

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

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Erwin Kawata
City & County of Honolulu
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JOB DESCRIPTION

RED-HILL
RUSH Weekly Red Hill

JOB NUMBER

380-70278-1

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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Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Detection Summary	6
Client Sample Results	7
Action Limit Summary	29
Surrogate Summary	31
Isotope Dilution Summary	33
QC Sample Results	35
QC Association Summary	65
Lab Chronicle	68
Certification Summary	70
Method Summary	73
Sample Summary	74
Chain of Custody	75
Receipt Checklists	77

Definitions/Glossary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

LCMS

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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: RED-HILL

Job ID: 380-70278-1

Job ID: 380-70278-1

Laboratory: Eurofins Eaton Analytical Pomona

Narrative

Job Narrative 380-70278-1

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 samples were received on 11/8/2023 10:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.2°C, 1.6°C and 2.0°C

Receipt Exceptions

One of four 8015 vials from sites AIEA WELLS PUMPS 1&2 (260) P2 & HALAWA WELLS UNITS 1&2 P1 arrived broken

EPA 537.1 and EPA 533 are two distinct methods for the analysis of PFAS in drinking water. The analyses are conducted on differing instrumentation, with calibrations, extraction solvents and sample preservatives being dissimilar among the two methods. Therefore it is probable and not unexpected to see the methods having slight variations in analytical results.

GC/MS Semi VOA

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

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: RED-HILL

Job ID: 380-70278-1

Client Sample ID: MOANALUA WELLS
PWSID Number: HI0000331

Lab Sample ID: 380-70278-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.4		2.0	ng/L	1		533	Total/NA

Client Sample ID: AIEA GULCH WELLS PUMP 2
PWSID Number: HI0000331

Lab Sample ID: 380-70278-2

No Detections.

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2
PWSID Number: HI0000331

Lab Sample ID: 380-70278-3

No Detections.

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
PWSID Number: HI0000331

Lab Sample ID: 380-70278-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	2.4		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	2.2		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.4		2.0	ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	2.0		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	2.5		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.1		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanoic acid (PFHxA)	2.0		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.6		2.0	ng/L	1		537.1	Total/NA

Client Sample ID: FB MOANALUA WELLS
PWSID Number: HI0000331

Lab Sample ID: 380-70278-9

No Detections.

Client Sample ID: FB AIEA GULCH WELLS PUMP 2
PWSID Number: HI0000331

Lab Sample ID: 380-70278-10

No Detections.

Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260) P2
PWSID Number: HI0000331

Lab Sample ID: 380-70278-11

No Detections.

Client Sample ID: FB HALAWA WELLS UNITS 1 & 2 P1
PWSID Number: HI0000331

Lab Sample ID: 380-70278-12

No Detections.

This Detection Summary does not include radiochemical test results.

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Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-70278-1

Date Collected: 11/06/23 09:51

Matrix: Drinking Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 525.2 - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
2,4'-DDD	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
2,4'-DDE	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
2,4'-DDT	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
2,4-Dinitrotoluene	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
2,6-Dinitrotoluene	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
2-Methylnaphthalene	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
4,4'-DDD	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
4,4'-DDE	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
4,4'-DDT	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
Acenaphthene	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
Acenaphthylene	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
Acetochlor	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
Alachlor	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:21	1
alpha-BHC	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
alpha-Chlordane	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:21	1
Anthracene	<0.020		0.020	ug/L		11/09/23 09:48	11/12/23 17:21	1
Atrazine	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:21	1
Benz(a)anthracene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:21	1
Benzo[a]pyrene	<0.020		0.020	ug/L		11/09/23 09:48	11/12/23 17:21	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		11/09/23 09:48	11/12/23 17:21	1
Benzo[g,h,i]perylene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:21	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		11/09/23 09:48	11/12/23 17:21	1
beta-BHC	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		11/09/23 09:48	11/12/23 17:21	1
Bromacil	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
Butachlor	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:21	1
Butylbenzylphthalate	<0.50		0.50	ug/L		11/09/23 09:48	11/12/23 17:21	1
Chlorobenzilate	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
Chloroneb	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
Chlorothalonil (Draconil, Bravo)	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
Chlorpyrifos	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:21	1
Chrysene	<0.020		0.020	ug/L		11/09/23 09:48	11/12/23 17:21	1
delta-BHC	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
Di(2-ethylhexyl)adipate	<0.59		0.59	ug/L		11/09/23 09:48	11/12/23 17:21	1
Dibenz(a,h)anthracene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:21	1
Diclorvos (DDVP)	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:21	1
Dieldrin	<0.20		0.20	ug/L		11/09/23 09:48	11/12/23 17:21	1
Diethylphthalate	<0.50		0.50	ug/L		11/09/23 09:48	11/12/23 17:21	1
Dimethylphthalate	<0.50		0.50	ug/L		11/09/23 09:48	11/12/23 17:21	1
Di-n-butyl phthalate	<0.99		0.99	ug/L		11/09/23 09:48	11/12/23 17:21	1
Di-n-octyl phthalate	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
Endosulfan I (Alpha)	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
Endosulfan II (Beta)	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
Endosulfan sulfate	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
Endrin	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
Endrin aldehyde	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
EPTC	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
Fluoranthene	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1

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Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-70278-1

Date Collected: 11/06/23 09:51

Matrix: Drinking Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:21	1
gamma-Chlordane	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:21	1
Heptachlor	<0.040		0.040	ug/L		11/09/23 09:48	11/12/23 17:21	1
Heptachlor epoxide (isomer B)	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:21	1
Hexachlorobenzene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:21	1
Hexachlorocyclopentadiene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:21	1
Indeno[1,2,3-cd]pyrene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:21	1
Isophorone	<0.50		0.50	ug/L		11/09/23 09:48	11/12/23 17:21	1
Lindane	<0.040		0.040	ug/L		11/09/23 09:48	11/12/23 17:21	1
Malathion	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
Methoxychlor	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
Metolachlor	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:21	1
Molinate	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
Naphthalene	<0.30		0.30	ug/L		11/09/23 09:48	11/12/23 17:21	1
Parathion	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
Pendimethalin (Penoxaline)	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
Phenanthrene	<0.040		0.040	ug/L		11/09/23 09:48	11/12/23 17:21	1
Propachlor	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:21	1
Pyrene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:21	1
Simazine	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:21	1
Terbacil	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
Terbuthylazine	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1
Thiobencarb	<0.20		0.20	ug/L		11/09/23 09:48	11/12/23 17:21	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		11/09/23 09:48	11/12/23 17:21	1
trans-Nonachlor	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:21	1
Trifluralin	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 17:21	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	11/09/23 09:48	11/12/23 17:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	97		70 - 130	11/09/23 09:48	11/12/23 17:21	1
Perylene-d12	97		70 - 130	11/09/23 09:48	11/12/23 17:21	1
Triphenylphosphate	101		70 - 130	11/09/23 09:48	11/12/23 17:21	1

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-70278-1

Date Collected: 11/06/23 09:51

Matrix: Drinking Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1
Perfluorobutanoic acid (PFBA)	2.4		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:10	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	80		50 - 200			11/22/23 05:06	11/28/23 07:10	1
13C6 PFDA	90		50 - 200			11/22/23 05:06	11/28/23 07:10	1
13C5 PFHxA	87		50 - 200			11/22/23 05:06	11/28/23 07:10	1
13C4 PFHpA	87		50 - 200			11/22/23 05:06	11/28/23 07:10	1
13C8 PFOA	93		50 - 200			11/22/23 05:06	11/28/23 07:10	1
13C9 PFNA	99		50 - 200			11/22/23 05:06	11/28/23 07:10	1
13C7 PFUnA	90		50 - 200			11/22/23 05:06	11/28/23 07:10	1
13C2 PFDoA	94		50 - 200			11/22/23 05:06	11/28/23 07:10	1
13C4 PFBA	89		50 - 200			11/22/23 05:06	11/28/23 07:10	1
13C5 PFPeA	84		50 - 200			11/22/23 05:06	11/28/23 07:10	1
13C3 PFBS	96		50 - 200			11/22/23 05:06	11/28/23 07:10	1
13C3 PFHxS	96		50 - 200			11/22/23 05:06	11/28/23 07:10	1
13C8 PFOS	100		50 - 200			11/22/23 05:06	11/28/23 07:10	1
13C2-4:2-FTS	115		50 - 200			11/22/23 05:06	11/28/23 07:10	1
13C2-6:2-FTS	117		50 - 200			11/22/23 05:06	11/28/23 07:10	1
13C2-8:2-FTS	124		50 - 200			11/22/23 05:06	11/28/23 07:10	1

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:44	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:44	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:44	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:44	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:44	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-70278-1

Date Collected: 11/06/23 09:51

Matrix: Drinking Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:44	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:44	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:44	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:44	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:44	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:44	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:44	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:44	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:44	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:44	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:44	1
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:44	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:44	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	112		70 - 130			11/15/23 07:42	11/16/23 18:44	1
13C2 PFHxA	108		70 - 130			11/15/23 07:42	11/16/23 18:44	1
13C2 PFDA	109		70 - 130			11/15/23 07:42	11/16/23 18:44	1
13C3-GenX	111		70 - 130			11/15/23 07:42	11/16/23 18:44	1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-70278-2

Date Collected: 11/06/23 10:54

Matrix: Drinking Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 525.2 - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
2,4'-DDD	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
2,4'-DDE	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
2,4'-DDT	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
2,4-Dinitrotoluene	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
2,6-Dinitrotoluene	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
2-Methylnaphthalene	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
4,4'-DDD	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
4,4'-DDE	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
4,4'-DDT	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
Acenaphthene	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
Acenaphthylene	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
Acetochlor	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
Alachlor	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:41	1
alpha-BHC	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
alpha-Chlordane	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:41	1
Anthracene	<0.020		0.020	ug/L		11/09/23 09:48	11/12/23 17:41	1
Atrazine	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:41	1
Benz(a)anthracene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:41	1
Benzo[a]pyrene	<0.020		0.020	ug/L		11/09/23 09:48	11/12/23 17:41	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		11/09/23 09:48	11/12/23 17:41	1
Benzo[g,h,i]perylene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:41	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-70278-2

Date Collected: 11/06/23 10:54

Matrix: Drinking Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	<0.020		0.020	ug/L		11/09/23 09:48	11/12/23 17:41	1
beta-BHC	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
Bis(2-ethylhexyl) phthalate	<0.60		0.60	ug/L		11/09/23 09:48	11/12/23 17:41	1
Bromacil	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
Butachlor	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:41	1
Butylbenzylphthalate	<0.50		0.50	ug/L		11/09/23 09:48	11/12/23 17:41	1
Chlorobenzilate	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
Chloroneb	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
Chlorothalonil (Draconil, Bravo)	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
Chlorpyrifos	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:41	1
Chrysene	<0.020		0.020	ug/L		11/09/23 09:48	11/12/23 17:41	1
delta-BHC	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
Di(2-ethylhexyl)adipate	<0.60		0.60	ug/L		11/09/23 09:48	11/12/23 17:41	1
Dibenz(a,h)anthracene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:41	1
Diclorvos (DDVP)	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:41	1
Dieldrin	<0.20		0.20	ug/L		11/09/23 09:48	11/12/23 17:41	1
Diethylphthalate	<0.50		0.50	ug/L		11/09/23 09:48	11/12/23 17:41	1
Dimethylphthalate	<0.50		0.50	ug/L		11/09/23 09:48	11/12/23 17:41	1
Di-n-butyl phthalate	<1.0		1.0	ug/L		11/09/23 09:48	11/12/23 17:41	1
Di-n-octyl phthalate	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
Endosulfan I (Alpha)	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
Endosulfan II (Beta)	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
Endosulfan sulfate	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
Endrin	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
Endrin aldehyde	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
EPTC	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
Fluoranthene	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
Fluorene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:41	1
gamma-Chlordane	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:41	1
Heptachlor	<0.040		0.040	ug/L		11/09/23 09:48	11/12/23 17:41	1
Heptachlor epoxide (isomer B)	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:41	1
Hexachlorobenzene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:41	1
Hexachlorocyclopentadiene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:41	1
Indeno[1,2,3-cd]pyrene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:41	1
Isophorone	<0.50		0.50	ug/L		11/09/23 09:48	11/12/23 17:41	1
Lindane	<0.040		0.040	ug/L		11/09/23 09:48	11/12/23 17:41	1
Malathion	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
Methoxychlor	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
Metolachlor	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:41	1
Molinate	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
Naphthalene	<0.30		0.30	ug/L		11/09/23 09:48	11/12/23 17:41	1
Parathion	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
Pendimethalin (Penoxaline)	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
Phenanthrene	<0.040		0.040	ug/L		11/09/23 09:48	11/12/23 17:41	1
Propachlor	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:41	1
Pyrene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:41	1
Simazine	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:41	1
Terbacil	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1
Terbutylazine	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-70278-2

