

ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

HRS-340E - RED-HILL - INTERA

JOB NUMBER

380-56585-1

Eurofins Eaton Analytical Pomona

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins 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: 380-56585-1

Qualifiers

LCMS

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

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: 380-56585-1

Job ID: 380-56585-1

Laboratory: Eurofins Eaton Analytical Pomona

Narrative

Job Narrative 380-56585-1

Comments

No additional comments.

Receipt

The sample was received on 7/27/2023 9:48 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 was 0.8° C.

LCMS

Method 1633: The transition mass ratio was above the established ratio limit for the internal standard (ISTD) 13C2 PFHxA in (CCV 320-697499/30) and (CCV 320-697499/4) associated to this data set. This is indicated by the "R" flag in the raw data. As the flagged data is in control in the continuing calibration verification (CCV), the data are reported..

Method 1633: The concentration of one or more analytes associated with the following samples exceeded the instrument calibration range: (320-102879-B-1-A), (320-102879-B-1-B DU), (320-102879-B-1-C MS) and (320-102879-B-1-D MSD). These analytes have been qualified; however, the peaks did not saturate the instrument detector. The samples were diluted within calibration range, and both sets of data were reported.

Method 1633: Due to the high concentration of Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS), the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 320-697151 and analytical batch 320-697499 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method 1633: The "R" qualifier means the transition mass ratio for Perfluoropentanoic acid (PFPeA) was above the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty, and the reported value may have some high bias. However, analyst judgment was used to positively identify the analyte. This is indicated by an "R" in the raw data. This analyte is not regulated for the transition mass ratio; therefore the associated samples were reported. (CCVL 320-699756/5)

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

Organic Prep

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

Detection Summary

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

Job ID: 380-56585-1

Client Sample ID: BWS2253-J1-AQ

Lab Sample ID: 380-56585-1

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: 380-56585-1

Client Sample ID: BWS2253-J1-AQ

Lab Sample ID: 380-56585-1

Date Collected: 07/26/23 10:30

Matrix: Water

Date Received: 07/27/23 09:48

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)	<7.6		7.6	ng/L		08/08/23 19:57	08/11/23 18:08	1
Perfluoropentanoic acid (PFPeA)	<3.8		3.8	ng/L		08/08/23 19:57	08/11/23 18:08	1
Perfluorohexanoic acid (PFHxA)	<1.9		1.9	ng/L		08/08/23 19:57	08/11/23 18:08	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9	ng/L		08/08/23 19:57	08/11/23 18:08	1
Perfluorooctanoic acid (PFOA)	<1.9		1.9	ng/L		08/08/23 19:57	08/11/23 18:08	1
Perfluorononanoic acid (PFNA)	<1.9		1.9	ng/L		08/08/23 19:57	08/11/23 18:08	1
Perfluorodecanoic acid (PFDA)	<3.0		3.0	ng/L		08/08/23 19:57	08/11/23 18:08	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9	ng/L		08/08/23 19:57	08/11/23 18:08	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9	ng/L		08/08/23 19:57	08/11/23 18:08	1
Perfluoropentanesulfonic acid (PFPeS)	<1.9		1.9	ng/L		08/08/23 19:57	08/11/23 18:08	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9	ng/L		08/08/23 19:57	08/11/23 18:08	1
Perfluoroheptanesulfonic acid (PFHpS)	<1.9		1.9	ng/L		08/08/23 19:57	08/11/23 18:08	1
Perfluorooctanesulfonic acid (PFOS)	<1.9		1.9	ng/L		08/08/23 19:57	08/11/23 18:08	1
Perfluorononanesulfonic acid (PFNS)	<1.9		1.9	ng/L		08/08/23 19:57	08/11/23 18:08	1
Perfluorodecanesulfonic acid (PFDS)	<1.9		1.9	ng/L		08/08/23 19:57	08/11/23 18:08	1
Perfluorododecanesulfonic acid (PFDoS)	<1.9		1.9	ng/L		08/08/23 19:57	08/11/23 18:08	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<7.6		7.6	ng/L		08/08/23 19:57	08/11/23 18:08	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<7.6		7.6	ng/L		08/08/23 19:57	08/11/23 18:08	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<7.6		7.6	ng/L		08/08/23 19:57	08/11/23 18:08	1
Perfluorooctanesulfonamide (PFOSA)	<1.9		1.9	ng/L		08/08/23 19:57	08/11/23 18:08	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<1.9		1.9	ng/L		08/08/23 19:57	08/11/23 18:08	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<1.9		1.9	ng/L		08/08/23 19:57	08/11/23 18:08	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<1.9		1.9	ng/L		08/08/23 19:57	08/11/23 18:08	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.9		1.9	ng/L		08/08/23 19:57	08/11/23 18:08	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<19		19	ng/L		08/08/23 19:57	08/11/23 18:08	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<19		19	ng/L		08/08/23 19:57	08/11/23 18:08	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<7.6		7.6	ng/L		08/08/23 19:57	08/11/23 18:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<7.6		7.6	ng/L		08/08/23 19:57	08/11/23 18:08	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<3.8		3.8	ng/L		08/08/23 19:57	08/11/23 18:08	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<3.8		3.8	ng/L		08/08/23 19:57	08/11/23 18:08	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<3.8		3.8	ng/L		08/08/23 19:57	08/11/23 18:08	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<7.6		7.6	ng/L		08/08/23 19:57	08/11/23 18:08	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<7.6		7.6	ng/L		08/08/23 19:57	08/11/23 18:08	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<3.8		3.8	ng/L		08/08/23 19:57	08/11/23 18:08	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-56585-1

