2.0		2.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<2.0		2.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<2.0		2.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<20		20	ng/L		11/10/23 12:15	11/12/23 03:58	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<20		20	ng/L		11/10/23 12:15	11/12/23 03:58	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<8.0		8.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<8.0		8.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<4.0		4.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<4.0		4.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<4.0		4.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<8.0		8.0	ng/L		11/10/23 12:15	11/12/23 03:58	1

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QC Sample Results

Client: City & County of Honolulu
 Project/Site: HRS-340E - RED-HILL - INTERA

Job ID: 380-67744-1

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

Lab Sample ID: MB 320-719443/1-A
Matrix: Water
Analysis Batch: 719797

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 719443

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		11/10/23 12:15	11/12/23 03:58	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<4.0		4.0	ng/L		11/10/23 12:15	11/12/23 03:58	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<10		10	ng/L		11/10/23 12:15	11/12/23 03:58	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<50		50	ng/L		11/10/23 12:15	11/12/23 03:58	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<50		50	ng/L		11/10/23 12:15	11/12/23 03:58	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	115		5 - 130	11/10/23 12:15	11/12/23 03:58	1
13C5 PFPeA	105		40 - 130	11/10/23 12:15	11/12/23 03:58	1
13C5 PFHxA	113		40 - 130	11/10/23 12:15	11/12/23 03:58	1
13C4 PFHpA	105		40 - 130	11/10/23 12:15	11/12/23 03:58	1
13C8 PFOA	95.1		40 - 130	11/10/23 12:15	11/12/23 03:58	1
13C9 PFNA	93.5		40 - 130	11/10/23 12:15	11/12/23 03:58	1
13C6 PFDA	97.3		40 - 130	11/10/23 12:15	11/12/23 03:58	1
13C7 PFUnA	100		30 - 130	11/10/23 12:15	11/12/23 03:58	1
13C2 PFDoA	97.9		10 - 130	11/10/23 12:15	11/12/23 03:58	1
13C2 PFTeDA	73.6		10 - 130	11/10/23 12:15	11/12/23 03:58	1
13C3 PFBS	92.2		40 - 135	11/10/23 12:15	11/12/23 03:58	1
13C3 PFHxS	106		40 - 130	11/10/23 12:15	11/12/23 03:58	1
13C8 PFOS	106		40 - 130	11/10/23 12:15	11/12/23 03:58	1
13C8 PFOSA	89.1		40 - 130	11/10/23 12:15	11/12/23 03:58	1
d3-NMeFOSAA	109		40 - 170	11/10/23 12:15	11/12/23 03:58	1
d5-NEtFOSAA	107		25 - 135	11/10/23 12:15	11/12/23 03:58	1
13C2 4:2 FTS	141		40 - 200	11/10/23 12:15	11/12/23 03:58	1
13C2 6:2 FTS	116		40 - 200	11/10/23 12:15	11/12/23 03:58	1
13C2 8:2 FTS	115		40 - 300	11/10/23 12:15	11/12/23 03:58	1
13C3 HFPO-DA	117		40 - 130	11/10/23 12:15	11/12/23 03:58	1
d7-N-MeFOSE-M	87.0		10 - 130	11/10/23 12:15	11/12/23 03:58	1
d9-N-EtFOSE-M	82.0		10 - 130	11/10/23 12:15	11/12/23 03:58	1
d5-NEtPFOSA	70.8		10 - 130	11/10/23 12:15	11/12/23 03:58	1
d3-NMePFOSA	67.2		10 - 130	11/10/23 12:15	11/12/23 03:58	1

Lab Sample ID: LCS 320-719443/3-A
Matrix: Water
Analysis Batch: 719797

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 719443

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Perfluorobutanoic acid (PFBA)	128	114		ng/L		89	70 - 140
Perfluoropentanoic acid (PFPeA)	64.0	60.2		ng/L		94	65 - 135
Perfluorohexanoic acid (PFHxA)	32.0	32.3		ng/L		101	70 - 145
Perfluoroheptanoic acid (PFHpA)	32.0	33.1		ng/L		103	70 - 150
Perfluorooctanoic acid (PFOA)	32.0	30.8		ng/L		96	70 - 150
Perfluorononanoic acid (PFNA)	32.0	31.8		ng/L		99	70 - 150
Perfluorodecanoic acid (PFDA)	32.0	36.5		ng/L		114	70 - 140