Date Collected: 11/06/23 10:54

Matrix: Drinking Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Thiobencarb	<0.20		0.20	ug/L		11/09/23 09:48	11/12/23 17:41	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		11/09/23 09:48	11/12/23 17:41	1
trans-Nonachlor	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 17:41	1
Trifluralin	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 17:41	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	11/09/23 09:48	11/12/23 17:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	99		70 - 130	11/09/23 09:48	11/12/23 17:41	1
Perylene-d12	96		70 - 130	11/09/23 09:48	11/12/23 17:41	1
Triphenylphosphate	102		70 - 130	11/09/23 09:48	11/12/23 17:41	1

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF30UdS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:19	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-70278-2

Date Collected: 11/06/23 10:54

Matrix: Drinking Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	90		50 - 200	11/22/23 05:06	11/28/23 07:19	1
13C6 PFDA	96		50 - 200	11/22/23 05:06	11/28/23 07:19	1
13C5 PFHxA	92		50 - 200	11/22/23 05:06	11/28/23 07:19	1
13C4 PFHpA	96		50 - 200	11/22/23 05:06	11/28/23 07:19	1
13C8 PFOA	102		50 - 200	11/22/23 05:06	11/28/23 07:19	1
13C9 PFNA	102		50 - 200	11/22/23 05:06	11/28/23 07:19	1
13C7 PFUnA	94		50 - 200	11/22/23 05:06	11/28/23 07:19	1
13C2 PFDoA	101		50 - 200	11/22/23 05:06	11/28/23 07:19	1
13C4 PFBA	95		50 - 200	11/22/23 05:06	11/28/23 07:19	1
13C5 PFPeA	90		50 - 200	11/22/23 05:06	11/28/23 07:19	1
13C3 PFBS	99		50 - 200	11/22/23 05:06	11/28/23 07:19	1
13C3 PFHxS	97		50 - 200	11/22/23 05:06	11/28/23 07:19	1
13C8 PFOS	100		50 - 200	11/22/23 05:06	11/28/23 07:19	1
13C2-4:2-FTS	109		50 - 200	11/22/23 05:06	11/28/23 07:19	1
13C2-6:2-FTS	108		50 - 200	11/22/23 05:06	11/28/23 07:19	1
13C2-8:2-FTS	120		50 - 200	11/22/23 05:06	11/28/23 07:19	1

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:06	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:06	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:06	1
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:06	1
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:06	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:06	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:06	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:06	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:06	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:06	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:06	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:06	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:06	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:06	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:06	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:06	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	95		70 - 130	11/15/23 07:42	11/16/23 18:06	1
13C2 PFHxA	98		70 - 130	11/15/23 07:42	11/16/23 18:06	1
13C2 PFDA	101		70 - 130	11/15/23 07:42	11/16/23 18:06	1
13C3-GenX	94		70 - 130	11/15/23 07:42	11/16/23 18:06	1

Client Sample Results

Client: City & County of Honolulu
 Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-70278-3

Date Collected: 11/06/23 11:22

Matrix: Drinking Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 525.2 - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
2,4'-DDD	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
2,4'-DDE	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
2,4'-DDT	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
2,4-Dinitrotoluene	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
2,6-Dinitrotoluene	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
2-Methylnaphthalene	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
4,4'-DDD	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
4,4'-DDE	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
4,4'-DDT	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
Acenaphthene	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
Acenaphthylene	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
Acetochlor	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
Alachlor	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:01	1
alpha-BHC	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
alpha-Chlordane	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:01	1
Anthracene	<0.020		0.020	ug/L		11/09/23 09:48	11/12/23 18:01	1
Atrazine	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:01	1
Benz(a)anthracene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:01	1
Benzo[a]pyrene	<0.020		0.020	ug/L		11/09/23 09:48	11/12/23 18:01	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		11/09/23 09:48	11/12/23 18:01	1
Benzo[g,h,i]perylene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:01	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		11/09/23 09:48	11/12/23 18:01	1
beta-BHC	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
Bis(2-ethylhexyl) phthalate	<0.60		0.60	ug/L		11/09/23 09:48	11/12/23 18:01	1
Bromacil	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
Butachlor	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:01	1
Butylbenzylphthalate	<0.50		0.50	ug/L		11/09/23 09:48	11/12/23 18:01	1
Chlorobenzilate	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
Chloroneb	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
Chlorothalonil (Draconil, Bravo)	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
Chlorpyrifos	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:01	1
Chrysene	<0.020		0.020	ug/L		11/09/23 09:48	11/12/23 18:01	1
delta-BHC	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
Di(2-ethylhexyl)adipate	<0.60		0.60	ug/L		11/09/23 09:48	11/12/23 18:01	1
Dibenz(a,h)anthracene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:01	1
Diclorvos (DDVP)	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:01	1
Dieldrin	<0.20		0.20	ug/L		11/09/23 09:48	11/12/23 18:01	1
Diethylphthalate	<0.50		0.50	ug/L		11/09/23 09:48	11/12/23 18:01	1
Dimethylphthalate	<0.50		0.50	ug/L		11/09/23 09:48	11/12/23 18:01	1
Di-n-butyl phthalate	<1.0		1.0	ug/L		11/09/23 09:48	11/12/23 18:01	1
Di-n-octyl phthalate	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
Endosulfan I (Alpha)	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
Endosulfan II (Beta)	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
Endosulfan sulfate	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
Endrin	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
Endrin aldehyde	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
EPTC	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
Fluoranthene	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-70278-3

Date Collected: 11/06/23 11:22

Matrix: Drinking Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:01	1
gamma-Chlordane	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:01	1
Heptachlor	<0.040		0.040	ug/L		11/09/23 09:48	11/12/23 18:01	1
Heptachlor epoxide (isomer B)	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:01	1
Hexachlorobenzene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:01	1
Hexachlorocyclopentadiene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:01	1
Indeno[1,2,3-cd]pyrene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:01	1
Isophorone	<0.50		0.50	ug/L		11/09/23 09:48	11/12/23 18:01	1
Lindane	<0.040		0.040	ug/L		11/09/23 09:48	11/12/23 18:01	1
Malathion	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
Methoxychlor	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
Metolachlor	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:01	1
Molinate	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
Naphthalene	<0.30		0.30	ug/L		11/09/23 09:48	11/12/23 18:01	1
Parathion	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
Pendimethalin (Penoxaline)	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
Phenanthrene	<0.040		0.040	ug/L		11/09/23 09:48	11/12/23 18:01	1
Propachlor	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:01	1
Pyrene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:01	1
Simazine	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:01	1
Terbacil	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
Terbuthylazine	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1
Thiobencarb	<0.20		0.20	ug/L		11/09/23 09:48	11/12/23 18:01	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		11/09/23 09:48	11/12/23 18:01	1
trans-Nonachlor	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:01	1
Trifluralin	<0.10		0.10	ug/L		11/09/23 09:48	11/12/23 18:01	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	11/09/23 09:48	11/12/23 18:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	94		70 - 130	11/09/23 09:48	11/12/23 18:01	1
Perylene-d12	92		70 - 130	11/09/23 09:48	11/12/23 18:01	1
Triphenylphosphate	110		70 - 130	11/09/23 09:48	11/12/23 18:01	1

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafiuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-70278-3

Date Collected: 11/06/23 11:22

Matrix: Drinking Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:28	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	91		50 - 200			11/22/23 05:06	11/28/23 07:28	1
13C6 PFDA	96		50 - 200			11/22/23 05:06	11/28/23 07:28	1
13C5 PFHxA	95		50 - 200			11/22/23 05:06	11/28/23 07:28	1
13C4 PFHpA	95		50 - 200			11/22/23 05:06	11/28/23 07:28	1
13C8 PFOA	101		50 - 200			11/22/23 05:06	11/28/23 07:28	1
13C9 PFNA	103		50 - 200			11/22/23 05:06	11/28/23 07:28	1
13C7 PFUnA	93		50 - 200			11/22/23 05:06	11/28/23 07:28	1
13C2 PFDoA	97		50 - 200			11/22/23 05:06	11/28/23 07:28	1
13C4 PFBA	98		50 - 200			11/22/23 05:06	11/28/23 07:28	1
13C5 PFPeA	92		50 - 200			11/22/23 05:06	11/28/23 07:28	1
13C3 PFBS	93		50 - 200			11/22/23 05:06	11/28/23 07:28	1
13C3 PFHxS	91		50 - 200			11/22/23 05:06	11/28/23 07:28	1
13C8 PFOS	97		50 - 200			11/22/23 05:06	11/28/23 07:28	1
13C2-4:2-FTS	103		50 - 200			11/22/23 05:06	11/28/23 07:28	1
13C2-6:2-FTS	105		50 - 200			11/22/23 05:06	11/28/23 07:28	1
13C2-8:2-FTS	110		50 - 200			11/22/23 05:06	11/28/23 07:28	1

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:54	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:54	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:54	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:54	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:54	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-70278-3

Date Collected: 11/06/23 11:22

Matrix: Drinking Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:54	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:54	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:54	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:54	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:54	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:54	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:54	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:54	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:54	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:54	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:54	1
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 18:54	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	94		70 - 130			11/15/23 07:42	11/16/23 18:54	1
13C2 PFHxA	93		70 - 130			11/15/23 07:42	11/16/23 18:54	1
13C2 PFDA	98		70 - 130			11/15/23 07:42	11/16/23 18:54	1
13C3-GenX	91		70 - 130			11/15/23 07:42	11/16/23 18:54	1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-70278-4

Date Collected: 11/06/23 10:27

Matrix: Drinking Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 525.2 - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
2,4'-DDD	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
2,4'-DDE	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
2,4'-DDT	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
2,4-Dinitrotoluene	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
2,6-Dinitrotoluene	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
2-Methylnaphthalene	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
4,4'-DDD	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
4,4'-DDE	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
4,4'-DDT	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
Acenaphthene	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
Acenaphthylene	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
Acetochlor	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
Alachlor	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:21	1
alpha-BHC	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
alpha-Chlordane	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:21	1
Anthracene	<0.020		0.020	ug/L		11/09/23 09:48	11/12/23 18:21	1
Atrazine	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:21	1
Benz(a)anthracene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:21	1
Benzo[a]pyrene	<0.020		0.020	ug/L		11/09/23 09:48	11/12/23 18:21	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		11/09/23 09:48	11/12/23 18:21	1
Benzo[g,h,i]perylene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:21	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-70278-4