Client Sample ID: BWS2253-J1-AQ

Lab Sample ID: 380-56585-1

Date Collected: 07/26/23 10:30

Matrix: Water

Date Received: 07/27/23 09:48

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<9.5		9.5	ng/L		08/08/23 19:57	08/11/23 18:08	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<47		47	ng/L		08/08/23 19:57	08/11/23 18:08	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<47		47	ng/L		08/08/23 19:57	08/11/23 18:08	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	90.7		10 - 130	08/08/23 19:57	08/11/23 18:08	1
13C5 PFPeA	92.1		40 - 150	08/08/23 19:57	08/11/23 18:08	1
13C5 PFHxA	89.4		40 - 150	08/08/23 19:57	08/11/23 18:08	1
13C4 PFHpA	92.2		40 - 150	08/08/23 19:57	08/11/23 18:08	1
13C8 PFOA	84.9		30 - 140	08/08/23 19:57	08/11/23 18:08	1
13C9 PFNA	103		30 - 140	08/08/23 19:57	08/11/23 18:08	1
13C6 PFDA	89.0		20 - 140	08/08/23 19:57	08/11/23 18:08	1
13C2 PFDoA	86.5		10 - 150	08/08/23 19:57	08/11/23 18:08	1
13C3 PFBS	103		25 - 150	08/08/23 19:57	08/11/23 18:08	1
13C3 PFHxS	99.3		25 - 150	08/08/23 19:57	08/11/23 18:08	1
13C8 PFOS	101		20 - 140	08/08/23 19:57	08/11/23 18:08	1
13C8 PFOSA	99.2		10 - 130	08/08/23 19:57	08/11/23 18:08	1
d3-NMeFOSAA	98.2		10 - 200	08/08/23 19:57	08/11/23 18:08	1
d5-NEtFOSAA	95.8		10 - 200	08/08/23 19:57	08/11/23 18:08	1
13C2 4:2 FTS	120		25 - 200	08/08/23 19:57	08/11/23 18:08	1
13C2 6:2 FTS	112		25 - 200	08/08/23 19:57	08/11/23 18:08	1
13C2 8:2 FTS	132		25 - 200	08/08/23 19:57	08/11/23 18:08	1
13C3 HFPO-DA	94.4		25 - 160	08/08/23 19:57	08/11/23 18:08	1
d7-N-MeFOSE-M	110		10 - 150	08/08/23 19:57	08/11/23 18:08	1
d9-N-EtFOSE-M	115		10 - 150	08/08/23 19:57	08/11/23 18:08	1
d5-NEtPFOSA	87.8		10 - 130	08/08/23 19:57	08/11/23 18:08	1
d3-NMePFOSA	85.3		10 - 130	08/08/23 19:57	08/11/23 18:08	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9	ng/L		08/08/23 19:57	08/19/23 08:31	1
Perfluorotridecanoic acid (PFTrDA)	<1.9		1.9	ng/L		08/08/23 19:57	08/19/23 08:31	1
Perfluorotetradecanoic acid (PFTeDA)	<1.9		1.9	ng/L		08/08/23 19:57	08/19/23 08:31	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C7 PFUnA	92.6		20 - 140	08/08/23 19:57	08/19/23 08:31	1
13C2 PFTeDA	78.3		10 - 130	08/08/23 19:57	08/19/23 08:31	1

Isotope Dilution Summary

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

Job ID: 380-56585-1

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 (10-130)	PFPeA (40-150)	13C5PHA (40-150)	C4PFHA (40-150)	C8PFOA (30-140)	C9PFNA (30-140)	C6PFDA (20-140)	13C7PUA (20-140)
320-102879-B-1-B DU	Duplicate	95.4	95.8	83.6	93.0	85.4	105	100	103
320-102879-B-1-C MS	Matrix Spike	96.3	95.8	92.9	88.3	92.8	94.2	93.2	106
320-102879-B-1-D MSD	Matrix Spike Duplicate	89.4	94.2	82.5	92.1	85.7	99.8	86.9	109
380-56585-1	BWS2253-J1-AQ	90.7	92.1	89.4	92.2	84.9	103	89.0	
380-56585-1 - RA	BWS2253-J1-AQ								92.6
LCS 320-697151/3-A	Lab Control Sample	92.1	92.9	84.8	95.9	80.2	101	91.7	103
LLCS 320-697151/2-A	Lab Control Sample	91.5	87.0	84.0	84.6	82.8	100	95.1	98.3
MB 320-697151/1-A	Method Blank	92.4	91.7	88.3	94.2	79.3	92.3	93.3	104

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFDaA (10-150)	PFTDA (10-130)	C3PFBS (25-150)	C3PFHS (25-150)	C8PFOS (20-140)	PFOSA (10-130)	d3NMFOS (10-200)	d5NEFOS (10-200)
320-102879-B-1-B DU	Duplicate	91.7	94.7	107	95.4	91.5	97.2	103	96.0
320-102879-B-1-C MS	Matrix Spike	96.9	124	103	95.4	91.7	90.9	97.7	98.7
320-102879-B-1-D MSD	Matrix Spike Duplicate	91.2	105	104	106	86.5	97.4	104	95.4
380-56585-1	BWS2253-J1-AQ	86.5		103	99.3	101	99.2	98.2	95.8
380-56585-1 - RA	BWS2253-J1-AQ		78.3						
LCS 320-697151/3-A	Lab Control Sample	84.7	92.4	87.3	86.1	99.1	85.1	94.7	92.2
LLCS 320-697151/2-A	Lab Control Sample	79.5	89.6	97.0	97.7	96.9	88.0	102	89.0
MB 320-697151/1-A	Method Blank	77.9	94.2	108	93.1	90.5	78.7	91.4	83.5

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	M242FTS (25-200)	M262FTS (25-200)	M282FTS (25-200)	HFPODA (25-160)	NMFM (10-150)	NEFM (10-150)	d5NPFSA (10-130)	d3NMFSA (10-130)
320-102879-B-1-B DU	Duplicate	130	105	132	103	118	116	84.5	91.2
320-102879-B-1-C MS	Matrix Spike	97.0	95.9	102	100	98.9	107	80.2	88.4
320-102879-B-1-D MSD	Matrix Spike Duplicate	93.9	90.1	107	94.8	110	123	80.3	86.3
380-56585-1	BWS2253-J1-AQ	120	112	132	94.4	110	115	87.8	85.3
380-56585-1 - RA	BWS2253-J1-AQ								
LCS 320-697151/3-A	Lab Control Sample	92.9	90.6	107	92.9	86.6	99.8	74.6	79.9
LLCS 320-697151/2-A	Lab Control Sample	103	106	133	88.0	82.9	82.2	70.8	78.5
MB 320-697151/1-A	Method Blank	109	108	141	97.1	76.8	94.9	69.0	68.3