Eurofins Eaton Analytical Pomona

QC Sample Results

Client: City & County of Honolulu
 Project/Site: HRS-340E - RED-HILL - INTERA

Job ID: 380-67744-1

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

Lab Sample ID: LCS 320-719443/3-A

Matrix: Water

Analysis Batch: 719797

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 719443

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	32.0	32.5		ng/L		102	70 - 145
Perfluorododecanoic acid (PFDoA)	32.0	29.3		ng/L		92	70 - 140
Perfluorotridecanoic acid (PFTrDA)	32.0	30.4		ng/L		95	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	32.0	37.9		ng/L		118	60 - 140
Perfluorobutanesulfonic acid (PFBS)	28.4	29.1		ng/L		103	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	30.1	30.5		ng/L		101	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	29.2	28.2		ng/L		97	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	30.5	33.7		ng/L		111	70 - 150
Perfluorooctanesulfonic acid (PFOS)	29.8	31.2		ng/L		105	55 - 150
Perfluorononanesulfonic acid (PFNS)	30.8	30.9		ng/L		100	65 - 145
Perfluorodecanesulfonic acid (PFDS)	30.8	34.9		ng/L		113	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	31.0	30.0		ng/L		97	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	120		ng/L		100	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	122	118		ng/L		97	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	123	109		ng/L		89	60 - 150
Perfluorooctanesulfonamide (PFOSA)	32.0	33.8		ng/L		106	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	32.0	30.7		ng/L		96	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	32.0	30.7		ng/L		96	65 - 145
N-methylperfluorooctanesulfonamide (NMeFOSAA)	32.0	32.8		ng/L		102	50 - 140
N-ethylperfluorooctanesulfonamide (NEtFOSAA)	32.0	29.8		ng/L		93	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	320	344		ng/L		108	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	320	357		ng/L		112	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	128	132		ng/L		103	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	121	107		ng/L		88	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	64.0	62.3		ng/L		97	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	64.0	66.5		ng/L		104	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	64.0	58.0		ng/L		91	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	120	125		ng/L		104	70 - 155

Eurofins Eaton Analytical Pomona

QC Sample Results

Client: City & County of Honolulu
 Project/Site: HRS-340E - RED-HILL - INTERA

Job ID: 380-67744-1

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

Lab Sample ID: LCS 320-719443/3-A
Matrix: Water
Analysis Batch: 719797

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 719443

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	121	107		ng/L		89	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	57.1	52.7		ng/L		92	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	160	141		ng/L		88	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	799	795		ng/L		100	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	799	760		ng/L		95	50 - 145

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	98.1		5 - 130
13C5 PFPeA	91.1		40 - 130
13C5 PFHxA	95.3		40 - 130
13C4 PFHpA	88.1		40 - 130
13C8 PFOA	79.9		40 - 130
13C9 PFNA	67.9		40 - 130
13C6 PFDA	81.5		40 - 130
13C7 PFUnA	85.3		30 - 130
13C2 PFDoA	92.9		10 - 130
13C2 PFTeDA	77.0		10 - 130
13C3 PFBS	82.4		40 - 135
13C3 PFHxS	93.8		40 - 130
13C8 PFOS	92.4		40 - 130
13C8 PFOSA	78.1		40 - 130
d3-NMeFOSAA	91.0		40 - 170
d5-NEtFOSAA	100		25 - 135
13C2 4:2 FTS	115		40 - 200
13C2 6:2 FTS	102		40 - 200
13C2 8:2 FTS	122		40 - 300
13C3 HFPO-DA	93.4		40 - 130
d7-N-MeFOSE-M	76.3		10 - 130
d9-N-EtFOSE-M	71.0		10 - 130
d5-NEtPFOSA	58.7		10 - 130
d3-NMePFOSA	59.8		10 - 130

Lab Sample ID: LLCS 320-719443/2-A
Matrix: Water
Analysis Batch: 719797

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 719443

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	12.8	11.2		ng/L		87	70 - 140
Perfluoropentanoic acid (PFPeA)	6.40	6.26		ng/L		98	65 - 135
Perfluorohexanoic acid (PFHxA)	3.20	3.15		ng/L		98	70 - 145
Perfluoroheptanoic acid (PFHpA)	3.20	3.39		ng/L		106	70 - 150
Perfluorooctanoic acid (PFOA)	3.20	3.33		ng/L		104	70 - 150
Perfluorononanoic acid (PFNA)	3.20	3.03		ng/L		95	70 - 150
Perfluorodecanoic acid (PFDA)	3.20	3.40		ng/L		106	70 - 140