Date Collected: 11/06/23 10:27

Matrix: Drinking Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	<0.020		0.020	ug/L		11/09/23 09:48	11/12/23 18:21	1
beta-BHC	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		11/09/23 09:48	11/12/23 18:21	1
Bromacil	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
Butachlor	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:21	1
Butylbenzylphthalate	<0.50		0.50	ug/L		11/09/23 09:48	11/12/23 18:21	1
Chlorobenzilate	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
Chloroneb	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
Chlorothalonil (Draconil, Bravo)	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
Chlorpyrifos	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:21	1
Chrysene	<0.020		0.020	ug/L		11/09/23 09:48	11/12/23 18:21	1
delta-BHC	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
Di(2-ethylhexyl)adipate	<0.59		0.59	ug/L		11/09/23 09:48	11/12/23 18:21	1
Dibenz(a,h)anthracene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:21	1
Diclorvos (DDVP)	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:21	1
Dieldrin	<0.20		0.20	ug/L		11/09/23 09:48	11/12/23 18:21	1
Diethylphthalate	<0.50		0.50	ug/L		11/09/23 09:48	11/12/23 18:21	1
Dimethylphthalate	<0.50		0.50	ug/L		11/09/23 09:48	11/12/23 18:21	1
Di-n-butyl phthalate	<0.99		0.99	ug/L		11/09/23 09:48	11/12/23 18:21	1
Di-n-octyl phthalate	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
Endosulfan I (Alpha)	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
Endosulfan II (Beta)	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
Endosulfan sulfate	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
Endrin	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
Endrin aldehyde	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
EPTC	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
Fluoranthene	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
Fluorene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:21	1
gamma-Chlordane	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:21	1
Heptachlor	<0.040		0.040	ug/L		11/09/23 09:48	11/12/23 18:21	1
Heptachlor epoxide (isomer B)	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:21	1
Hexachlorobenzene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:21	1
Hexachlorocyclopentadiene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:21	1
Indeno[1,2,3-cd]pyrene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:21	1
Isophorone	<0.50		0.50	ug/L		11/09/23 09:48	11/12/23 18:21	1
Lindane	<0.040		0.040	ug/L		11/09/23 09:48	11/12/23 18:21	1
Malathion	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
Methoxychlor	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
Metolachlor	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:21	1
Molinate	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
Naphthalene	<0.30		0.30	ug/L		11/09/23 09:48	11/12/23 18:21	1
Parathion	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
Pendimethalin (Penoxaline)	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
Phenanthrene	<0.040		0.040	ug/L		11/09/23 09:48	11/12/23 18:21	1
Propachlor	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:21	1
Pyrene	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:21	1
Simazine	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:21	1
Terbacil	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1
Terbutylazine	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-70278-4

Date Collected: 11/06/23 10:27

Matrix: Drinking Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Thiobencarb	<0.20		0.20	ug/L		11/09/23 09:48	11/12/23 18:21	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		11/09/23 09:48	11/12/23 18:21	1
trans-Nonachlor	<0.050		0.050	ug/L		11/09/23 09:48	11/12/23 18:21	1
Trifluralin	<0.099		0.099	ug/L		11/09/23 09:48	11/12/23 18:21	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	11/09/23 09:48	11/12/23 18:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	96		70 - 130	11/09/23 09:48	11/12/23 18:21	1
Perylene-d12	94		70 - 130	11/09/23 09:48	11/12/23 18:21	1
Triphenylphosphate	113		70 - 130	11/09/23 09:48	11/12/23 18:21	1

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1
Perfluorohexanesulfonic acid (PFHxS)	2.4		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1
Perfluorohexanoic acid (PFHxA)	2.2		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1
Perfluorooctanesulfonic acid (PFOS)	2.4		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1
Perfluorooctanoic acid (PFOA)	2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1
Perfluoropentanoic acid (PFPeA)	2.5		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-70278-4

Date Collected: 11/06/23 10:27

Matrix: Drinking Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:38	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	78		50 - 200			11/22/23 05:06	11/28/23 07:38	1
13C6 PFDA	90		50 - 200			11/22/23 05:06	11/28/23 07:38	1
13C5 PFHxA	81		50 - 200			11/22/23 05:06	11/28/23 07:38	1
13C4 PFHpA	87		50 - 200			11/22/23 05:06	11/28/23 07:38	1
13C8 PFOA	90		50 - 200			11/22/23 05:06	11/28/23 07:38	1
13C9 PFNA	97		50 - 200			11/22/23 05:06	11/28/23 07:38	1
13C7 PFUnA	90		50 - 200			11/22/23 05:06	11/28/23 07:38	1
13C2 PFDoA	93		50 - 200			11/22/23 05:06	11/28/23 07:38	1
13C4 PFBA	87		50 - 200			11/22/23 05:06	11/28/23 07:38	1
13C5 PFPeA	85		50 - 200			11/22/23 05:06	11/28/23 07:38	1
13C3 PFBS	95		50 - 200			11/22/23 05:06	11/28/23 07:38	1
13C3 PFHxS	94		50 - 200			11/22/23 05:06	11/28/23 07:38	1
13C8 PFOS	95		50 - 200			11/22/23 05:06	11/28/23 07:38	1
13C2-4:2-FTS	101		50 - 200			11/22/23 05:06	11/28/23 07:38	1
13C2-6:2-FTS	107		50 - 200			11/22/23 05:06	11/28/23 07:38	1
13C2-8:2-FTS	112		50 - 200			11/22/23 05:06	11/28/23 07:38	1

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:03	1
Perfluorooctanesulfonic acid (PFOS)	2.1		2.0	ng/L		11/15/23 07:42	11/16/23 19:03	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:03	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:03	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:03	1
Perfluorohexanoic acid (PFHxA)	2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:03	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:03	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:03	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:03	1
Perfluorohexanesulfonic acid (PFHxS)	2.6		2.0	ng/L		11/15/23 07:42	11/16/23 19:03	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:03	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:03	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:03	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:03	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:03	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9CI-PF3ONS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:03	1
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:03	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:03	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	92		70 - 130			11/15/23 07:42	11/16/23 19:03	1
13C2 PFHxA	94		70 - 130			11/15/23 07:42	11/16/23 19:03	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-70278-4

Date Collected: 11/06/23 10:27

Matrix: Drinking Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	100		70 - 130	11/15/23 07:42	11/16/23 19:03	1
13C3-GenX	97		70 - 130	11/15/23 07:42	11/16/23 19:03	1

Client Sample ID: FB MOANALUA WELLS

Lab Sample ID: 380-70278-9

Date Collected: 11/06/23 09:51

Matrix: Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		11/22/23 05:06	11/28/23 07:47	1
Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
13C3 HFPO-DA	99		50 - 200	11/22/23 05:06	11/28/23 07:47	1		
13C6 PFDA	105		50 - 200	11/22/23 05:06	11/28/23 07:47	1		
13C5 PFHxA	113		50 - 200	11/22/23 05:06	11/28/23 07:47	1		
13C4 PFHpA	102		50 - 200	11/22/23 05:06	11/28/23 07:47	1		

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: FB MOANALUA WELLS

Lab Sample ID: 380-70278-9

Date Collected: 11/06/23 09:51

Matrix: Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOA	106		50 - 200	11/22/23 05:06	11/28/23 07:47	1
13C9 PFNA	110		50 - 200	11/22/23 05:06	11/28/23 07:47	1
13C7 PFUnA	102		50 - 200	11/22/23 05:06	11/28/23 07:47	1
13C2 PFDoA	107		50 - 200	11/22/23 05:06	11/28/23 07:47	1
13C4 PFBA	100		50 - 200	11/22/23 05:06	11/28/23 07:47	1
13C5 PFPeA	95		50 - 200	11/22/23 05:06	11/28/23 07:47	1
13C3 PFBS	92		50 - 200	11/22/23 05:06	11/28/23 07:47	1
13C3 PFHxS	93		50 - 200	11/22/23 05:06	11/28/23 07:47	1
13C8 PFOS	97		50 - 200	11/22/23 05:06	11/28/23 07:47	1
13C2-4:2-FTS	106		50 - 200	11/22/23 05:06	11/28/23 07:47	1
13C2-6:2-FTS	102		50 - 200	11/22/23 05:06	11/28/23 07:47	1
13C2-8:2-FTS	108		50 - 200	11/22/23 05:06	11/28/23 07:47	1

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:13	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:13	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:13	1
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:13	1
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:13	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:13	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:13	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:13	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:13	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:13	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:13	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:13	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:13	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:13	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:13	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:13	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:13	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	93		70 - 130	11/15/23 07:42	11/16/23 19:13	1
13C2 PFHxA	98		70 - 130	11/15/23 07:42	11/16/23 19:13	1
13C2 PFDA	101		70 - 130	11/15/23 07:42	11/16/23 19:13	1
13C3-GenX	100		70 - 130	11/15/23 07:42	11/16/23 19:13	1

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: FB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-70278-10

Date Collected: 11/06/23 10:54

Matrix: Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:11	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	80		50 - 200	11/26/23 09:53	11/28/23 10:11	1
13C6 PFDA	91		50 - 200	11/26/23 09:53	11/28/23 10:11	1
13C5 PFHxA	85		50 - 200	11/26/23 09:53	11/28/23 10:11	1
13C4 PFHpA	91		50 - 200	11/26/23 09:53	11/28/23 10:11	1
13C8 PFOA	90		50 - 200	11/26/23 09:53	11/28/23 10:11	1
13C9 PFNA	91		50 - 200	11/26/23 09:53	11/28/23 10:11	1
13C7 PFUnA	86		50 - 200	11/26/23 09:53	11/28/23 10:11	1
13C2 PFDoA	90		50 - 200	11/26/23 09:53	11/28/23 10:11	1
13C4 PFBA	89		50 - 200	11/26/23 09:53	11/28/23 10:11	1
13C5 PFPeA	104		50 - 200	11/26/23 09:53	11/28/23 10:11	1
13C3 PFBS	84		50 - 200	11/26/23 09:53	11/28/23 10:11	1
13C3 PFHxS	96		50 - 200	11/26/23 09:53	11/28/23 10:11	1
13C8 PFOS	92		50 - 200	11/26/23 09:53	11/28/23 10:11	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: FB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-70278-10

Date Collected: 11/06/23 10:54

Matrix: Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-4:2-FTS	108		50 - 200	11/26/23 09:53	11/28/23 10:11	1
13C2-6:2-FTS	104		50 - 200	11/26/23 09:53	11/28/23 10:11	1
13C2-8:2-FTS	111		50 - 200	11/26/23 09:53	11/28/23 10:11	1

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:22	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:22	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:22	1
N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:22	1
N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:22	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:22	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:22	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:22	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:22	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:22	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:22	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:22	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:22	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:22	1
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:22	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:22	1
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:22	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:22	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
d5-NEtFOSAA	92		70 - 130	11/15/23 07:42	11/16/23 19:22	1		
13C2 PFHxA	99		70 - 130	11/15/23 07:42	11/16/23 19:22	1		
13C2 PFDA	103		70 - 130	11/15/23 07:42	11/16/23 19:22	1		
13C3-GenX	92		70 - 130	11/15/23 07:42	11/16/23 19:22	1		

Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-70278-11

Date Collected: 11/06/23 11:22

Matrix: Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-70278-11

Date Collected: 11/06/23 11:22

Matrix: Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:20	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	84		50 - 200	11/26/23 09:53	11/28/23 10:20	1
13C6 PFDA	100		50 - 200	11/26/23 09:53	11/28/23 10:20	1
13C5 PFHxA	91		50 - 200	11/26/23 09:53	11/28/23 10:20	1
13C4 PFHpA	97		50 - 200	11/26/23 09:53	11/28/23 10:20	1
13C8 PFOA	98		50 - 200	11/26/23 09:53	11/28/23 10:20	1
13C9 PFNA	96		50 - 200	11/26/23 09:53	11/28/23 10:20	1
13C7 PFUnA	89		50 - 200	11/26/23 09:53	11/28/23 10:20	1
13C2 PFDoA	93		50 - 200	11/26/23 09:53	11/28/23 10:20	1
13C4 PFBA	97		50 - 200	11/26/23 09:53	11/28/23 10:20	1
13C5 PFPeA	107		50 - 200	11/26/23 09:53	11/28/23 10:20	1
13C3 PFBS	90		50 - 200	11/26/23 09:53	11/28/23 10:20	1
13C3 PFHxS	98		50 - 200	11/26/23 09:53	11/28/23 10:20	1
13C8 PFOS	94		50 - 200	11/26/23 09:53	11/28/23 10:20	1
13C2-4:2-FTS	110		50 - 200	11/26/23 09:53	11/28/23 10:20	1
13C2-6:2-FTS	102		50 - 200	11/26/23 09:53	11/28/23 10:20	1
13C2-8:2-FTS	112		50 - 200	11/26/23 09:53	11/28/23 10:20	1

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:32	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:32	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:32	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-70278-11

Date Collected: 11/06/23 11:22

Matrix: Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:32	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:32	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:32	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:32	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:32	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:32	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:32	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:32	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:32	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:32	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:32	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:32	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	93		70 - 130			11/15/23 07:42	11/16/23 19:32	1
13C2 PFHxA	102		70 - 130			11/15/23 07:42	11/16/23 19:32	1
13C2 PFDA	95		70 - 130			11/15/23 07:42	11/16/23 19:32	1
13C3-GenX	97		70 - 130			11/15/23 07:42	11/16/23 19:32	1

Client Sample ID: FB HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-70278-12

Date Collected: 11/06/23 10:27

Matrix: Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: FB HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-70278-12