Surrogate Legend

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

Isotope Dilution Summary

Client: City & County of Honolulu

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

Job ID: 380-56585-1

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

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QC Sample Results

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

Job ID: 380-56585-1

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

Lab Sample ID: MB 320-697151/1-A
Matrix: Water
Analysis Batch: 697499

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 697151

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<8.0		8.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
Perfluoropentanoic acid (PFPeA)	<4.0		4.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
Perfluorodecanoic acid (PFDA)	<3.2		3.2	ng/L		08/08/23 19:57	08/11/23 14:33	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
Perfluorotetradecanoic acid (PFTeDA)	<2.0		2.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<8.0		8.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<8.0		8.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<8.0		8.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
Perfluorooctanesulfonamide (PFOSA)	<2.0		2.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<2.0		2.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<2.0		2.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<20		20	ng/L		08/08/23 19:57	08/11/23 14:33	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<20		20	ng/L		08/08/23 19:57	08/11/23 14:33	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<8.0		8.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<8.0		8.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<4.0		4.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<4.0		4.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<4.0		4.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<8.0		8.0	ng/L		08/08/23 19:57	08/11/23 14:33	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-56585-1

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

Lab Sample ID: MB 320-697151/1-A
Matrix: Water
Analysis Batch: 697499

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 697151

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		08/08/23 19:57	08/11/23 14:33	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<4.0		4.0	ng/L		08/08/23 19:57	08/11/23 14:33	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<10		10	ng/L		08/08/23 19:57	08/11/23 14:33	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<50		50	ng/L		08/08/23 19:57	08/11/23 14:33	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<50		50	ng/L		08/08/23 19:57	08/11/23 14:33	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	92.4		10 - 130	08/08/23 19:57	08/11/23 14:33	1
13C5 PFPeA	91.7		40 - 150	08/08/23 19:57	08/11/23 14:33	1
13C5 PFHxA	88.3		40 - 150	08/08/23 19:57	08/11/23 14:33	1
13C4 PFHpA	94.2		40 - 150	08/08/23 19:57	08/11/23 14:33	1
13C8 PFOA	79.3		30 - 140	08/08/23 19:57	08/11/23 14:33	1
13C9 PFNA	92.3		30 - 140	08/08/23 19:57	08/11/23 14:33	1
13C6 PFDA	93.3		20 - 140	08/08/23 19:57	08/11/23 14:33	1
13C7 PFUnA	104		20 - 140	08/08/23 19:57	08/11/23 14:33	1
13C2 PFDoA	77.9		10 - 150	08/08/23 19:57	08/11/23 14:33	1
13C2 PFTeDA	94.2		10 - 130	08/08/23 19:57	08/11/23 14:33	1
13C3 PFBS	108		25 - 150	08/08/23 19:57	08/11/23 14:33	1
13C3 PFHxS	93.1		25 - 150	08/08/23 19:57	08/11/23 14:33	1
13C8 PFOS	90.5		20 - 140	08/08/23 19:57	08/11/23 14:33	1
13C8 PFOSA	78.7		10 - 130	08/08/23 19:57	08/11/23 14:33	1
d3-NMeFOSAA	91.4		10 - 200	08/08/23 19:57	08/11/23 14:33	1
d5-NEtFOSAA	83.5		10 - 200	08/08/23 19:57	08/11/23 14:33	1
13C2 4:2 FTS	109		25 - 200	08/08/23 19:57	08/11/23 14:33	1
13C2 6:2 FTS	108		25 - 200	08/08/23 19:57	08/11/23 14:33	1
13C2 8:2 FTS	141		25 - 200	08/08/23 19:57	08/11/23 14:33	1
13C3 HFPO-DA	97.1		25 - 160	08/08/23 19:57	08/11/23 14:33	1
d7-N-MeFOSE-M	76.8		10 - 150	08/08/23 19:57	08/11/23 14:33	1
d9-N-EtFOSE-M	94.9		10 - 150	08/08/23 19:57	08/11/23 14:33	1
d5-NEtPFOSA	69.0		10 - 130	08/08/23 19:57	08/11/23 14:33	1
d3-NMePFOSA	68.3		10 - 130	08/08/23 19:57	08/11/23 14:33	1

Lab Sample ID: LCS 320-697151/3-A
Matrix: Water
Analysis Batch: 697499

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 697151

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Perfluorobutanoic acid (PFBA)	128	144		ng/L		112	58 - 148
Perfluoropentanoic acid (PFPeA)	64.0	58.8		ng/L		92	54 - 152
Perfluorohexanoic acid (PFHxA)	32.0	33.7		ng/L		105	55 - 152
Perfluoroheptanoic acid (PFHpA)	32.0	31.0		ng/L		97	54 - 154
Perfluorooctanoic acid (PFOA)	32.0	28.8		ng/L		90	52 - 161
Perfluorononanoic acid (PFNA)	32.0	30.0		ng/L		94	59 - 149
Perfluorodecanoic acid (PFDA)	32.0	31.1		ng/L		97	52 - 147