QC Sample Results

Client: City & County of Honolulu
 Project/Site: HRS-340E - RED-HILL - INTERA

Job ID: 380-67744-1

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

Lab Sample ID: LLCS 320-719443/2-A
Matrix: Water
Analysis Batch: 719797

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 719443

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	3.20	2.94		ng/L		92	70 - 145
Perfluorododecanoic acid (PFDoA)	3.20	2.85		ng/L		89	70 - 140
Perfluorotridecanoic acid (PFTrDA)	3.20	3.00		ng/L		94	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	3.20	3.88		ng/L		121	60 - 140
Perfluorobutanesulfonic acid (PFBS)	2.84	2.82		ng/L		99	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.01	2.70		ng/L		90	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	2.92	2.61		ng/L		89	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	3.05	3.04		ng/L		100	70 - 150
Perfluorooctanesulfonic acid (PFOS)	2.98	2.82		ng/L		95	55 - 150
Perfluorononanesulfonic acid (PFNS)	3.08	2.96		ng/L		96	65 - 145
Perfluorodecanesulfonic acid (PFDS)	3.08	3.03		ng/L		98	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	3.10	2.76		ng/L		89	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	12.0	12.5		ng/L		104	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	12.2	11.9		ng/L		97	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	12.3	12.5		ng/L		102	60 - 150
Perfluorooctanesulfonamide (PFOSA)	3.20	3.36		ng/L		105	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	3.20	2.44		ng/L		76	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	3.20	2.64		ng/L		83	65 - 145
N-methylperfluorooctanesulfonamide (NMeFOSAA)	3.20	3.74		ng/L		117	50 - 140
N-ethylperfluorooctanesulfonamide (NEtFOSAA)	3.20	3.66		ng/L		114	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	32.0	31.1		ng/L		97	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	32.0	32.2		ng/L		101	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	12.8	13.0		ng/L		102	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	12.1	11.5		ng/L		95	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	6.40	6.35		ng/L		99	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	6.40	6.61		ng/L		103	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	6.40	5.00		ng/L		78	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	12.0	10.4		ng/L		87	70 - 155

QC Sample Results

Client: City & County of Honolulu
 Project/Site: HRS-340E - RED-HILL - INTERA

Job ID: 380-67744-1

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

Lab Sample ID: LLCS 320-719443/2-A
Matrix: Water
Analysis Batch: 719797

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 719443

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	12.1	10.5		ng/L		87	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	5.71	5.23		ng/L		92	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	16.0	12.2		ng/L		76	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	79.9	73.9		ng/L		92	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	79.9	70.2		ng/L		88	50 - 145

Isotope Dilution	LLCS %Recovery	LLCS Qualifier	LLCS Limits
13C4 PFBA	102		5 - 130
13C5 PFPeA	95.6		40 - 130
13C5 PFHxA	104		40 - 130
13C4 PFHpA	92.0		40 - 130
13C8 PFOA	80.8		40 - 130
13C9 PFNA	71.9		40 - 130
13C6 PFDA	89.0		40 - 130
13C7 PFUnA	94.9		30 - 130
13C2 PFDoA	103		10 - 130
13C2 PFTeDA	77.7		10 - 130
13C3 PFBS	82.9		40 - 135
13C3 PFHxS	92.7		40 - 130
13C8 PFOS	97.8		40 - 130
13C8 PFOSA	77.8		40 - 130
d3-NMeFOSAA	89.2		40 - 170
d5-NEtFOSAA	96.9		25 - 135
13C2 4:2 FTS	121		40 - 200
13C2 6:2 FTS	99.9		40 - 200
13C2 8:2 FTS	100		40 - 300
13C3 HFPO-DA	103		40 - 130
d7-N-MeFOSE-M	77.5		10 - 130
d9-N-EtFOSE-M	72.8		10 - 130
d5-NEtPFOSA	55.6		10 - 130
d3-NMePFOSA	53.4		10 - 130

Lab Sample ID: 320-106413-A-1-B MS
Matrix: Water
Analysis Batch: 719797

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 719443

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	<7.6		127	115		ng/L		91	70 - 140
Perfluoropentanoic acid (PFPeA)	<3.8		63.3	63.4		ng/L		100	65 - 135
Perfluorohexanoic acid (PFHxA)	<1.9		31.6	33.4		ng/L		106	70 - 145
Perfluoroheptanoic acid (PFHpA)	<1.9		31.6	34.8		ng/L		110	70 - 150
Perfluorooctanoic acid (PFOA)	<1.9		31.6	32.3		ng/L		102	70 - 150
Perfluorononanoic acid (PFNA)	5.7		31.6	35.3		ng/L		94	70 - 150
Perfluorodecanoic acid (PFDA)	13		31.6	48.8		ng/L		113	70 - 140