Date Collected: 11/06/23 10:27

Matrix: Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		11/26/23 09:53	11/28/23 10:29	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	86		50 - 200	11/26/23 09:53	11/28/23 10:29	1
13C6 PFDA	94		50 - 200	11/26/23 09:53	11/28/23 10:29	1
13C5 PFHxA	89		50 - 200	11/26/23 09:53	11/28/23 10:29	1
13C4 PFHpA	96		50 - 200	11/26/23 09:53	11/28/23 10:29	1
13C8 PFOA	94		50 - 200	11/26/23 09:53	11/28/23 10:29	1
13C9 PFNA	96		50 - 200	11/26/23 09:53	11/28/23 10:29	1
13C7 PFUnA	90		50 - 200	11/26/23 09:53	11/28/23 10:29	1
13C2 PFDoA	95		50 - 200	11/26/23 09:53	11/28/23 10:29	1
13C4 PFBA	92		50 - 200	11/26/23 09:53	11/28/23 10:29	1
13C5 PFPeA	108		50 - 200	11/26/23 09:53	11/28/23 10:29	1
13C3 PFBS	92		50 - 200	11/26/23 09:53	11/28/23 10:29	1
13C3 PFHxS	98		50 - 200	11/26/23 09:53	11/28/23 10:29	1
13C8 PFOS	94		50 - 200	11/26/23 09:53	11/28/23 10:29	1
13C2-4:2-FTS	112		50 - 200	11/26/23 09:53	11/28/23 10:29	1
13C2-6:2-FTS	105		50 - 200	11/26/23 09:53	11/28/23 10:29	1
13C2-8:2-FTS	115		50 - 200	11/26/23 09:53	11/28/23 10:29	1

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:42	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:42	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:42	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:42	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:42	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:42	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:42	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:42	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:42	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:42	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
 Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: FB HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-70278-12

Date Collected: 11/06/23 10:27

Matrix: Water

Date Received: 11/08/23 10:30

PWSID Number: HI0000331

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:42	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:42	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:42	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:42	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:42	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:42	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		11/15/23 07:42	11/16/23 19:42	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	95		70 - 130			11/15/23 07:42	11/16/23 19:42	1
13C2 PFHxA	100		70 - 130			11/15/23 07:42	11/16/23 19:42	1
13C2 PFDA	102		70 - 130			11/15/23 07:42	11/16/23 19:42	1
13C3-GenX	103		70 - 130			11/15/23 07:42	11/16/23 19:42	1

Action Limit Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-70278-1

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL		RL	Method	Prep Type
				Limit				
Alachlor	<0.050		ug/L	2		0.050	525.2	Total/NA
Atrazine	<0.050		ug/L	3		0.050	525.2	Total/NA
Benzo[a]pyrene	<0.020		ug/L	0.2		0.020	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.59		ug/L	6		0.59	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.59		ug/L	400		0.59	525.2	Total/NA
Endrin	<0.099		ug/L	2		0.099	525.2	Total/NA
Heptachlor	<0.040		ug/L	0.4		0.040	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.050		ug/L	0.2		0.050	525.2	Total/NA
Hexachlorobenzene	<0.050		ug/L	1		0.050	525.2	Total/NA
Hexachlorocyclopentadiene	<0.050		ug/L	50		0.050	525.2	Total/NA
Lindane	<0.040		ug/L	0.2		0.040	525.2	Total/NA
Methoxychlor	<0.099		ug/L	40		0.099	525.2	Total/NA
Simazine	<0.050		ug/L	4		0.050	525.2	Total/NA

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-70278-2

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL		RL	Method	Prep Type
				Limit				
Alachlor	<0.050		ug/L	2		0.050	525.2	Total/NA
Atrazine	<0.050		ug/L	3		0.050	525.2	Total/NA
Benzo[a]pyrene	<0.020		ug/L	0.2		0.020	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.60		ug/L	6		0.60	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.60		ug/L	400		0.60	525.2	Total/NA
Endrin	<0.10		ug/L	2		0.10	525.2	Total/NA
Heptachlor	<0.040		ug/L	0.4		0.040	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.050		ug/L	0.2		0.050	525.2	Total/NA
Hexachlorobenzene	<0.050		ug/L	1		0.050	525.2	Total/NA
Hexachlorocyclopentadiene	<0.050		ug/L	50		0.050	525.2	Total/NA
Lindane	<0.040		ug/L	0.2		0.040	525.2	Total/NA
Methoxychlor	<0.10		ug/L	40		0.10	525.2	Total/NA
Simazine	<0.050		ug/L	4		0.050	525.2	Total/NA

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-70278-3

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL		RL	Method	Prep Type
				Limit				
Alachlor	<0.050		ug/L	2		0.050	525.2	Total/NA
Atrazine	<0.050		ug/L	3		0.050	525.2	Total/NA

Eurofins Eaton Analytical Pomona

Action Limit Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-70278-3

(Continued)

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Benzo[a]pyrene	<0.020		ug/L	0.2	0.020	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.60		ug/L	6	0.60	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.60		ug/L	400	0.60	525.2	Total/NA
Endrin	<0.10		ug/L	2	0.10	525.2	Total/NA
Heptachlor	<0.040		ug/L	0.4	0.040	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.050		ug/L	0.2	0.050	525.2	Total/NA
Hexachlorobenzene	<0.050		ug/L	1	0.050	525.2	Total/NA
Hexachlorocyclopentadiene	<0.050		ug/L	50	0.050	525.2	Total/NA
Lindane	<0.040		ug/L	0.2	0.040	525.2	Total/NA
Methoxychlor	<0.10		ug/L	40	0.10	525.2	Total/NA
Simazine	<0.050		ug/L	4	0.050	525.2	Total/NA

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-70278-4

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Alachlor	<0.050		ug/L	2	0.050	525.2	Total/NA
Atrazine	<0.050		ug/L	3	0.050	525.2	Total/NA
Benzo[a]pyrene	<0.020		ug/L	0.2	0.020	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.59		ug/L	6	0.59	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.59		ug/L	400	0.59	525.2	Total/NA
Endrin	<0.099		ug/L	2	0.099	525.2	Total/NA
Heptachlor	<0.040		ug/L	0.4	0.040	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.050		ug/L	0.2	0.050	525.2	Total/NA
Hexachlorobenzene	<0.050		ug/L	1	0.050	525.2	Total/NA
Hexachlorocyclopentadiene	<0.050		ug/L	50	0.050	525.2	Total/NA
Lindane	<0.040		ug/L	0.2	0.040	525.2	Total/NA
Methoxychlor	<0.099		ug/L	40	0.099	525.2	Total/NA
Simazine	<0.050		ug/L	4	0.050	525.2	Total/NA

Surrogate Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS)

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	PRY (70-130)	TPP (70-130)
380-70278-1	MOANALUA WELLS	97	97	101
380-70278-2	AIEA GULCH WELLS PUMP 2	99	96	102
380-70278-3	AIEA WELLS PUMPS 1&2 (260) P2	94	92	110
380-70278-4	HALAWA WELLS UNITS 1 & 2 P1	96	94	113

Surrogate Legend

2NMX = 2-Nitro-m-xylene
PRY = Perylene-d12
TPP = Triphenylphosphate

Method: 525.2 - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	PRY (70-130)	TPP (70-130)
380-69983-F-1-A MS	Matrix Spike	98	95	117
380-70054-K-1-A DU	Duplicate	102	88	106
LCS 380-63164/23-A	Lab Control Sample	98	92	99
MB 380-63164/21-A	Method Blank	103	92	103
MRL 380-63164/22-A	Lab Control Sample	101	94	100

Surrogate Legend

2NMX = 2-Nitro-m-xylene
PRY = Perylene-d12
TPP = Triphenylphosphate

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-70278-1	MOANALUA WELLS	112	108	109	111
380-70278-2	AIEA GULCH WELLS PUMP 2	95	98	101	94
380-70278-2 MS	AIEA GULCH WELLS PUMP 2	95	105	103	100
380-70278-2 MSD	AIEA GULCH WELLS PUMP 2	90	109	109	106
380-70278-3	AIEA WELLS PUMPS 1&2 (260) P2	94	93	98	91
380-70278-4	HALAWA WELLS UNITS 1 & 2 P1	92	94	100	97

Surrogate Legend

d5NEFOS = d5-NEtFOSAA
PFHxA = 13C2 PFHxA
PFDA = 13C2 PFDA
GenX = 13C3-GenX

Surrogate Summary

Client: City & County of Honolulu
 Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-70278-9	FB MOANALUA WELLS	93	98	101	100
380-70278-10	FB AIEA GULCH WELLS PUMP 2	92	99	103	92
380-70278-11	FB AIEA WELLS PUMPS 1&2 (260) P2	93	102	95	97
380-70278-12	FB HALAWA WELLS UNITS 1 & 2 P1	95	100	102	103
LCS 380-63818/25-A	Lab Control Sample	88	97	92	94
LCSD 380-63818/26-A	Lab Control Sample Dup	93	103	104	100
MBL 380-63818/23-A	Method Blank	95	106	98	100
MRL 380-63818/24-A	Lab Control Sample	95	99	101	94

Surrogate Legend

d5NEFOS = d5-NEtFOSAA
 PFHxA = 13C2 PFHxA
 PFDA = 13C2 PFDA
 GenX = 13C3-GenX



Isotope Dilution Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Matrix: Drinking Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-70278-1	MOANALUA WELLS	80	90	87	87	93	99	90	94
380-70278-2	AIEA GULCH WELLS PUMP 2	90	96	92	96	102	102	94	101
380-70278-3	AIEA WELLS PUMPS 1&2 (260) P2	91	96	95	95	101	103	93	97
380-70278-4	HALAWA WELLS UNITS 1 & 2 P1	78	90	81	87	90	97	90	93

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-70278-1	MOANALUA WELLS	89	84	96	96	100	115	117	124
380-70278-2	AIEA GULCH WELLS PUMP 2	95	90	99	97	100	109	108	120
380-70278-3	AIEA WELLS PUMPS 1&2 (260) P2	98	92	93	91	97	103	105	110
380-70278-4	HALAWA WELLS UNITS 1 & 2 P1	87	85	95	94	95	101	107	112

Surrogate Legend

- HFPODA = 13C3 HFPO-DA
- C6PFDA = 13C6 PFDA
- 13C5PHA = 13C5 PFHxA
- C4PFHA = 13C4 PFHpA
- C8PFOA = 13C8 PFOA
- C9PFNA = 13C9 PFNA
- 13C7PUA = 13C7 PFUnA
- PFDoA = 13C2 PFDoA
- PFBA = 13C4 PFBA
- PFPeA = 13C5 PFPeA
- C3PFBS = 13C3 PFBS
- C3PFHS = 13C3 PFHxS
- C8PFOS = 13C8 PFOS
- 42FTS = 13C2-4:2-FTS
- 62FTS = 13C2-6:2-FTS
- 82FTS = 13C2-8:2-FTS

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-70278-9	FB MOANALUA WELLS	99	105	113	102	106	110	102	107
380-70278-10	FB AIEA GULCH WELLS PUMP 2	80	91	85	91	90	91	86	90
380-70278-11	FB AIEA WELLS PUMPS 1&2 (260) P2	84	100	91	97	98	96	89	93
380-70278-12	FB HALAWA WELLS UNITS 1 & 2 P1	86	94	89	96	94	96	90	95
380-70303-E-1-B MS	Matrix Spike	56	84	61	70	73	79	81	87
380-70303-F-1-B MSD	Matrix Spike Duplicate	21 *5-	67	28 *5-	33 *5-	42 *5-	55	71	81
380-71991-B-1-A MS	Matrix Spike	103	105	99	100	102	108	106	107
380-71991-C-1-A MSD	Matrix Spike Duplicate	101	107	99	104	100	113	108	113
LCS 380-64918/23-A	Lab Control Sample	102	101	107	100	104	107	99	107

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Isotope Dilution Summary

Client: City & County of Honolulu
 Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
LCS 380-65224/23-A	Lab Control Sample	94	103	98	102	104	102	97	102
LCSD 380-64918/24-A	Lab Control Sample Dup	105	106	104	101	105	110	102	108
LCSD 380-65224/24-A	Lab Control Sample Dup	86	97	92	91	93	94	89	93
MBL 380-64918/21-A	Method Blank	95	103	102	103	104	107	102	100
MBL 380-65224/21-A	Method Blank	79	93	87	90	92	95	88	91
MRL 380-64918/22-A	Lab Control Sample	95	94	107	105	102	106	93	95
MRL 380-65224/22-A	Lab Control Sample	88	96	91	94	99	96	88	94