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-56585-1

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

Lab Sample ID: LCS 320-697151/3-A
Matrix: Water
Analysis Batch: 697499

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 697151

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	32.0	33.6		ng/L		105	48 - 159
Perfluorododecanoic acid (PFDoA)	32.0	28.7		ng/L		90	64 - 142
Perfluorotridecanoic acid (PFTrDA)	32.0	29.6		ng/L		93	49 - 148
Perfluorotetradecanoic acid (PFTeDA)	32.0	27.9		ng/L		87	47 - 161
Perfluorobutanesulfonic acid (PFBS)	28.4	26.0		ng/L		92	62 - 144
Perfluoropentanesulfonic acid (PFPeS)	30.1	30.7		ng/L		102	59 - 151
Perfluorohexanesulfonic acid (PFHxS)	29.2	31.7		ng/L		109	57 - 146
Perfluoroheptanesulfonic acid (PFHpS)	30.5	27.4		ng/L		90	55 - 152
Perfluorooctanesulfonic acid (PFOS)	29.8	27.8		ng/L		93	58 - 149
Perfluorononanesulfonic acid (PFNS)	30.8	26.1		ng/L		85	52 - 148
Perfluorodecanesulfonic acid (PFDS)	30.8	29.8		ng/L		97	51 - 147
Perfluorododecanesulfonic acid (PFDoS)	31.0	26.9		ng/L		87	36 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	104		ng/L		87	67 - 146
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	122	113		ng/L		93	61 - 151
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	123	120		ng/L		98	63 - 152
Perfluorooctanesulfonamide (PFOSA)	32.0	32.0		ng/L		100	61 - 148
N-methylperfluorooctane sulfonamide (NMeFOSA)	32.0	31.1		ng/L		97	63 - 145
N-ethylperfluorooctane sulfonamide (NEtFOSA)	32.0	34.8		ng/L		109	65 - 139
N-methylperfluorooctanesulfonamide (NMeFOSAA)	32.0	30.2		ng/L		94	58 - 144
N-ethylperfluorooctanesulfonamide (NEtFOSAA)	32.0	31.7		ng/L		99	59 - 146
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	320	307		ng/L		96	71 - 136
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	320	276		ng/L		86	69 - 137
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	128	140		ng/L		109	63 - 144
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	121	117		ng/L		96	68 - 146
Perfluoro-3-methoxypropanoic acid (PFMPA)	64.0	59.3		ng/L		93	51 - 145
Perfluoro-4-methoxybutanoic acid (PFMBA)	64.0	62.3		ng/L		97	55 - 148
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	64.0	75.8		ng/L		118	48 - 161
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	120	116		ng/L		97	56 - 156

QC Sample Results

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

Job ID: 380-56585-1

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

Lab Sample ID: LCS 320-697151/3-A
Matrix: Water
Analysis Batch: 697499

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 697151

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid	121	113		ng/L		94	46 - 156
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	57.1	56.1		ng/L		98	56 - 151
3-Perfluoropropylpropanoic acid (3:3 FTCA)	160	141		ng/L		88	62 - 129
3-Perfluoropentylpropanoic acid (5:3 FTCA)	799	808		ng/L		101	63 - 134
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	799	816		ng/L		102	50 - 138

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	92.1		10 - 130
13C5 PFPeA	92.9		40 - 150
13C5 PFHxA	84.8		40 - 150
13C4 PFHpA	95.9		40 - 150
13C8 PFOA	80.2		30 - 140
13C9 PFNA	101		30 - 140
13C6 PFDA	91.7		20 - 140
13C7 PFUnA	103		20 - 140
13C2 PFDoA	84.7		10 - 150
13C2 PFTeDA	92.4		10 - 130
13C3 PFBS	87.3		25 - 150
13C3 PFHxS	86.1		25 - 150
13C8 PFOS	99.1		20 - 140
13C8 PFOSA	85.1		10 - 130
d3-NMeFOSAA	94.7		10 - 200
d5-NEtFOSAA	92.2		10 - 200
13C2 4:2 FTS	92.9		25 - 200
13C2 6:2 FTS	90.6		25 - 200
13C2 8:2 FTS	107		25 - 200
13C3 HFPO-DA	92.9		25 - 160
d7-N-MeFOSE-M	86.6		10 - 150
d9-N-EtFOSE-M	99.8		10 - 150
d5-NEtPFOSA	74.6		10 - 130
d3-NMePFOSA	79.9		10 - 130

Lab Sample ID: LLCS 320-697151/2-A
Matrix: Water
Analysis Batch: 697499

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 697151

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	12.8	13.4		ng/L		104	44 - 157
Perfluoropentanoic acid (PFPeA)	6.40	5.80		ng/L		91	57 - 148
Perfluorohexanoic acid (PFHxA)	3.20	3.18		ng/L		99	62 - 149
Perfluoroheptanoic acid (PFHpA)	3.20	3.05		ng/L		95	56 - 150
Perfluorooctanoic acid (PFOA)	3.20	3.21		ng/L		100	57 - 161
Perfluorononanoic acid (PFNA)	3.20	3.18		ng/L		99	53 - 157
Perfluorodecanoic acid (PFDA)	3.20	3.22		ng/L		101	43 - 158

QC Sample Results

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

Job ID: 380-56585-1

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

Lab Sample ID: LLCS 320-697151/2-A
Matrix: Water
Analysis Batch: 697499

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 697151

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	3.20	3.30		ng/L		103	50 - 155
Perfluorododecanoic acid (PFDoA)	3.20	3.58		ng/L		112	60 - 141
Perfluorotridecanoic acid (PFTrDA)	3.20	3.49		ng/L		109	52 - 140
Perfluorotetradecanoic acid (PFTeDA)	3.20	2.73		ng/L		85	52 - 156
Perfluorobutanesulfonic acid (PFBS)	2.84	2.34		ng/L		82	63 - 145
Perfluoropentanesulfonic acid (PFPeS)	3.01	2.58		ng/L		86	58 - 144
Perfluorohexanesulfonic acid (PFHxS)	2.92	3.00		ng/L		103	44 - 158
Perfluoroheptanesulfonic acid (PFHpS)	3.05	2.78		ng/L		91	51 - 150
Perfluorooctanesulfonic acid (PFOS)	2.98	2.61		ng/L		88	43 - 162
Perfluorononanesulfonic acid (PFNS)	3.08	2.62		ng/L		85	46 - 151
Perfluorodecanesulfonic acid (PFDS)	3.08	2.95		ng/L		96	50 - 144
Perfluorododecanesulfonic acid (PFDoS)	3.10	2.45		ng/L		79	30 - 138
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	12.0	10.5		ng/L		87	52 - 158
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	12.2	12.0		ng/L		99	48 - 158
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	12.3	11.9		ng/L		97	46 - 165
Perfluorooctanesulfonamide (PFOSA)	3.20	2.93		ng/L		92	47 - 163
N-methylperfluorooctane sulfonamide (NMeFOSA)	3.20	2.59		ng/L		81	54 - 155
N-ethylperfluorooctane sulfonamide (NEtFOSA)	3.20	2.89		ng/L		90	49 - 156
N-methylperfluorooctanesulfonamide (NMeFOSAA)	3.20	2.53		ng/L		79	32 - 160
N-ethylperfluorooctanesulfonamide (NEtFOSAA)	3.20	2.57		ng/L		80	51 - 154
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	32.0	27.4		ng/L		86	56 - 151
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	32.0	26.5		ng/L		83	60 - 147
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	12.8	12.3		ng/L		96	58 - 154
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	12.1	12.6		ng/L		104	61 - 148
Perfluoro-3-methoxypropanoic acid (PFMPA)	6.40	6.05		ng/L		95	48 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	6.40	5.62		ng/L		88	49 - 154
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	6.40	6.62		ng/L		103	47 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	12.0	11.0		ng/L		92	44 - 167