QC Sample Results

Client: City & County of Honolulu
 Project/Site: HRS-340E - RED-HILL - INTERA

Job ID: 380-67744-1

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

Lab Sample ID: 320-106413-A-1-B MS
Matrix: Water
Analysis Batch: 719797

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 719443

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	10		31.6	38.3		ng/L		88	70 - 145
Perfluorododecanoic acid (PFDoA)	<1.9		31.6	34.2		ng/L		105	70 - 140
Perfluorotridecanoic acid (PFTrDA)	<1.9		31.6	32.1		ng/L		99	65 - 140
Perfluorotetradecanoic acid (PFTeDA)	<1.9		31.6	38.5		ng/L		122	60 - 140
Perfluorobutanesulfonic acid (PFBS)	<1.9		28.1	29.3		ng/L		104	60 - 145
Perfluoropentanesulfonic acid (PFPeS)	<1.9		29.7	31.0		ng/L		104	65 - 140
Perfluorohexanesulfonic acid (PFHxS)	<1.9		28.8	29.9		ng/L		104	65 - 145
Perfluoroheptanesulfonic acid (PFHpS)	<1.9		30.1	37.3		ng/L		124	70 - 150
Perfluorooctanesulfonic acid (PFOS)	<1.9		29.4	31.2		ng/L		106	55 - 150
Perfluorononanesulfonic acid (PFNS)	<1.9		30.4	31.1		ng/L		102	65 - 145
Perfluorodecanesulfonic acid (PFDS)	<1.9		30.5	34.3		ng/L		113	60 - 145
Perfluorododecanesulfonic acid (PFDoS)	<1.9		30.7	29.4		ng/L		96	50 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<7.6		119	124		ng/L		105	70 - 145
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<7.6		120	130		ng/L		108	65 - 155
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<7.6		121	125		ng/L		103	60 - 150
Perfluorooctanesulfonamide (PFOSA)	<1.9		31.6	34.3		ng/L		108	70 - 145
N-methylperfluorooctane sulfonamide (NMeFOSA)	<1.9		31.6	31.2		ng/L		99	60 - 150
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<1.9		31.6	30.1		ng/L		95	65 - 145
N-methylperfluorooctanesulfonamide (NMeFOSAA)	<1.9		31.6	28.8		ng/L		86	50 - 140
N-ethylperfluorooctanesulfonamide (NEtFOSAA)	<1.9		31.6	33.1		ng/L		105	70 - 145
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<19		316	353		ng/L		112	70 - 145
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<19		316	364		ng/L		115	70 - 135
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<7.6		127	120		ng/L		95	70 - 140
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<7.6		120	106		ng/L		88	65 - 145
Perfluoro-3-methoxypropanoic acid (PFMPA)	<3.8		63.3	66.8		ng/L		106	55 - 140
Perfluoro-4-methoxybutanoic acid (PFMBA)	<3.8		63.3	70.4		ng/L		111	60 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<3.8		63.3	62.7		ng/L		99	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<7.6		118	124		ng/L		105	70 - 155

Eurofins Eaton Analytical Pomona

QC Sample Results

Client: City & County of Honolulu
 Project/Site: HRS-340E - RED-HILL - INTERA

Job ID: 380-67744-1

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

Lab Sample ID: 320-106413-A-1-B MS
Matrix: Water
Analysis Batch: 719797

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 719443

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	<7.6		119	104		ng/L		87	55 - 160
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<3.8		56.4	52.4		ng/L		93	70 - 140
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<9.5		158	149		ng/L		95	65 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<47		789	769		ng/L		97	70 - 135
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<47		789	799		ng/L		101	50 - 145

Isotope Dilution	MS %Recovery	MS Qualifier	MS Limits
13C4 PFBA	107		5 - 130
13C5 PFPeA	102		40 - 130
13C5 PFHxA	109		40 - 130
13C4 PFHpA	95.3		40 - 130
13C8 PFOA	83.3		40 - 130
13C9 PFNA	77.6		40 - 130
13C6 PFDA	86.8		40 - 130
13C7 PFUnA	95.2		30 - 130
13C2 PFDoA	95.4		10 - 130
13C2 PFTeDA	79.9		10 - 130
13C3 PFBS	90.8		40 - 135
13C3 PFHxS	96.8		40 - 130
13C8 PFOS	90.2		40 - 130
13C8 PFOSA	77.1		40 - 130
d3-NMeFOSAA	92.4		40 - 170
d5-NEtFOSAA	94.9		25 - 135
13C2 4:2 FTS	126		40 - 200
13C2 6:2 FTS	99.2		40 - 200
13C2 8:2 FTS	105		40 - 300
13C3 HFPO-DA	106		40 - 130
d7-N-MeFOSE-M	73.3		10 - 130
d9-N-EtFOSE-M	68.3		10 - 130
d5-NEtPFOSA	61.9		10 - 130
d3-NMePFOSA	61.2		10 - 130