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-70278-9	FB MOANALUA WELLS	100	95	92	93	97	106	102	108
380-70278-10	FB AIEA GULCH WELLS PUMP 2	89	104	84	96	92	108	104	111
380-70278-11	FB AIEA WELLS PUMPS 1&2 (260) P2	97	107	90	98	94	110	102	112
380-70278-12	FB HALAWA WELLS UNITS 1 & 2 P1	92	108	92	98	94	112	105	115
380-70303-E-1-B MS	Matrix Spike	64	72	86	93	95	103	99	117
380-70303-F-1-B MSD	Matrix Spike Duplicate	23 *5-	26 *5-	88	94	94	104	100	119
380-71991-B-1-A MS	Matrix Spike	101	174	92	92	97	94	108	116
380-71991-C-1-A MSD	Matrix Spike Duplicate	103	175	89	96	103	98	105	122
LCS 380-64918/23-A	Lab Control Sample	112	104	101	99	102	112	114	114
LCS 380-65224/23-A	Lab Control Sample	100	111	89	100	101	109	102	107
LCSD 380-64918/24-A	Lab Control Sample Dup	105	100	96	94	101	109	106	110
LCSD 380-65224/24-A	Lab Control Sample Dup	96	104	88	95	94	104	99	103
MBL 380-64918/21-A	Method Blank	108	104	99	98	97	116	115	111
MBL 380-65224/21-A	Method Blank	94	101	86	91	94	102	102	100
MRL 380-64918/22-A	Lab Control Sample	105	103	96	98	98	115	112	110
MRL 380-65224/22-A	Lab Control Sample	97	105	86	91	91	106	95	101

Surrogate Legend

- HFPODA = 13C3 HFPO-DA
- C6PFDA = 13C6 PFDA
- 13C5PHA = 13C5 PFHxA
- C4PFHA = 13C4 PFHpA
- C8PFOA = 13C8 PFOA
- C9PFNA = 13C9 PFNA
- 13C7PUA = 13C7 PFUnA
- PFDoA = 13C2 PFDoA
- PFBA = 13C4 PFBA
- PFPeA = 13C5 PFPeA
- C3PFBS = 13C3 PFBS
- C3PFHS = 13C3 PFHxS
- C8PFOS = 13C8 PFOS
- 42FTS = 13C2-4:2-FTS
- 62FTS = 13C2-6:2-FTS
- 82FTS = 13C2-8:2-FTS

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 380-63164/21-A
Matrix: Water
Analysis Batch: 63499

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63164

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
1-Methylnaphthalene	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
2,4'-DDD	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
2,4'-DDE	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
2,4'-DDT	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
2,4-Dinitrotoluene	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
2,6-Dinitrotoluene	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
2-Methylnaphthalene	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
4,4'-DDD	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
4,4'-DDE	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
4,4'-DDT	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
Acenaphthene	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
Acenaphthylene	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
Acetochlor	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
Alachlor	<0.050		0.050	ug/L		11/09/23 08:00	11/12/23 12:19	1
alpha-BHC	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
alpha-Chlordane	<0.050		0.050	ug/L		11/09/23 08:00	11/12/23 12:19	1
Anthracene	<0.020		0.020	ug/L		11/09/23 08:00	11/12/23 12:19	1
Atrazine	<0.050		0.050	ug/L		11/09/23 08:00	11/12/23 12:19	1
Benz(a)anthracene	<0.050		0.050	ug/L		11/09/23 08:00	11/12/23 12:19	1
Benzo[a]pyrene	<0.020		0.020	ug/L		11/09/23 08:00	11/12/23 12:19	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		11/09/23 08:00	11/12/23 12:19	1
Benzo[g,h,i]perylene	<0.050		0.050	ug/L		11/09/23 08:00	11/12/23 12:19	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		11/09/23 08:00	11/12/23 12:19	1
beta-BHC	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
Bis(2-ethylhexyl) phthalate	<0.60		0.60	ug/L		11/09/23 08:00	11/12/23 12:19	1
Bromacil	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
Butachlor	<0.050		0.050	ug/L		11/09/23 08:00	11/12/23 12:19	1
Butylbenzylphthalate	<0.50		0.50	ug/L		11/09/23 08:00	11/12/23 12:19	1
Chlorobenzilate	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
Chloroneb	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
Chlorothalonil (Draconil, Bravo)	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
Chlorpyrifos	<0.050		0.050	ug/L		11/09/23 08:00	11/12/23 12:19	1
Chrysene	<0.020		0.020	ug/L		11/09/23 08:00	11/12/23 12:19	1
delta-BHC	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
Di(2-ethylhexyl)adipate	<0.60		0.60	ug/L		11/09/23 08:00	11/12/23 12:19	1
Dibenz(a,h)anthracene	<0.050		0.050	ug/L		11/09/23 08:00	11/12/23 12:19	1
Diclorvos (DDVP)	<0.050		0.050	ug/L		11/09/23 08:00	11/12/23 12:19	1
Dieldrin	<0.20		0.20	ug/L		11/09/23 08:00	11/12/23 12:19	1
Diethylphthalate	<0.50		0.50	ug/L		11/09/23 08:00	11/12/23 12:19	1
Dimethylphthalate	<0.50		0.50	ug/L		11/09/23 08:00	11/12/23 12:19	1
Di-n-butyl phthalate	<0.99		0.99	ug/L		11/09/23 08:00	11/12/23 12:19	1
Di-n-octyl phthalate	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
Endosulfan I (Alpha)	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
Endosulfan II (Beta)	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
Endosulfan sulfate	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
Endrin	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
Endrin aldehyde	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
EPTC	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1

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QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 380-63164/21-A
Matrix: Water
Analysis Batch: 63499

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63164

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
Fluorene	<0.050		0.050	ug/L		11/09/23 08:00	11/12/23 12:19	1
gamma-Chlordane	<0.050		0.050	ug/L		11/09/23 08:00	11/12/23 12:19	1
Heptachlor	<0.040		0.040	ug/L		11/09/23 08:00	11/12/23 12:19	1
Heptachlor epoxide (isomer B)	<0.050		0.050	ug/L		11/09/23 08:00	11/12/23 12:19	1
Hexachlorobenzene	<0.050		0.050	ug/L		11/09/23 08:00	11/12/23 12:19	1
Hexachlorocyclopentadiene	<0.050		0.050	ug/L		11/09/23 08:00	11/12/23 12:19	1
Indeno[1,2,3-cd]pyrene	<0.050		0.050	ug/L		11/09/23 08:00	11/12/23 12:19	1
Isophorone	<0.50		0.50	ug/L		11/09/23 08:00	11/12/23 12:19	1
Lindane	<0.040		0.040	ug/L		11/09/23 08:00	11/12/23 12:19	1
Malathion	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
Methoxychlor	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
Metolachlor	<0.050		0.050	ug/L		11/09/23 08:00	11/12/23 12:19	1
Molinate	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
Naphthalene	<0.30		0.30	ug/L		11/09/23 08:00	11/12/23 12:19	1
Parathion	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
Pendimethalin (Penoxaline)	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
Phenanthrene	<0.040		0.040	ug/L		11/09/23 08:00	11/12/23 12:19	1
Propachlor	<0.050		0.050	ug/L		11/09/23 08:00	11/12/23 12:19	1
Pyrene	<0.050		0.050	ug/L		11/09/23 08:00	11/12/23 12:19	1
Simazine	<0.050		0.050	ug/L		11/09/23 08:00	11/12/23 12:19	1
Terbacil	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
Terbutylazine	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1
Thiobencarb	<0.20		0.20	ug/L		11/09/23 08:00	11/12/23 12:19	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		11/09/23 08:00	11/12/23 12:19	1
trans-Nonachlor	<0.050		0.050	ug/L		11/09/23 08:00	11/12/23 12:19	1
Trifluralin	<0.099		0.099	ug/L		11/09/23 08:00	11/12/23 12:19	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	0.621	T J	ug/L		2.61	N/A	11/09/23 08:00	11/12/23 12:19	1
n-Hexadecanoic acid	0.587	T J N	ug/L		5.73	57-10-3	11/09/23 08:00	11/12/23 12:19	1
9-Octadecenoic acid, (E)-	1.48	T J N	ug/L		6.33	112-79-8	11/09/23 08:00	11/12/23 12:19	1
9-Octadecenamide, (Z)-	0.712	T J N	ug/L		7.34	301-02-0	11/09/23 08:00	11/12/23 12:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	103		70 - 130	11/09/23 08:00	11/12/23 12:19	1
Perylene-d12	92		70 - 130	11/09/23 08:00	11/12/23 12:19	1
Triphenylphosphate	103		70 - 130	11/09/23 08:00	11/12/23 12:19	1

Lab Sample ID: LCS 380-63164/23-A
Matrix: Water
Analysis Batch: 63499

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63164

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	1.98	1.86		ug/L		94	70 - 130
2,4'-DDD	1.98	2.09		ug/L		105	70 - 130
2,4'-DDE	1.98	1.98		ug/L		100	70 - 130
2,4'-DDT	1.98	2.24		ug/L		113	70 - 130

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QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 380-63164/23-A
Matrix: Water
Analysis Batch: 63499

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63164

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4-Dinitrotoluene	1.98	1.91		ug/L		96	70 - 130
2,6-Dinitrotoluene	1.98	1.98		ug/L		100	70 - 130
2-Methylnaphthalene	1.98	1.86		ug/L		94	70 - 130
4,4'-DDD	1.98	2.25		ug/L		113	70 - 130
4,4'-DDE	1.98	2.10		ug/L		106	70 - 130
4,4'-DDT	1.98	2.27		ug/L		115	70 - 130
Acenaphthene	1.98	1.94		ug/L		98	70 - 130
Acenaphthylene	1.98	2.06		ug/L		104	70 - 130
Acetochlor	1.98	2.37		ug/L		120	70 - 130
Alachlor	1.98	2.26		ug/L		114	70 - 130
alpha-BHC	1.98	2.15		ug/L		108	70 - 130
alpha-Chlordane	1.98	2.08		ug/L		105	70 - 130
Anthracene	1.98	2.02		ug/L		102	70 - 130
Atrazine	1.98	2.14		ug/L		108	70 - 130
Benz(a)anthracene	1.98	2.14		ug/L		108	70 - 130
Benzo[a]pyrene	1.98	2.13		ug/L		107	70 - 130
Benzo[b]fluoranthene	1.98	2.27		ug/L		115	70 - 130
Benzo[g,h,i]perylene	1.98	2.25		ug/L		113	70 - 130
Benzo[k]fluoranthene	1.98	2.26		ug/L		114	70 - 130
beta-BHC	1.98	2.11		ug/L		106	70 - 130
Bis(2-ethylhexyl) phthalate	1.98	2.31		ug/L		116	70 - 130
Bromacil	1.98	2.20		ug/L		111	70 - 130
Butachlor	1.98	2.40		ug/L		121	70 - 130
Butylbenzylphthalate	1.98	2.24		ug/L		113	70 - 130
Chlorobenzilate	1.98	2.03		ug/L		102	70 - 130
Chloroneb	1.98	2.07		ug/L		105	70 - 130
Chlorothalonil (Draconil, Bravo)	1.98	1.98		ug/L		100	70 - 130
Chlorpyrifos	1.98	2.23		ug/L		112	70 - 130
Chrysene	1.98	2.04		ug/L		103	70 - 130
delta-BHC	1.98	2.10		ug/L		106	70 - 130
Di(2-ethylhexyl)adipate	1.98	2.30		ug/L		116	70 - 130
Dibenz(a,h)anthracene	1.98	2.02		ug/L		102	70 - 130
Diclorvos (DDVP)	1.98	2.39		ug/L		121	70 - 130
Dieldrin	1.98	2.05		ug/L		103	70 - 130
Diethylphthalate	1.98	2.06		ug/L		104	70 - 130
Dimethylphthalate	1.98	2.17		ug/L		109	70 - 130
Di-n-butyl phthalate	3.97	4.28		ug/L		108	70 - 130
Di-n-octyl phthalate	1.98	2.03		ug/L		102	70 - 130
Endosulfan I (Alpha)	1.98	2.10		ug/L		106	70 - 130
Endosulfan II (Beta)	1.98	2.21		ug/L		111	70 - 130
Endosulfan sulfate	1.98	2.12		ug/L		107	70 - 130
Endrin	1.98	2.05		ug/L		103	70 - 130
Endrin aldehyde	1.98	1.67		ug/L		84	70 - 130
EPTC	1.98	1.91		ug/L		96	70 - 130
Fluoranthene	1.98	2.18		ug/L		110	70 - 130
Fluorene	1.98	2.22		ug/L		112	70 - 130
gamma-Chlordane	1.98	2.12		ug/L		107	70 - 130
Heptachlor	1.98	2.08		ug/L		105	70 - 130
Heptachlor epoxide (isomer B)	1.98	2.04		ug/L		103	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 380-63164/23-A
Matrix: Water
Analysis Batch: 63499