QC Sample Results

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

Job ID: 380-56585-1

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

Lab Sample ID: LLCS 320-697151/2-A
Matrix: Water
Analysis Batch: 697499

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 697151

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	36 - 158
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	5.71	5.32		ng/L		93	56 - 144
3-Perfluoropropylpropanoic acid (3:3 FTCA)	16.0	13.7		ng/L		86	32 - 161
3-Perfluoropentylpropanoic acid (5:3 FTCA)	79.9	70.5		ng/L		88	39 - 156
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	79.9	71.5		ng/L		90	36 - 149

Isotope Dilution	LLCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	91.5		10 - 130
13C5 PFPeA	87.0		40 - 150
13C5 PFHxA	84.0		40 - 150
13C4 PFHpA	84.6		40 - 150
13C8 PFOA	82.8		30 - 140
13C9 PFNA	100		30 - 140
13C6 PFDA	95.1		20 - 140
13C7 PFUnA	98.3		20 - 140
13C2 PFDoA	79.5		10 - 150
13C2 PFTeDA	89.6		10 - 130
13C3 PFBS	97.0		25 - 150
13C3 PFHxS	97.7		25 - 150
13C8 PFOS	96.9		20 - 140
13C8 PFOSA	88.0		10 - 130
d3-NMeFOSAA	102		10 - 200
d5-NEtFOSAA	89.0		10 - 200
13C2 4:2 FTS	103		25 - 200
13C2 6:2 FTS	106		25 - 200
13C2 8:2 FTS	133		25 - 200
13C3 HFPO-DA	88.0		25 - 160
d7-N-MeFOSE-M	82.9		10 - 150
d9-N-EtFOSE-M	82.2		10 - 150
d5-NEtPFOSA	70.8		10 - 130
d3-NMePFOSA	78.5		10 - 130

Lab Sample ID: 320-102879-B-1-C MS
Matrix: Water
Analysis Batch: 697499

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 697151

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec Limits
				Result	Qualifier				
Perfluorobutanoic acid (PFBA)	30000		12800	42800		ng/L		101	58 - 148
Perfluoropentanoic acid (PFPeA)	3000		6400	9030		ng/L		95	54 - 152
Perfluorohexanoic acid (PFHxA)	8000		3200	11200		ng/L		100	55 - 152
Perfluoroheptanoic acid (PFHpA)	3700		3200	7100		ng/L		105	54 - 154
Perfluorooctanoic acid (PFOA)	33000		3200	37700	4	ng/L		136	52 - 161
Perfluorononanoic acid (PFNA)	<200		3200	3490		ng/L		105	59 - 149
Perfluorodecanoic acid (PFDA)	<320		3200	3520		ng/L		110	52 - 147

QC Sample Results

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

Job ID: 380-56585-1

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

Lab Sample ID: 320-102879-B-1-C MS
Matrix: Water
Analysis Batch: 697499

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 697151

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	<200		3200	3250		ng/L		102	48 - 159
Perfluorododecanoic acid (PFDoA)	<200		3200	3550		ng/L		111	64 - 142
Perfluorotridecanoic acid (PFTrDA)	<200		3200	2990		ng/L		93	49 - 148
Perfluorotetradecanoic acid (PFTeDA)	<200		3200	2720		ng/L		85	47 - 161
Perfluorobutanesulfonic acid (PFBS)	1900		2840	4420		ng/L		90	62 - 144
Perfluoropentanesulfonic acid (PFPeS)	2500		3010	5520		ng/L		101	59 - 151
Perfluorohexanesulfonic acid (PFHxS)	5600		2920	8640		ng/L		105	57 - 146
Perfluoroheptanesulfonic acid (PFHpS)	1300		3050	4170		ng/L		95	55 - 152
Perfluorononanesulfonic acid (PFNS)	<200		3080	3060		ng/L		99	52 - 148
Perfluorodecanesulfonic acid (PFDS)	<200		3080	3520		ng/L		114	51 - 147
Perfluorododecanesulfonic acid (PFDoS)	<200		3100	3030		ng/L		98	36 - 145
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<800		12000	11100		ng/L		92	67 - 146
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<800		12200	12200		ng/L		100	61 - 151
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<800		12300	13300		ng/L		108	63 - 152
Perfluorooctanesulfonamide (PFOSA)	<200		3200	3460		ng/L		108	61 - 148
N-methylperfluorooctane sulfonamide (NMeFOSA)	<200		3200	3230		ng/L		101	63 - 145
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<200		3200	3670		ng/L		115	65 - 139
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<200		3200	3000		ng/L		94	58 - 144
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<200		3200	2920		ng/L		91	59 - 146
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<2000		32000	33000		ng/L		103	71 - 136
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<2000		32000	30700		ng/L		96	69 - 137
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<800		12800	13200		ng/L		103	63 - 144
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<800		12100	11300		ng/L		93	68 - 146
Perfluoro-3-methoxypropanoic acid (PFMPA)	<400		6400	5980		ng/L		90	51 - 145
Perfluoro-4-methoxybutanoic acid (PFMBA)	<400		6400	6310		ng/L		99	55 - 148
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<400		6400	7720		ng/L		121	48 - 161
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<800		12000	11900		ng/L		100	56 - 156
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<800		12100	10900		ng/L		91	46 - 156

QC Sample Results

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

Job ID: 380-56585-1

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

Lab Sample ID: 320-102879-B-1-C MS
Matrix: Water
Analysis Batch: 697499

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 697151

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<400		5710	5270		ng/L		92	56 - 151
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<1000		16000	15500		ng/L		97	62 - 129
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<5000		79900	79000		ng/L		99	63 - 134
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<5000		79900	83700		ng/L		105	50 - 138