Lab Sample ID: 320-106413-A-1-C MSD
Matrix: Water
Analysis Batch: 719797

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 719443

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	<7.6		125	113		ng/L		91	70 - 140	2	30
Perfluoropentanoic acid (PFPeA)	<3.8		62.5	60.4		ng/L		97	65 - 135	5	30
Perfluorohexanoic acid (PFHxA)	<1.9		31.3	32.7		ng/L		105	70 - 145	2	30
Perfluoroheptanoic acid (PFHpA)	<1.9		31.3	32.7		ng/L		104	70 - 150	6	30
Perfluorooctanoic acid (PFOA)	<1.9		31.3	32.5		ng/L		104	70 - 150	1	30
Perfluorononanoic acid (PFNA)	5.7		31.3	35.2		ng/L		94	70 - 150	0	30
Perfluorodecanoic acid (PFDA)	13		31.3	44.1		ng/L		99	70 - 140	10	30

QC Sample Results

Client: City & County of Honolulu
 Project/Site: HRS-340E - RED-HILL - INTERA

Job ID: 380-67744-1

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

Lab Sample ID: 320-106413-A-1-C MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 719797

Prep Batch: 719443

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoroundecanoic acid (PFUnA)	10		31.3	41.8		ng/L		101	70 - 145	9	30
Perfluorododecanoic acid (PFDoA)	<1.9		31.3	34.0		ng/L		105	70 - 140	1	30
Perfluorotridecanoic acid (PFTrDA)	<1.9		31.3	31.2		ng/L		98	65 - 140	3	30
Perfluorotetradecanoic acid (PFTeDA)	<1.9		31.3	34.0		ng/L		109	60 - 140	13	30
Perfluorobutanesulfonic acid (PFBS)	<1.9		27.8	30.8		ng/L		111	60 - 145	5	30
Perfluoropentanesulfonic acid (PFPeS)	<1.9		29.4	31.2		ng/L		106	65 - 140	1	30
Perfluorohexanesulfonic acid (PFHxS)	<1.9		28.5	28.8		ng/L		101	65 - 145	4	30
Perfluoroheptanesulfonic acid (PFHpS)	<1.9		29.8	36.2		ng/L		121	70 - 150	3	30
Perfluorooctanesulfonic acid (PFOS)	<1.9		29.1	29.4		ng/L		101	55 - 150	6	30
Perfluorononanesulfonic acid (PFNS)	<1.9		30.1	30.8		ng/L		102	65 - 145	1	30
Perfluorodecanesulfonic acid (PFDS)	<1.9		30.1	33.2		ng/L		110	60 - 145	3	30
Perfluorododecanesulfonic acid (PFDoS)	<1.9		30.3	29.0		ng/L		96	50 - 145	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<7.6		117	128		ng/L		109	70 - 145	3	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<7.6		119	116		ng/L		97	65 - 155	11	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<7.6		120	113		ng/L		94	60 - 150	10	30
Perfluorooctanesulfonamide (PFOSA)	<1.9		31.3	34.5		ng/L		110	70 - 145	1	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	<1.9		31.3	30.3		ng/L		97	60 - 150	3	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<1.9		31.3	29.5		ng/L		94	65 - 145	2	30
N-methylperfluorooctanesulfonamide (NMeFOSAA)	<1.9		31.3	30.5		ng/L		93	50 - 140	6	30
N-ethylperfluorooctanesulfonamide (NEtFOSAA)	<1.9		31.3	32.0		ng/L		102	70 - 145	3	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<19		313	335		ng/L		107	70 - 145	5	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<19		313	349		ng/L		112	70 - 135	4	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<7.6		125	130		ng/L		104	70 - 140	8	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<7.6		118	102		ng/L		86	65 - 145	4	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<3.8		62.5	64.6		ng/L		103	55 - 140	3	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<3.8		62.5	64.3		ng/L		103	60 - 150	9	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<3.8		62.5	56.3		ng/L		90	50 - 150	11	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<7.6		117	130		ng/L		111	70 - 155	5	30

Eurofins Eaton Analytical Pomona

QC Sample Results

Client: City & County of Honolulu
 Project/Site: HRS-340E - RED-HILL - INTERA

Job ID: 380-67744-1

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

Lab Sample ID: 320-106413-A-1-C MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 719797