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63164

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexachlorobenzene	1.98	1.78		ug/L		90	70 - 130
Hexachlorocyclopentadiene	1.98	1.88		ug/L		95	70 - 130
Indeno[1,2,3-cd]pyrene	1.98	1.99		ug/L		100	70 - 130
Isophorone	1.98	2.10		ug/L		106	70 - 130
Lindane	1.98	2.10		ug/L		106	70 - 130
Malathion	1.98	2.13		ug/L		107	70 - 130
Methoxychlor	1.98	2.27		ug/L		114	70 - 130
Metolachlor	1.98	2.21		ug/L		111	70 - 130
Molinate	1.98	1.97		ug/L		99	70 - 130
Naphthalene	1.98	1.97		ug/L		99	70 - 130
Parathion	1.98	2.33		ug/L		117	70 - 130
Pendimethalin (Penoxaline)	1.98	2.01		ug/L		101	70 - 130
Phenanthrene	1.98	2.05		ug/L		103	70 - 130
Propachlor	1.98	2.05		ug/L		103	70 - 130
Pyrene	1.98	2.09		ug/L		105	70 - 130
Simazine	1.98	2.09		ug/L		105	70 - 130
Terbacil	1.98	2.22		ug/L		112	70 - 130
Terbutylazine	1.98	2.20		ug/L		111	70 - 130
Thiobencarb	1.98	2.13		ug/L		107	70 - 130
trans-Nonachlor	1.98	2.07		ug/L		104	70 - 130
Trifluralin	1.98	2.00		ug/L		101	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	98		70 - 130
Perylene-d12	92		70 - 130
Triphenylphosphate	99		70 - 130

Lab Sample ID: MRL 380-63164/22-A
Matrix: Water
Analysis Batch: 63499

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63164

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.0994	0.103		ug/L		104	50 - 150
2,4'-DDD	0.0994	0.114		ug/L		115	50 - 150
2,4'-DDE	0.0994	0.101		ug/L		102	50 - 150
2,4'-DDT	0.0994	0.0964	J	ug/L		97	50 - 150
2,4-Dinitrotoluene	0.0994	0.0979	J	ug/L		99	50 - 150
2,6-Dinitrotoluene	0.0994	0.106		ug/L		107	50 - 150
2-Methylnaphthalene	0.0994	0.0988	J	ug/L		99	50 - 150
4,4'-DDD	0.0994	0.101		ug/L		102	50 - 150
4,4'-DDE	0.0994	0.0955	J	ug/L		96	50 - 150
4,4'-DDT	0.0994	0.105		ug/L		106	50 - 150
Acenaphthene	0.0994	0.0939	J	ug/L		94	50 - 150
Acenaphthylene	0.0994	0.0871	J	ug/L		88	50 - 150
Acetochlor	0.0497	0.0534	J	ug/L		108	50 - 150
Alachlor	0.0497	0.0515		ug/L		104	50 - 150
alpha-BHC	0.0994	0.0990		ug/L		100	50 - 150
alpha-Chlordane	0.0248	<0.029		ug/L		104	50 - 150

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QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MRL 380-63164/22-A
Matrix: Water
Analysis Batch: 63499

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63164

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Anthracene	0.0199	0.0193	J	ug/L		97	50 - 150
Atrazine	0.0497	0.0500		ug/L		101	50 - 150
Benz(a)anthracene	0.0497	0.0460	J	ug/L		93	50 - 150
Benzo[a]pyrene	0.0199	0.0172	J	ug/L		87	50 - 150
Benzo[b]fluoranthene	0.0199	0.0212		ug/L		107	50 - 150
Benzo[g,h,i]perylene	0.0497	0.0455	J	ug/L		92	50 - 150
Benzo[k]fluoranthene	0.0199	0.0188	J	ug/L		95	50 - 150
beta-BHC	0.0994	0.0944	J	ug/L		95	50 - 150
Bis(2-ethylhexyl) phthalate	0.596	0.658		ug/L		110	50 - 150
Bromacil	0.0994	0.117		ug/L		117	50 - 150
Butachlor	0.0497	0.0619		ug/L		125	50 - 150
Butylbenzylphthalate	0.149	0.156	J	ug/L		105	50 - 150
Chlorobenzilate	0.0994	0.140		ug/L		141	50 - 150
Chloroneb	0.0994	0.100		ug/L		101	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0994	0.105		ug/L		106	50 - 150
Chlorpyrifos	0.0497	0.0540		ug/L		109	50 - 150
Chrysene	0.0199	0.0189	J	ug/L		95	50 - 150
delta-BHC	0.0994	0.102		ug/L		102	50 - 150
Di(2-ethylhexyl)adipate	0.298	0.422	J	ug/L		142	50 - 150
Dibenz(a,h)anthracene	0.0497	0.0428	J	ug/L		86	50 - 150
Diclorvos (DDVP)	0.0497	0.0579		ug/L		117	50 - 150
Dieldrin	0.0994	0.0965	J	ug/L		97	50 - 150
Diethylphthalate	0.149	0.164	J	ug/L		110	50 - 150
Dimethylphthalate	0.298	0.299	J	ug/L		100	50 - 150
Di-n-butyl phthalate	0.298	0.395	J	ug/L		133	49 - 243
Di-n-octyl phthalate	0.0994	0.0885	J	ug/L		89	50 - 150
Endosulfan I (Alpha)	0.0994	0.0871	J	ug/L		88	50 - 150
Endosulfan II (Beta)	0.0994	0.129		ug/L		129	50 - 150
Endosulfan sulfate	0.0994	0.101		ug/L		102	50 - 150
Endrin	0.0994	0.100		ug/L		101	50 - 150
Endrin aldehyde	0.0994	0.0978	J	ug/L		98	50 - 150
EPTC	0.0994	0.107		ug/L		107	50 - 150
Fluoranthene	0.0497	0.0539	J	ug/L		108	50 - 150
Fluorene	0.0497	<0.050		ug/L		92	50 - 150
gamma-Chlordane	0.0248	0.0238	J	ug/L		96	50 - 150
Heptachlor	0.0397	0.0446		ug/L		112	50 - 150
Heptachlor epoxide (isomer B)	0.0497	0.0407	J	ug/L		82	50 - 150
Hexachlorobenzene	0.0497	0.0527		ug/L		106	50 - 150
Hexachlorocyclopentadiene	0.0497	0.0479	J	ug/L		96	50 - 150
Indeno[1,2,3-cd]pyrene	0.0497	0.0464	J	ug/L		93	50 - 150
Isophorone	0.0994	0.110	J	ug/L		111	50 - 150
Lindane	0.0397	0.0404		ug/L		102	50 - 150
Malathion	0.0994	0.104		ug/L		104	50 - 150
Methoxychlor	0.0994	0.0967	J	ug/L		97	50 - 150
Metolachlor	0.0497	0.0601		ug/L		121	50 - 150
Molinate	0.0994	0.110		ug/L		110	50 - 150
Naphthalene	0.0994	0.0947	J	ug/L		95	50 - 150
Parathion	0.0994	0.100		ug/L		101	50 - 150
Pendimethalin (Penoxaline)	0.0994	0.106		ug/L		107	50 - 150

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QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MRL 380-63164/22-A
Matrix: Water
Analysis Batch: 63499

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63164

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Phenanthrene	0.0199	0.0225	J	ug/L		113	50 - 150
Propachlor	0.0497	0.0563		ug/L		113	50 - 150
Pyrene	0.0497	0.0521		ug/L		105	50 - 150
Simazine	0.0497	0.0596		ug/L		120	50 - 150
Terbacil	0.0994	0.0991		ug/L		100	50 - 150
Terbutylazine	0.0994	0.0990		ug/L		100	50 - 150
Thiobencarb	0.0994	0.0892	J	ug/L		90	50 - 150
trans-Nonachlor	0.0248	0.0299	J	ug/L		121	50 - 150
Trifluralin	0.0994	0.0881	J	ug/L		89	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	101		70 - 130
Perylene-d12	94		70 - 130
Triphenylphosphate	100		70 - 130

Lab Sample ID: 380-69983-F-1-A MS
Matrix: Water
Analysis Batch: 63499

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 63164

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	<0.099		1.97	1.86		ug/L		95	70 - 130
2,4'-DDD	<0.099		1.97	2.12		ug/L		108	70 - 130
2,4'-DDE	<0.099		1.97	1.80		ug/L		91	70 - 130
2,4'-DDT	<0.099		1.97	2.06		ug/L		105	70 - 130
2,4-Dinitrotoluene	<0.099		1.97	2.29		ug/L		116	70 - 130
2,6-Dinitrotoluene	<0.099		1.97	2.25		ug/L		115	70 - 130
2-Methylnaphthalene	<0.099		1.97	1.87		ug/L		95	70 - 130
4,4'-DDD	<0.099		1.97	2.14		ug/L		109	70 - 130
4,4'-DDE	<0.099		1.97	2.06		ug/L		105	70 - 130
4,4'-DDT	<0.099		1.97	2.12		ug/L		108	70 - 130
Acenaphthene	<0.099		1.97	1.90		ug/L		97	70 - 130
Acenaphthylene	<0.099		1.97	2.18		ug/L		111	70 - 130
Acetochlor	<0.099		1.97	2.53		ug/L		129	70 - 130
Alachlor	<0.050		1.97	2.39		ug/L		122	70 - 130
alpha-BHC	<0.099		1.97	2.19		ug/L		112	70 - 130
alpha-Chlordane	<0.050		1.97	2.17		ug/L		111	70 - 130
Anthracene	<0.020		1.97	1.75		ug/L		89	70 - 130
Atrazine	<0.050		1.97	1.94		ug/L		99	70 - 130
Benz(a)anthracene	<0.050		1.97	2.16		ug/L		110	70 - 130
Benzo[a]pyrene	<0.020		1.97	2.08		ug/L		106	70 - 130
Benzo[b]fluoranthene	<0.020		1.97	2.10		ug/L		107	70 - 130
Benzo[g,h,i]perylene	<0.050		1.97	2.33		ug/L		118	70 - 130
Benzo[k]fluoranthene	<0.020		1.97	2.22		ug/L		113	70 - 130
beta-BHC	<0.099		1.97	2.20		ug/L		112	70 - 130
Bis(2-ethylhexyl) phthalate	<0.60		1.97	2.28		ug/L		116	70 - 130
Bromacil	<0.099	F1	1.97	2.72	F1	ug/L		138	70 - 130
Butachlor	<0.050	F1	1.97	2.59	F1	ug/L		132	70 - 130
Butylbenzylphthalate	<0.50		1.97	2.47		ug/L		125	70 - 130

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QC Sample Results

Client: City & County of Honolulu
 Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 380-69983-F-1-A MS
Matrix: Water
Analysis Batch: 63499