Isotope Dilution	MS %Recovery	MS Qualifier	MS Limits
13C4 PFBA	96.3		10 - 130
13C5 PFPeA	95.8		40 - 150
13C5 PFHxA	92.9		40 - 150
13C4 PFHpA	88.3		40 - 150
13C8 PFOA	92.8		30 - 140
13C9 PFNA	94.2		30 - 140
13C6 PFDA	93.2		20 - 140
13C7 PFUnA	106		20 - 140
13C2 PFDoA	96.9		10 - 150
13C2 PFTeDA	124		10 - 130
13C3 PFBS	103		25 - 150
13C3 PFHxS	95.4		25 - 150
13C8 PFOS	91.7		20 - 140
13C8 PFOSA	90.9		10 - 130
d3-NMeFOSAA	97.7		10 - 200
d5-NEtFOSAA	98.7		10 - 200
13C2 4:2 FTS	97.0		25 - 200
13C2 6:2 FTS	95.9		25 - 200
13C2 8:2 FTS	102		25 - 200
13C3 HFPO-DA	100		25 - 160
d7-N-MeFOSE-M	98.9		10 - 150
d9-N-EtFOSE-M	107		10 - 150
d5-NEtPFOSA	80.2		10 - 130
d3-NMePFOSA	88.4		10 - 130

Lab Sample ID: 320-102879-B-1-D MSD
Matrix: Water
Analysis Batch: 697499

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 697151

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	30000		12800	44600		ng/L		116	58 - 148	4	30
Perfluoropentanoic acid (PFPeA)	3000		6400	8760		ng/L		91	54 - 152	3	30
Perfluorohexanoic acid (PFHxA)	8000		3200	11200		ng/L		100	55 - 152	0	30
Perfluoroheptanoic acid (PFHpA)	3700		3200	7150		ng/L		107	54 - 154	1	30
Perfluorooctanoic acid (PFOA)	33000		3200	34200	4	ng/L		29	52 - 161	10	30
Perfluorononanoic acid (PFNA)	<200		3200	3420		ng/L		103	59 - 149	2	30
Perfluorodecanoic acid (PFDA)	<320		3200	3300		ng/L		103	52 - 147	6	30
Perfluoroundecanoic acid (PFUnA)	<200		3200	3120		ng/L		97	48 - 159	4	30

QC Sample Results

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

Job ID: 380-56585-1

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

Lab Sample ID: 320-102879-B-1-D MSD

Matrix: Water

Analysis Batch: 697499

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 697151

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorododecanoic acid (PFDoA)	<200		3200	3220		ng/L		101	64 - 142	10	30
Perfluorotridecanoic acid (PFTrDA)	<200		3200	2570		ng/L		80	49 - 148	15	30
Perfluorotetradecanoic acid (PFTeDA)	<200		3200	2580		ng/L		81	47 - 161	5	30
Perfluorobutanesulfonic acid (PFBS)	1900		2840	4490		ng/L		92	62 - 144	2	30
Perfluoropentanesulfonic acid (PFPeS)	2500		3010	5060		ng/L		86	59 - 151	9	30
Perfluorohexanesulfonic acid (PFHxS)	5600		2920	8370		ng/L		96	57 - 146	3	30
Perfluoroheptanesulfonic acid (PFHpS)	1300		3050	4610		ng/L		109	55 - 152	10	30
Perfluorononanesulfonic acid (PFNS)	<200		3080	3250		ng/L		106	52 - 148	6	30
Perfluorodecanesulfonic acid (PFDS)	<200		3080	3760		ng/L		122	51 - 147	6	30
Perfluorododecanesulfonic acid (PFDoS)	<200		3100	3210		ng/L		103	36 - 145	6	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<800		12000	11400		ng/L		95	67 - 146	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<800		12200	12900		ng/L		105	61 - 151	5	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<800		12300	12200		ng/L		99	63 - 152	9	30
Perfluorooctanesulfonamide (PFOSA)	<200		3200	3070		ng/L		96	61 - 148	12	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	<200		3200	3110		ng/L		97	63 - 145	4	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<200		3200	3590		ng/L		112	65 - 139	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<200		3200	2980		ng/L		93	58 - 144	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<200		3200	2910		ng/L		91	59 - 146	1	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<2000		32000	26900		ng/L		84	71 - 136	20	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<2000		32000	24900		ng/L		78	69 - 137	21	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<800		12800	12500		ng/L		98	63 - 144	6	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<800		12100	11200		ng/L		92	68 - 146	1	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<400		6400	5670		ng/L		85	51 - 145	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<400		6400	5820		ng/L		91	55 - 148	8	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<400		6400	7960		ng/L		124	48 - 161	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<800		12000	12000		ng/L		101	56 - 156	1	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<800		12100	10900		ng/L		90	46 - 156	0	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<400		5710	5850		ng/L		103	56 - 151	11	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-56585-1

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

Lab Sample ID: 320-102879-B-1-D MSD

Matrix: Water

Analysis Batch: 697499

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 697151

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits	Limit	
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<1000		16000	14300		ng/L		89	62 - 129	8	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<5000		79900	89500		ng/L		112	63 - 134	12	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<5000		79900	89700		ng/L		112	50 - 138	7	30
		MSD	MSD								
Isotope Dilution		%Recovery	Qualifier	Limits							
13C4 PFBA		89.4		10 - 130							
13C5 PFPeA		94.2		40 - 150							
13C5 PFHxA		82.5		40 - 150							
13C4 PFHpA		92.1		40 - 150							
13C8 PFOA		85.7		30 - 140							
13C9 PFNA		99.8		30 - 140							
13C6 PFDA		86.9		20 - 140							
13C7 PFUnA		109		20 - 140							
13C2 PFDoA		91.2		10 - 150							
13C2 PFTeDA		105		10 - 130							
13C3 PFBS		104		25 - 150							
13C3 PFHxS		106		25 - 150							
13C8 PFOS		86.5		20 - 140							
13C8 PFOSA		97.4		10 - 130							
d3-NMeFOSAA		104		10 - 200							
d5-NEtFOSAA		95.4		10 - 200							
13C2 4:2 FTS		93.9		25 - 200							
13C2 6:2 FTS		90.1		25 - 200							
13C2 8:2 FTS		107		25 - 200							
13C3 HFPO-DA		94.8		25 - 160							
d7-N-MeFOSE-M		110		10 - 150							
d9-N-EtFOSE-M		123		10 - 150							
d5-NEtPFOSA		80.3		10 - 130							
d3-NMePFOSA		86.3		10 - 130							