Prep Batch: 719443

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid	<7.6		118	102		ng/L		87	55 - 160	2	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<3.8		55.8	51.5		ng/L		92	70 - 140	2	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<9.5		156	137		ng/L		88	65 - 130	9	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<47		780	751		ng/L		96	70 - 135	2	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<47		780	758		ng/L		97	50 - 145	5	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	MSD Limits
13C4 PFBA	107		5 - 130
13C5 PFPeA	105		40 - 130
13C5 PFHxA	108		40 - 130
13C4 PFHpA	99.1		40 - 130
13C8 PFOA	82.8		40 - 130
13C9 PFNA	76.4		40 - 130
13C6 PFDA	96.9		40 - 130
13C7 PFUnA	87.8		30 - 130
13C2 PFDoA	96.3		10 - 130
13C2 PFTeDA	91.2		10 - 130
13C3 PFBS	86.1		40 - 135
13C3 PFHxS	98.9		40 - 130
13C8 PFOS	91.6		40 - 130
13C8 PFOSA	77.0		40 - 130
d3-NMeFOSAA	92.2		40 - 170
d5-NEtFOSAA	89.1		25 - 135
13C2 4:2 FTS	127		40 - 200
13C2 6:2 FTS	112		40 - 200
13C2 8:2 FTS	103		40 - 300
13C3 HFPO-DA	108		40 - 130
d7-N-MeFOSE-M	75.6		10 - 130
d9-N-EtFOSE-M	70.9		10 - 130
d5-NEtPFOSA	62.2		10 - 130
d3-NMePFOSA	62.4		10 - 130

QC Association Summary

Client: City & County of Honolulu
 Project/Site: HRS-340E - RED-HILL - INTERA

Job ID: 380-67744-1

LCMS

Prep Batch: 719443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-67744-1	BWS2253-J1-AQ	Total/NA	Water	1633	
MB 320-719443/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-719443/3-A	Lab Control Sample	Total/NA	Water	1633	
LLCS 320-719443/2-A	Lab Control Sample	Total/NA	Water	1633	
320-106413-A-1-B MS	Matrix Spike	Total/NA	Water	1633	
320-106413-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	1633	

Analysis Batch: 719797

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-67744-1	BWS2253-J1-AQ	Total/NA	Water	Draft 1633	719443
MB 320-719443/1-A	Method Blank	Total/NA	Water	Draft 1633	719443
LCS 320-719443/3-A	Lab Control Sample	Total/NA	Water	Draft 1633	719443
LLCS 320-719443/2-A	Lab Control Sample	Total/NA	Water	Draft 1633	719443
320-106413-A-1-B MS	Matrix Spike	Total/NA	Water	Draft 1633	719443
320-106413-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	Draft 1633	719443



Lab Chronicle

Client: City & County of Honolulu
Project/Site: HRS-340E - RED-HILL - INTERA

Job ID: 380-67744-1

Client Sample ID: BWS2253-J1-AQ

Lab Sample ID: 380-67744-1

Date Collected: 10/18/23 11:00

Matrix: Water

Date Received: 10/19/23 09:15

<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			719443	JS	EET SAC	11/10/23 12:15
Total/NA	Analysis	Draft 1633		1	719797	S1M	EET SAC	11/12/23 05:38

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: HRS-340E - RED-HILL - INTERA

Job ID: 380-67744-1

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	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-24
Arkansas DEQ	State	88-0691	05-18-24
California	State	2897	01-22-24
Colorado	State	CA00044	08-31-24
Florida	NELAP	E87570	06-30-24
Georgia	State	4040	01-29-24
Hawaii	State	<cert No.>	01-29-24
Illinois	NELAP	200060	03-17-24
Kansas	NELAP	E-10375	10-31-24
Louisiana (All)	NELAP	01944	06-30-24
Maine	State	CA00004	04-14-24
Michigan	State	9947	01-31-24
Nevada	State	CA00044	07-31-24
New Hampshire	NELAP	2997	04-18-24
New Jersey	NELAP	CA005	06-30-24
New York	NELAP	11666	04-01-24
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-24
Texas	NELAP	T104704399-23-17	05-31-24
US Fish & Wildlife	US Federal Programs	58448	04-30-24
USDA	US Federal Programs	P330-18-00239	02-28-26
Utah	NELAP	CA000442023-16	02-29-24
Virginia	NELAP	460278	03-14-24
Washington	State	C581	05-05-24
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-24
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: HRS-340E - RED-HILL - INTERA

Job ID: 380-67744-1

Method	Method Description	Protocol	Laboratory
Draft 1633	Per- and Polyfluoroo kyl 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



Sample Summary

Client: City & County of Honolulu
Project/Site: HRS-340E - RED-HILL - INTERA

Job ID: 380-67744-1

<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Collected</u>	<u>Received</u>
380-67744-1	BWS2253-J1-AQ	Water	10/18/23 11:00	10/19/23 09:15

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Eurofins Eaton Analytical Pomona
 941 Corporate Center Drive
 Pomona, CA 91766-2642
 Phone: 928-388-1100