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 63164

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Chlorobenzilate	<0.099	F1	1.97	2.74	F1	ug/L		139	70 - 130
Chloroneb	<0.099		1.97	1.99		ug/L		101	70 - 130
Chlorothalonil (Draconil, Bravo)	<0.099		1.97	2.07		ug/L		105	70 - 130
Chlorpyrifos	<0.050		1.97	2.19		ug/L		111	70 - 130
Chrysene	<0.020		1.97	1.96		ug/L		100	70 - 130
delta-BHC	<0.099		1.97	2.19		ug/L		111	70 - 130
Di(2-ethylhexyl)adipate	<0.60		1.97	2.22		ug/L		113	70 - 130
Dibenz(a,h)anthracene	<0.050		1.97	2.07		ug/L		105	70 - 130
Diclorvos (DDVP)	<0.050		1.97	2.40		ug/L		122	70 - 130
Dieldrin	<0.20		1.97	2.14		ug/L		109	70 - 130
Diethylphthalate	<0.50		1.97	2.31		ug/L		113	70 - 130
Dimethylphthalate	<0.50		1.97	2.29		ug/L		116	70 - 130
Di-n-butyl phthalate	<0.99		3.93	5.45		ug/L		120	70 - 130
Di-n-octyl phthalate	<0.099		1.97	1.97		ug/L		100	70 - 130
Endosulfan I (Alpha)	<0.099		1.97	2.13		ug/L		108	70 - 130
Endosulfan II (Beta)	<0.099		1.97	2.34		ug/L		119	70 - 130
Endosulfan sulfate	<0.099		1.97	1.93		ug/L		98	70 - 130
Endrin	<0.099		1.97	1.61		ug/L		82	70 - 130
Endrin aldehyde	<0.099	F1	1.97	0.138	F1	ug/L		7	70 - 130
EPTC	<0.099		1.97	1.98		ug/L		100	70 - 130
Fluoranthene	<0.099		1.97	2.20		ug/L		112	70 - 130
Fluorene	<0.050		1.97	2.26		ug/L		115	70 - 130
gamma-Chlordane	<0.050		1.97	2.18		ug/L		111	70 - 130
Heptachlor	<0.040		1.97	1.76		ug/L		89	70 - 130
Heptachlor epoxide (isomer B)	<0.050		1.97	2.36		ug/L		120	70 - 130
Hexachlorobenzene	<0.050		1.97	1.80		ug/L		91	70 - 130
Hexachlorocyclopentadiene	<0.050		1.97	1.90		ug/L		95	70 - 130
Indeno[1,2,3-cd]pyrene	<0.050		1.97	2.04		ug/L		104	70 - 130
Isophorone	<0.50		1.97	2.15		ug/L		108	70 - 130
Lindane	<0.040		1.97	2.05		ug/L		104	70 - 130
Malathion	<0.099		1.97	2.28		ug/L		116	70 - 130
Methoxychlor	<0.099		1.97	2.38		ug/L		121	70 - 130
Metolachlor	<0.050		1.97	2.44		ug/L		124	70 - 130
Molinate	<0.099		1.97	2.02		ug/L		103	70 - 130
Naphthalene	<0.30		1.97	1.91		ug/L		97	70 - 130
Parathion	<0.099	F1	1.97	2.68	F1	ug/L		136	70 - 130
Pendimethalin (Penoxaline)	<0.099		1.97	2.23		ug/L		114	70 - 130
Phenanthrene	<0.040		1.97	2.05		ug/L		103	70 - 130
Propachlor	<0.050		1.97	2.11		ug/L		107	70 - 130
Pyrene	<0.050		1.97	2.16		ug/L		110	70 - 130
Simazine	<0.050		1.97	1.61		ug/L		82	70 - 130
Terbacil	<0.099		1.97	2.13		ug/L		108	70 - 130
Terbutylazine	<0.099		1.97	1.85		ug/L		94	70 - 130
Thiobencarb	<0.20		1.97	2.02		ug/L		103	70 - 130
trans-Nonachlor	<0.050		1.97	1.76		ug/L		89	70 - 130
Trifluralin	<0.099		1.97	2.11		ug/L		107	70 - 130

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 380-69983-F-1-A MS
Matrix: Water
Analysis Batch: 63499

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 63164

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
2-Nitro-m-xylene	98		70 - 130
Perylene-d12	95		70 - 130
Triphenylphosphate	117		70 - 130

Lab Sample ID: 380-70054-K-1-A DU
Matrix: Water
Analysis Batch: 63499

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 63164

Analyte	Sample Result	Sample Qualifier	DU DU		Unit	D	RPD	Limit
			Result	Qualifier				
1-Methylnaphthalene	<0.099		<0.098		ug/L		NC	20
2,4'-DDD	<0.099		<0.098		ug/L		NC	20
2,4'-DDE	<0.099		<0.098		ug/L		NC	20
2,4'-DDT	<0.099		<0.098		ug/L		NC	20
2,4-Dinitrotoluene	<0.099		<0.098		ug/L		NC	20
2,6-Dinitrotoluene	<0.099		<0.098		ug/L		NC	20
2-Methylnaphthalene	<0.099		<0.098		ug/L		NC	20
4,4'-DDD	<0.099		<0.098		ug/L		NC	20
4,4'-DDE	<0.099		<0.098		ug/L		NC	20
4,4'-DDT	<0.099		<0.098		ug/L		NC	20
Acenaphthene	<0.099		<0.098		ug/L		NC	20
Acenaphthylene	<0.099		<0.098		ug/L		NC	20
Acetochlor	<0.099		<0.098		ug/L		NC	20
Alachlor	<0.049		<0.049		ug/L		NC	20
alpha-BHC	<0.099		<0.098		ug/L		NC	20
alpha-Chlordane	<0.049		<0.049		ug/L		NC	20
Anthracene	<0.020		<0.020		ug/L		NC	20
Atrazine	<0.049		<0.049		ug/L		NC	20
Benz(a)anthracene	<0.049		<0.049		ug/L		NC	20
Benzo[a]pyrene	<0.020		<0.020		ug/L		NC	20
Benzo[b]fluoranthene	<0.020		<0.020		ug/L		NC	20
Benzo[g,h,i]perylene	<0.049		<0.049		ug/L		NC	20
Benzo[k]fluoranthene	<0.020		<0.020		ug/L		NC	20
beta-BHC	<0.099		<0.098		ug/L		NC	20
Bis(2-ethylhexyl) phthalate	<0.59		<0.59		ug/L		NC	20
Bromacil	<0.099		<0.098		ug/L		NC	20
Butachlor	<0.049		<0.049		ug/L		NC	20
Butylbenzylphthalate	<0.49		<0.49		ug/L		NC	20
Chlorobenzilate	<0.099		<0.098		ug/L		NC	20
Chloroneb	<0.099		<0.098		ug/L		NC	20
Chlorothalonil (Draconil, Bravo)	<0.099		<0.098		ug/L		NC	20
Chlorpyrifos	<0.049		<0.049		ug/L		NC	20
Chrysene	<0.020		<0.020		ug/L		NC	20
delta-BHC	<0.099		<0.098		ug/L		NC	20
Di(2-ethylhexyl)adipate	<0.59		<0.59		ug/L		NC	20
Dibenz(a,h)anthracene	<0.049		<0.049		ug/L		NC	20
Diclorvos (DDVP)	<0.049		<0.049		ug/L		NC	20
Dieldrin	<0.20		<0.20		ug/L		NC	20
Diethylphthalate	<0.49		<0.49		ug/L		NC	20

QC Sample Results

Client: City & County of Honolulu
 Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 525.2 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 380-70054-K-1-A DU
Matrix: Water
Analysis Batch: 63499

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 63164

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Dimethylphthalate	<0.49		<0.49		ug/L		NC	20
Di-n-butyl phthalate	<0.99		<0.98		ug/L		NC	20
Di-n-octyl phthalate	<0.099		<0.098		ug/L		NC	20
Endosulfan I (Alpha)	<0.099		<0.098		ug/L		NC	20
Endosulfan II (Beta)	<0.099		<0.098		ug/L		NC	20
Endosulfan sulfate	<0.099		<0.098		ug/L		NC	20
Endrin	<0.099		<0.098		ug/L		NC	20
Endrin aldehyde	<0.099		<0.098		ug/L		NC	20
EPTC	<0.099		<0.098		ug/L		NC	20
Fluoranthene	<0.099		<0.098		ug/L		NC	20
Fluorene	<0.049		<0.049		ug/L		NC	20
gamma-Chlordane	<0.049		<0.049		ug/L		NC	20
Heptachlor	<0.040		<0.039		ug/L		NC	20
Heptachlor epoxide (isomer B)	<0.049		<0.049		ug/L		NC	20
Hexachlorobenzene	<0.049		<0.049		ug/L		NC	20
Hexachlorocyclopentadiene	<0.049		<0.049		ug/L		NC	20
Indeno[1,2,3-cd]pyrene	<0.049		<0.049		ug/L		NC	20
Isophorone	<0.49		<0.49		ug/L		NC	20
Lindane	<0.040		<0.039		ug/L		NC	20
Malathion	<0.099		<0.098		ug/L		NC	20
Methoxychlor	<0.099		<0.098		ug/L		NC	20
Metolachlor	<0.049		<0.049		ug/L		NC	20
Molinate	<0.099		<0.098		ug/L		NC	20
Naphthalene	<0.30		<0.29		ug/L		NC	20
Parathion	<0.099		<0.098		ug/L		NC	20
Pendimethalin (Penoxaline)	<0.099		<0.098		ug/L		NC	20
Phenanthrene	<0.040		<0.039		ug/L		NC	20
Propachlor	<0.049		<0.049		ug/L		NC	20
Pyrene	<0.049		<0.049		ug/L		NC	20
Simazine	<0.049		<0.049		ug/L		NC	20
Terbacil	<0.099		<0.098		ug/L		NC	20
Terbutylazine	<0.099		<0.098		ug/L		NC	20
Thiobencarb	<0.20		<0.20		ug/L		NC	20
Total Permethrin (mixed isomers)	<0.20		<0.20		ug/L		NC	20
trans-Nonachlor	<0.049		<0.049		ug/L		NC	20
Trifluralin	<0.099		<0.098		ug/L		NC	20

Surrogate	DU DU		Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	102		70 - 130
Perylene-d12	88		70 - 130
Triphenylphosphate	106		70 - 130

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Lab Sample ID: MBL 380-64918/21-A
Matrix: Water
Analysis Batch: 65351

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64918

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		11/22/23 05:06	11/28/23 03:58	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	95		50 - 200	11/22/23 05:06	11/28/23 03:58	1
13C6 PFDA	103		50 - 200	11/22/23 05:06	11/28/23 03:58	1
13C5 PFHxA	102		50 - 200	11/22/23 05:06	11/28/23 03:58	1
13C4 PFHpA	103		50 - 200	11/22/23 05:06	11/28/23 03:58	1
13C8 PFOA	104		50 - 200	11/22/23 05:06	11/28/23 03:58	1
13C9 PFNA	107		50 - 200	11/22/23 05:06	11/28/23 03:58	1
13C7 PFUnA	102		50 - 200	11/22/23 05:06	11/28/23 03:58	1
13C2 PFDoA	100		50 - 200	11/22/23 05:06	11/28/23 03:58	1
13C4 PFBA	108		50 - 200	11/22/23 05:06	11/28/23 03:58	1
13C5 PFPeA	104		50 - 200	11/22/23 05:06	11/28/23 03:58	1
13C3 PFBS	99		50 - 200	11/22/23 05:06	11/28/23 03:58	1
13C3 PFHxS	98		50 - 200	11/22/23 05:06	11/28/23 03:58	1

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QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: MBL 380-64918/21-A
Matrix: Water
Analysis Batch: 65351

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64918

Isotope Dilution	MBL MBL		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C8 PFOS	97		50 - 200	11/22/23 05:06	11/28/23 03:58	1
13C2-4:2-FTS	116		50 - 200	11/22/23 05:06	11/28/23 03:58	1
13C2-6:2-FTS	115		50 - 200	11/22/23 05:06	11/28/23 03:58	1
13C2-8:2-FTS	111		50 - 200	11/22/23 05:06	11/28/23 03:58	1