Lab Sample ID: 320-102879-B-1-B DU

Matrix: Water

Analysis Batch: 697499

Client Sample ID: Duplicate

Prep Type: Total/NA

Prep Batch: 697151

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD	Limit
	Result	Qualifier	Result	Qualifier				Limit	
Perfluorobutanoic acid (PFBA)	30000		29700		ng/L		0.7		30
Perfluoropentanoic acid (PFPeA)	3000		3000		ng/L		1		30
Perfluorohexanoic acid (PFHxA)	8000		8310		ng/L		4		30
Perfluoroheptanoic acid (PFHpA)	3700		3680		ng/L		2		30
Perfluorooctanoic acid (PFOA)	33000		34600		ng/L		4		30
Perfluorononanoic acid (PFNA)	<200		<200		ng/L		NC		30
Perfluorodecanoic acid (PFDA)	<320		<320		ng/L		NC		30
Perfluoroundecanoic acid (PFUnA)	<200		<200		ng/L		NC		30
Perfluorododecanoic acid (PFDoA)	<200		<200		ng/L		NC		30

QC Sample Results

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

Job ID: 380-56585-1

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

Lab Sample ID: 320-102879-B-1-B DU
Matrix: Water
Analysis Batch: 697499

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 697151

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Perfluorotridecanoic acid (PFTTrDA)	<200		<200		ng/L		NC	30
Perfluorotetradecanoic acid (PFTTeDA)	<200		<200		ng/L		NC	30
Perfluorobutanesulfonic acid (PFBS)	1900		1850		ng/L		1	30
Perfluoropentanesulfonic acid (PFPeS)	2500		2360		ng/L		4	30
Perfluorohexanesulfonic acid (PFHxS)	5600		5830		ng/L		5	30
Perfluoroheptanesulfonic acid (PFHpS)	1300		1260		ng/L		0.05	30
Perfluorononanesulfonic acid (PFNS)	<200		<200		ng/L		NC	30
Perfluorodecanesulfonic acid (PFDS)	<200		<200		ng/L		NC	30
Perfluorododecanesulfonic acid (PFDoS)	<200		<200		ng/L		NC	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<800		<800		ng/L		NC	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<800		<800		ng/L		NC	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<800		<800		ng/L		NC	30
Perfluorooctanesulfonamide (PFOSA)	<200		<200		ng/L		NC	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	<200		<200		ng/L		NC	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<200		<200		ng/L		NC	30
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<200		<200		ng/L		NC	30
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<200		<200		ng/L		NC	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<2000		<2000		ng/L		NC	30
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<2000		<2000		ng/L		NC	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<800		<800		ng/L		NC	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<800		<800		ng/L		NC	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<400		<400		ng/L		NC	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<400		<400		ng/L		NC	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<400		<400		ng/L		NC	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<800		<800		ng/L		NC	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<800		<800		ng/L		NC	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<400		<400		ng/L		NC	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<1000		<1000		ng/L		NC	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-56585-1

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

Lab Sample ID: 320-102879-B-1-B DU
Matrix: Water
Analysis Batch: 697499

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 697151

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<5000		<5000		ng/L		NC	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<5000		<5000		ng/L		NC	30

Isotope Dilution	DU DU		Limits
	%Recovery	Qualifier	
13C4 PFBA	95.4		10 - 130
13C5 PFPeA	95.8		40 - 150
13C5 PFHxA	83.6		40 - 150
13C4 PFHpA	93.0		40 - 150
13C8 PFOA	85.4		30 - 140
13C9 PFNA	105		30 - 140
13C6 PFDA	100		20 - 140
13C7 PFUnA	103		20 - 140
13C2 PFDoA	91.7		10 - 150
13C2 PFTeDA	94.7		10 - 130
13C3 PFBS	107		25 - 150
13C3 PFHxS	95.4		25 - 150
13C8 PFOS	91.5		20 - 140
13C8 PFOSA	97.2		10 - 130
d3-NMeFOSAA	103		10 - 200
d5-NEtFOSAA	96.0		10 - 200
13C2 4:2 FTS	130		25 - 200
13C2 6:2 FTS	105		25 - 200
13C2 8:2 FTS	132		25 - 200
13C3 HFPO-DA	103		25 - 160
d7-N-MeFOSE-M	118		10 - 150
d9-N-EtFOSE-M	116		10 - 150
d5-NEtPFOSA	84.5		10 - 130
d3-NMePFOSA	91.2		10 - 130

QC Association Summary

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

Job ID: 380-56585-1

LCMS

Prep Batch: 697151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-56585-1	BWS2253-J1-AQ	Total/NA	Water	1633	
380-56585-1 - RA	BWS2253-J1-AQ	Total/NA	Water	1633	
MB 320-697151/1-A	Method Blank	Total/NA	Water	1633	
LCS 320-697151/3-A	Lab Control Sample	Total/NA	Water	1633	
LLCS 320-697151/2-A	Lab Control Sample	Total/NA	Water	1633	
320-102879-B-1-C MS	Matrix Spike	Total/NA	Water	1633	
320-102879-B-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	1633	
320-102879-B-1-B DU	Duplicate	Total/NA	Water	1633	

Analysis Batch: 697499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-56585-1	BWS2253-J1-AQ	Total/NA	Water	Draft 1633	697151
MB 320-697151/1-A	Method Blank	Total/NA	Water	Draft 1633	697151
LCS 320-697151/3-A	Lab Control Sample	Total/NA	Water	Draft 1633	697151
LLCS 320-697151/2-A	Lab Control Sample	Total/NA	Water	Draft 1633	697151
320-102879-B-1-C MS	Matrix Spike	Total/NA	Water	Draft 1633	697151
320-102879-B-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	Draft 1633	697151
320-102879-B-1-B DU	Duplicate	Total/NA	Water	Draft 1633	697151

Analysis Batch: 699756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-56585-1 - RA	BWS2253-J1-AQ	Total/NA	Water	Draft 1633	697151

Lab Chronicle

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

Job ID: 380-56585-1

Client Sample ID: BWS2253-J1-AQ

Lab Sample ID: 380-56585-1

Date Collected: 07/26/23 10:30

Matrix: Water

Date Received: 07/27/23 09:48

<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			697151	PV	EET SAC	08/08/23 19:57
Total/NA	Analysis	Draft 1633		1	697499	S1M	EET SAC	08/11/23 18:08
Total/NA	Prep	1633	RA		697151	PV	EET SAC	08/08/23 19:57
Total/NA	Analysis	Draft 1633	RA	1	699756	AEC	EET SAC	08/19/23 08:31