Chain of Custody Record

eurofins Environment Testing

Client Information (Sub Contract Lab)		Lab Pk#: Arada, Rechelle	Carrier Tracking No(s):	COC No: 380-95886.1
Shipping/Receiving		E-Mail: Rechelle.Arada@et.eurofins.com	State of Origin: Hawaii	Page: Page 1 of 1
Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State - Hawaii		
Address: 880 Riverside Parkway,		Job #: 380-67744-1		
City: West Sacramento		Preservation Codes:		
State, Zip: CA, 95805		A - HCL B - NiOH C - Zn Acetate D - Nitric Acid E - NiH2SO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:		
Phone: 916-373-5600(Tel) 916-372-1059(Fax)		M - Hexane N - None O - Ash/02 P - NiZnO48 Q - Ni2SO3 R - Ni2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - NiCAA W - pH 4-5 Y - Trioma Z - other (specify)		
Email:				
Project Name: HRS-340E - RED-HILL - INTERA				
Site:				
Due Date Requested: 11/8/2023		Analysis Requested		
TAT Requested (days):		Total Number of Containers: 2		
PO #:		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/>		
WO #:		Perform MSMSD (Yes or No) <input checked="" type="checkbox"/>		
Project #: 38002227		1633_DDS1533_SPE EPA Method 1633 Std List <input checked="" type="checkbox"/>		
SSQWR:		Special Instructions/Note:		
Sample Identification - Client ID (Lab ID)				
BWS2263-J1-AQ (380-67744-1)				
Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (Invert, B=acid, Onestab, etc)	Preservation Code:
10/18/23	11:00 Hawaiian		Water	
<p>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months</p> <p>Special Instructions/QC Requirements:</p>				
<p>Possible Hazard Identification Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2</p>				
<p>Empty Kit Relinquished by: _____ Date: _____ Time: _____ Method of Shipment: _____</p> <p>Relinquished by: _____ Date/Time: _____ Company: _____</p> <p>Relinquished by: _____ Date/Time: _____ Company: _____</p> <p>Relinquished by: _____ Date/Time: _____ Company: _____</p> <p>Custody Seal Intact: _____ Custody Seal No.: _____ Cooler Temperature(s) °C and Other Remarks: _____</p>				



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Order Completion Information

Creator: Michelle Do
 Filled by:
 Sent Date:
 Sent Via:
 Tracking #:

Bottle Order Information

Bottle Order: INTERA - Site J (EEA_Sac-1633)
 Bottle Order #: 7757
 Request From Client: 9/26/2023
 Date Order Posted: 3/22/2023 4:57:00PM
 Order Status: Ready To Process
 Prepared By: Michelle Do
 Deliver By Date: 10/9/2023 11:59:00PM
 Lab Project Number: 38000861
 PWSID:

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
1	2	2	Plastic 500ml - unpreserved	None	1633_DOD5 - EPA Method 1633 Std List	Water	Normal	1633	

Total Bottle Summary		Bottle Count
Bottle Type Description	Preservative	
Plastic 500ml - unpreserved	None	2
Total Bottles:		2

Notes to Field Staff: _____
 Health and Safety Notes: _____
 Preservative: _____ Comment: _____



Scan QR code for field sampler instructions

Relinquished By	Company	Date	Time	Received By	Company	Seal #:
Relinquished By	Company	Date	Time	Received By	Company	Seal #: Seal #: Seal #: Seal #:

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.

Eurofins Eaton Analytical Pomona
 941 Corporate Center Drive
 Pomona, CA 91768-2842
 Phone: 928-386-1100

Chain of Custody Record

eurofins Environment Testing



Client Information (Sub Contract Lab)		Lab P#: Areada, Rachelle	Carrier Tracking No(s):	COC No: 380-85986.1				
Shipping/Receiving		E-Mail: Rachelle.Areada@et.eurofins.com	State of Origin: Hawaii	Page: Page 1 of 1				
Eurofins Environment Testing Northern Ca		Address: 860 Riverside Parkway, West Sacramento, CA, 95805	Accreditations Required (See note): State - Hawaii	Job #: 380-67744-1				
Due Date Requested: 11/18/2023		PO #: 916-373-5600(Tel) 916-372-1058(Fax)	Preservation Codes:					
TAT Requested (days):		W/O #: HRS-340E - RED-HILL - INTERA	A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amelzer H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:					
Sample Identification - Client ID (Lab ID)		Project #: 38002227	Analysis Requested					
BWS2263-J1-AQ-(380-67744-1)		SSOW#: HRS-340E - RED-HILL - INTERA	M - Hexane N - None O - AsHClO2 P - Na2O4S Q - Ni2SO3 R - Ni2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)					
Sample Date	Sample Time	Sample Type (C-comp, G-grab)	Matrix (Water, Seawater, Other)	Field Filtered Sample (Yes or No)	Perform MSMSD (Yes or No)	1633.DODMS33_SPE EPA Method 1633 Std List	Total Number of Containers	Special Instructions/Note:
10/18/23	11:00 Hawaiian	Water	Water	X	X	X	2	