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: 380-56585-1

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	CA0004	08-31-23
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	10-31-23
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	T104704399-19-13	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	CA000442021-12	02-28-24
Virginia	NELAP	460278	03-14-24
Washington	State	C581	05-05-24
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-23
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: 380-56585-1

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



Sample Summary

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

Job ID: 380-56585-1

<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Collected</u>	<u>Received</u>
380-56585-1	BWS2253-J1-AQ	Water	07/26/23 10:30	07/27/23 09:48

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

Bottle Order Information

Bottle Order: INTERA - Site J (EEA_Sac-1633)
Bottle Order #: 7757
Request From Client: 6/26/2023 4:57:00PM
Date Order Posted: 3/22/2023 4:57:00PM
Order Status: Ready To Process
Prepared By: Michelle Do
Deliver By Date: 7/5/2023 11:59:00PM
Lab Project Number: 38000861
PWSID:

Order Completion Information

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

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 List	Water	Normal	1633	

Total Bottle Summary

Bottle Type Description: Plastic 500ml - unpreserved

Preservative

None

Bottle Count

2

Total Bottles: 2

Notes to Field Staff:

Health and Safety Notes:

Preservative Comment



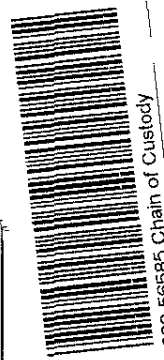
Scan QR code for field sampler instructions

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

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



Chain of Custody Record

Client Information		Sampler: EVA KAKONE	Lab P/N: AVADA, Rachelle	Carrier Tracking No(s): RED EX	COC No:
Client Contact: Mr Erwin Kawata		Phone: (858) 205 6130	E-Mail: Rachelle.Avada@eurofins.com	State of Origin: HAWAII	Page: Page 1 of 1
Company: City & County of Honolulu		Analysis Requested			Job #:
Address: 630 South Beretania Street		Due Date Requested:			Preservation Codes
City: Honolulu		TAT Requested (days): STANDARD			A HCL
State, Zip: HI, 96843		Compliance Project: Δ Yes Δ No			B NaOH
Phone: 808-748-6066 (Tel)		PO #: C20526101 exp 05312023			C Zn Acetate
Email: ekawata@hbws.org		WO #:			D Nitric Acid
Project Name: HRS-340E RED-HILL INTERA		Project #: 38002227			E NaHSO4
Site: Site J		SSOW#:			F MeOH
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	G
BWS2253-J1-AQ		7/26/23	1030	Water	H Amchlor
BWS2253-J4-TB				Water	I Ice
BWS2253-J4-FB				Water	J DI Water
 380-56585 Chain of Custody		Field Filtered Sample (Yes or No)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	K EDTA
		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	L EDA
Possible Hazard Identification		<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			M Hexane
Deliverable Requested: I, II, III, IV Other (specify)		<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			N None
Empty Kit Relinquished by		Date: _____ Time: _____			O AsNaO2
Relinquished by: EVA KAKONE		Date/Time: 7/26/23 1330	Company: MEAM INC	Received by: [Signature]	P Na2O4S
Relinquished by:		Date/Time:	Company:	Received by:	Q Na2SO3
Relinquished by:		Date/Time:	Company:	Received by:	R Na2S2O3
Custody Seals Intact: Δ Yes Δ No		Custody Seal No. _____			S H2SO4
Special Instructions/Note: x = testing comes from another container		Total Number of containers: 20			T TSP Dodecalhydrate
Subcontract Notes: 625 PAH Physis		Subcontract Notes: 8015 TPH D+M EMAX			U Acetone
Subcontract Notes: 8015 Gas EMAX		Subcontract Notes: PFAS 537 1 & 533 EEA POM			V MCAA
Subcontract Notes: PFAS 1633 EEA SAC		Subcontract Notes: Bill and Report to EEA Pamona			W pH 4.5
Subcontract Notes: Bill and Report to EEA Pamona		Subcontract Notes: PFAS 1633 EEA SAC			X Trizma
Subcontract Notes: Bill and Report to EEA Pamona		Subcontract Notes: PFAS 1633 EEA SAC			Y other (specify)
Subcontract Notes: Bill and Report to EEA Pamona		Subcontract Notes: PFAS 1633 EEA SAC			Z other (specify)





Environment Testing America

Sacramento Sample Receiving Notes



380-56585 Field Sheet

Tracking # 7816 8065 1155

Job _____

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 L 69 Corr Factor (+ / -) 0 °C

Ice Wet Gel _____ Other _____

Cooler Custody Seal 501 80 7/27/23

Cooler ID _____

Temp Observed 6.3 °C Corrected 6.3 °C

From Temp Blank Sample

Opening/Processing The Shipment **Yes No NA**

Cooler compromised/tampered with?

Cooler Temperature is acceptable?

Frozen samples show signs of thaw?

Initials MM Date 7/27/23

Unpacking/Labeling The Samples **Yes No NA**

Containers are not broken or leaking?

Samples compromised/tampered with?

COC is complete w/o discrepancies

Sample custody seal?

Sample containers have legible labels?

Sample date/times are provided?

Appropriate containers are used?

Sample bottles are completely filled?

Sample preservatives verified?

Is the Field Sampler's name on COC?

Samples w/o discrepancies?

Zero headspace?*

Alkalinity has no headspace?

Perchlorate has headspace?

(Methods 314, 331 6850)

Multiphasic samples are not present?

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

Initials MM Date 7/27/23

Notes _____

Trizma Lot #(s) _____

Ammonium

Acetate Lot #(s) _____

Login Completion **Yes No NA**

Receipt Temperature on COC?

NCM Filed?

Log Release checked in TALS?

Initials MM Date 7-27-23

WR309D

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-56585-1

Login Number: 56585

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: 380-56585-1

Login Number: 56585
List Number: 2
Creator: Pratali, Sandra A

List Source: Eurofins Sacramento
List Creation: 07/27/23 06:24 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 present with no number.
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	0.8
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	