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/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
 Empty Kit Relinquished by: _____ Date: _____ Time: _____ Method of Shipment: _____
 Relinquished by: _____ Date/Time: _____ Company: _____
 Relinquished by: _____ Date/Time: _____ Company: _____
 Relinquished by: _____ Date/Time: _____ Company: _____
 Custody Seals Intact: _____ Custody Seal No.: _____ Cooler Temperature(s) °C and Other Remarks: _____
 Δ Yes Δ No



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Order Completion Information

Creator: *Michelle Do*
 Filled by:
 Sent Date:
 Sent Via:
 Tracking #:

Bottle Order Information

Bottle Order: *INTERA - Site J (EEA_Sac-1633)*
 Bottle Order #: *7757*
 Request From Client: *9/26/2023*
 Date Order Posted: *3/22/2023 4:57:00PM*
 Order Status: *Ready To Process*
 Prepared By: *Michelle Do*
 Deliver By Date: *10/9/2023 11:59:00PM*
 Lab Project Number: *38000861*
 PWSID:

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
1	2	2	Plastic 500ml - unpreserved	None	1633_DOD5 - EPA Method 1633 Std List	Water	Normal	1633	

Total Bottle Summary		Bottle Count
Bottle Type Description		
Plastic 500ml - unpreserved		2
Preservative		
None		2
Total Bottles:		2

Notes to Field Staff:

Health and Safety Notes:
 Preservative _____ Comment _____



Scan QR code for field sampler instructions

Relinquished By	Company	Date	Time	Received By	Company	Seal #:
Relinquished By	Company	Date	Time	Received By	Company	Seal #: Seal #: Seal #: Seal #:

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.



Environment Testing

Sacramento Sample Receiving Notes (SSRN)



Job: _____

380-67744 Field Sheet

Tracking #: 7852 4011 7885

SO PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Therm. ID: W2 Corr. Factor: (+/-) _____ °C

Ice Wet Gel _____ Other _____

Cooler Custody Seal: Seal

Cooler ID: _____

Temp Observed: 0.6 °C Corrected: 0.6 °C
From: Temp Blank Sample

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Cooler Temperature is acceptable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Frozen samples show signs of thaw?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Initials: mm Date: 10/19/03

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Samples compromised/tampered with?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
COC is complete w/o discrepancies	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample custody seal?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Sample containers have legible labels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample date/times are provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Appropriate containers are used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample bottles are completely filled?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample preservatives verified?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is the Field Sampler's name on COC?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Samples w/o discrepancies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Zero headspace?*	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Alkalinity has no headspace?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Perchlorate has headspace? (Methods 314, 331, 6850)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Multiphasic samples are not present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: [Signature] Date: 10.19.03

Notes: Coloration

1, (A, B)

[Signature] 10.19.03

Trizma Lot #(s): _____

Ammonium

Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NCM Filed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Samples received within hold time?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Log Release checked in TALS?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Initials: [Signature] Date: 10.19.03

WB 17A



Environment Testing

Sacramento Sample Receiving Notes (SSRN)



Job: _____

380-67744 Field Sheet

Tracking #: 7852 4011 7885

SO PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Therm. ID: wr Corr. Factor: (+/-) _____ °C

Ice Wet Gel _____ Other _____

Cooler Custody Seal: Seal

Cooler ID: _____

Temp Observed: 0.6 °C Corrected: 0.6 °C
From: Temp Blank Sample

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Cooler Temperature is acceptable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Frozen samples show signs of thaw?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Initials: mm Date: 10/19/03

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Samples compromised/tampered with?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
COC is complete w/o discrepancies	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample custody seal?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Sample containers have legible labels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample date/times are provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Appropriate containers are used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample bottles are completely filled?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample preservatives verified?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is the Field Sampler's name on COC?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Samples w/o discrepancies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Zero headspace?*	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Alkalinity has no headspace?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Perchlorate has headspace? (Methods 314, 331, 6850)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Multiphasic samples are not present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: [Signature] Date: 10.19.03

Notes: Coloration

1, (A, B)

[Signature] 10.19.03

[Signature] 10.19.03

Trizma Lot #(s): _____

Ammonium

Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NCM Filed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Samples received within hold time?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Log Release checked in TALS?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Initials: [Signature] Date: 10.19.03

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-67744-1

Login Number: 67744

List Source: Eurofins Eaton Analytical Pomona

List Number: 1

Creator: Sanchez, Joseph G

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	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	
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	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-67744-1

Login Number: 67744
List Number: 2
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 10/19/23 03:03 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.8c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