Lab Sample ID: LCS 380-64918/23-A
Matrix: Water
Analysis Batch: 65351

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64918

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec
							Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	104		ng/L		87	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	120	113		ng/L		94	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	123		ng/L		102	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	117		ng/L		98	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	114		ng/L		95	70 - 130
Perfluorodecanoic acid (PFDA)	120	115		ng/L		96	70 - 130
Perfluorododecanoic acid (PFDoA)	120	117		ng/L		98	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	122		ng/L		101	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	122		ng/L		101	70 - 130
Perfluorohexanoic acid (PFHxA)	120	114		ng/L		95	70 - 130
Perfluorononanoic acid (PFNA)	120	120		ng/L		100	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	125		ng/L		104	70 - 130
Perfluorooctanoic acid (PFOA)	120	121		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	123		ng/L		103	70 - 130
Perfluorobutanoic acid (PFBA)	120	117		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	120		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	116		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	120		ng/L		100	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	111		ng/L		92	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	120	117		ng/L		98	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	112		ng/L		93	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	125		ng/L		104	70 - 130
Perfluoropentanoic acid (PFPeA)	120	127		ng/L		106	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	120		ng/L		100	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: LCS 380-64918/23-A
Matrix: Water
Analysis Batch: 65351

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64918

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	120	126		ng/L		105	70 - 130
LCS LCS							
Isotope Dilution	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	102		50 - 200				
13C6 PFDA	101		50 - 200				
13C5 PFHxA	107		50 - 200				
13C4 PFHpA	100		50 - 200				
13C8 PFOA	104		50 - 200				
13C9 PFNA	107		50 - 200				
13C7 PFUnA	99		50 - 200				
13C2 PFDoA	107		50 - 200				
13C4 PFBA	112		50 - 200				
13C5 PFPeA	104		50 - 200				
13C3 PFBS	101		50 - 200				
13C3 PFHxS	99		50 - 200				
13C8 PFOS	102		50 - 200				
13C2-4:2-FTS	112		50 - 200				
13C2-6:2-FTS	114		50 - 200				
13C2-8:2-FTS	114		50 - 200				

Lab Sample ID: LCSD 380-64918/24-A
Matrix: Water
Analysis Batch: 65351

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 64918

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	101		ng/L		84	70 - 130	4	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	114		ng/L		95	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	125		ng/L		104	70 - 130	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	119		ng/L		99	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	120	123		ng/L		102	70 - 130	7	30
Perfluorodecanoic acid (PFDA)	120	116		ng/L		96	70 - 130	0	30
Perfluorododecanoic acid (PFDoA)	120	120		ng/L		100	70 - 130	3	30
Perfluoroheptanoic acid (PFHpA)	120	126		ng/L		105	70 - 130	3	30
Perfluorohexanesulfonic acid (PFHxS)	120	121		ng/L		101	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	120	119		ng/L		99	70 - 130	5	30
Perfluorononanoic acid (PFNA)	120	122		ng/L		102	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	120	121		ng/L		101	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	120	118		ng/L		98	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	120	124		ng/L		103	70 - 130	1	30
Perfluorobutanoic acid (PFBA)	120	121		ng/L		100	70 - 130	3	30

Eurofins Eaton Analytical Pomona

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: LCSD 380-64918/24-A
Matrix: Water
Analysis Batch: 65351

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 64918

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	126		ng/L		105	70 - 130	5	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	115		ng/L		96	70 - 130	1	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	119		ng/L		99	70 - 130	1	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	114		ng/L		95	70 - 130	3	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	120	118		ng/L		98	70 - 130	0	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	112		ng/L		93	70 - 130	0	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	129		ng/L		107	70 - 130	3	30
Perfluoropentanoic acid (PFPeA)	120	127		ng/L		105	70 - 130	0	30
Perfluoroheptanesulfonic acid (PFHpS)	120	117		ng/L		97	70 - 130	3	30
Perfluoropentanesulfonic acid (PFPeS)	120	125		ng/L		104	70 - 130	0	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	LCSD Limits
13C3 HFPO-DA	105		50 - 200
13C6 PFDA	106		50 - 200
13C5 PFHxA	104		50 - 200
13C4 PFHpA	101		50 - 200
13C8 PFOA	105		50 - 200
13C9 PFNA	110		50 - 200
13C7 PFUnA	102		50 - 200
13C2 PFDoA	108		50 - 200
13C4 PFBA	105		50 - 200
13C5 PFPeA	100		50 - 200
13C3 PFBS	96		50 - 200
13C3 PFHxS	94		50 - 200
13C8 PFOS	101		50 - 200
13C2-4:2-FTS	109		50 - 200
13C2-6:2-FTS	106		50 - 200
13C2-8:2-FTS	110		50 - 200

Lab Sample ID: MRL 380-64918/22-A
Matrix: Water
Analysis Batch: 65351

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64918

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.65	J	ng/L		82	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	1.89	J	ng/L		95	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	1.90	J	ng/L		95	50 - 150

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: MRL 380-64918/22-A
Matrix: Water
Analysis Batch: 65351

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64918

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.00	J	ng/L		100	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	1.93	J	ng/L		96	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.02	J	ng/L		101	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.11	J	ng/L		105	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	1.92	J	ng/L		96	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	1.93	J	ng/L		96	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	1.94	J	ng/L		97	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.12	J	ng/L		106	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.10	J	ng/L		105	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.07	J	ng/L		103	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.10	J	ng/L		105	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.12	J	ng/L		106	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.22	J	ng/L		111	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.09	J	ng/L		104	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.07	J	ng/L		103	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	1.82	J	ng/L		91	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.00	1.90	J	ng/L		95	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	1.91	J	ng/L		95	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	1.97	J	ng/L		98	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.00	J	ng/L		100	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.00	J	ng/L		100	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	1.87	J	ng/L		93	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
¹³ C3 HFPO-DA	95		50 - 200
¹³ C6 PFDA	94		50 - 200
¹³ C5 PFHxA	107		50 - 200
¹³ C4 PFHpA	105		50 - 200
¹³ C8 PFOA	102		50 - 200
¹³ C9 PFNA	106		50 - 200
¹³ C7 PFUnA	93		50 - 200
¹³ C2 PFDoA	95		50 - 200
¹³ C4 PFBA	105		50 - 200
¹³ C5 PFPeA	103		50 - 200
¹³ C3 PFBS	96		50 - 200
¹³ C3 PFHxS	98		50 - 200
¹³ C8 PFOS	98		50 - 200

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: MRL 380-64918/22-A
Matrix: Water
Analysis Batch: 65351

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64918

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MRL MRL Qualifier</i>	<i>Limits</i>
13C2-4:2-FTS	115		50 - 200
13C2-6:2-FTS	112		50 - 200
13C2-8:2-FTS	110		50 - 200

Lab Sample ID: 380-71991-B-1-A MS
Matrix: Water
Analysis Batch: 65351

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 64918

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MS Result</i>	<i>MS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		120	96.9		ng/L		80	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		120	112		ng/L		93	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		120	120		ng/L		100	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		120	113		ng/L		93	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		120	111		ng/L		93	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		120	112		ng/L		93	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		120	120		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		120	117		ng/L		97	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		120	115		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		120	119		ng/L		99	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		120	122		ng/L		101	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		120	123		ng/L		102	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		120	115		ng/L		94	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		120	121		ng/L		100	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		120	125		ng/L		103	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		120	120		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		120	111		ng/L		92	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		120	114		ng/L		94	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		120	109		ng/L		91	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		120	115		ng/L		96	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		120	152		ng/L		126	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		120	123		ng/L		102	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		120	118		ng/L		97	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		120	114		ng/L		95	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		120	116		ng/L		97	70 - 130

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QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	103		50 - 200
13C6 PFDA	105		50 - 200
13C5 PFHxA	99		50 - 200
13C4 PFHpA	100		50 - 200
13C8 PFOA	102		50 - 200
13C9 PFNA	108		50 - 200
13C7 PFUnA	106		50 - 200
13C2 PFDoA	107		50 - 200
13C4 PFBA	101		50 - 200
13C5 PFPeA	174		50 - 200
13C3 PFBS	92		50 - 200
13C3 PFHxS	92		50 - 200
13C8 PFOS	97		50 - 200
13C2-4:2-FTS	94		50 - 200
13C2-6:2-FTS	108		50 - 200
13C2-8:2-FTS	116		50 - 200

Lab Sample ID: 380-71991-C-1-A MSD
Matrix: Water
Analysis Batch: 65351

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 64918

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec	RPD	RPD
									Limits	RPD	Limit
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		123	102		ng/L		82	70 - 130	5	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		123	113		ng/L		92	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		123	123		ng/L		100	70 - 130	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		123	125		ng/L		101	70 - 130	10	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		123	118		ng/L		95	70 - 130	6	30
Perfluorodecanoic acid (PFDA)	<2.0		123	118		ng/L		96	70 - 130	5	30
Perfluorododecanoic acid (PFDoA)	<2.0		123	125		ng/L		101	70 - 130	4	30
Perfluoroheptanoic acid (PFHpA)	<2.0		123	120		ng/L		96	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		123	116		ng/L		94	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	<2.0		123	125		ng/L		101	70 - 130	5	30
Perfluorononanoic acid (PFNA)	<2.0		123	121		ng/L		98	70 - 130	0	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		123	123		ng/L		99	70 - 130	0	30
Perfluorooctanoic acid (PFOA)	<2.0		123	125		ng/L		100	70 - 130	9	30
Perfluoroundecanoic acid (PFUnA)	<2.0		123	124		ng/L		101	70 - 130	3	30
Perfluorobutanoic acid (PFBA)	<2.0		123	123		ng/L		99	70 - 130	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		123	125		ng/L		101	70 - 130	4	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		123	115		ng/L		93	70 - 130	4	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		123	125		ng/L		101	70 - 130	10	30

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QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: 380-71991-C-1-A MSD
Matrix: Water
Analysis Batch: 65351

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 64918

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		123	123		ng/L		100	70 - 130	12	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		123	127		ng/L		103	70 - 130	10	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		123	159		ng/L		129	70 - 130	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		123	130		ng/L		105	70 - 130	6	30
Perfluoropentanoic acid (PFPeA)	<2.0		123	126		ng/L		101	70 - 130	7	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		123	114		ng/L		92	70 - 130	0	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		123	121		ng/L		98	70 - 130	4	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	101		50 - 200
13C6 PFDA	107		50 - 200
13C5 PFHxA	99		50 - 200
13C4 PFHpA	104		50 - 200
13C8 PFOA	100		50 - 200
13C9 PFNA	113		50 - 200
13C7 PFUnA	108		50 - 200
13C2 PFDoA	113		50 - 200
13C4 PFBA	103		50 - 200
13C5 PFPeA	175		50 - 200
13C3 PFBS	89		50 - 200
13C3 PFHxS	96		50 - 200
13C8 PFOS	103		50 - 200
13C2-4:2-FTS	98		50 - 200
13C2-6:2-FTS	105		50 - 200
13C2-8:2-FTS	122		50 - 200

Lab Sample ID: MBL 380-65224/21-A
Matrix: Water
Analysis Batch: 65375

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65224

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1

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QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: MBL 380-65224/21-A
Matrix: Water
Analysis Batch: 65375

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65224

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1
Perfluorooctanoic acid (PFOA)	0.425	J	2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		11/26/23 09:53	11/28/23 08:35	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	79		50 - 200	11/26/23 09:53	11/28/23 08:35	1
13C6 PFDA	93		50 - 200	11/26/23 09:53	11/28/23 08:35	1
13C5 PFHxA	87		50 - 200	11/26/23 09:53	11/28/23 08:35	1
13C4 PFHpA	90		50 - 200	11/26/23 09:53	11/28/23 08:35	1
13C8 PFOA	92		50 - 200	11/26/23 09:53	11/28/23 08:35	1
13C9 PFNA	95		50 - 200	11/26/23 09:53	11/28/23 08:35	1
13C7 PFUnA	88		50 - 200	11/26/23 09:53	11/28/23 08:35	1
13C2 PFDoA	91		50 - 200	11/26/23 09:53	11/28/23 08:35	1
13C4 PFBA	94		50 - 200	11/26/23 09:53	11/28/23 08:35	1
13C5 PFPeA	101		50 - 200	11/26/23 09:53	11/28/23 08:35	1
13C3 PFBS	86		50 - 200	11/26/23 09:53	11/28/23 08:35	1
13C3 PFHxS	91		50 - 200	11/26/23 09:53	11/28/23 08:35	1
13C8 PFOS	94		50 - 200	11/26/23 09:53	11/28/23 08:35	1
13C2-4:2-FTS	102		50 - 200	11/26/23 09:53	11/28/23 08:35	1
13C2-6:2-FTS	102		50 - 200	11/26/23 09:53	11/28/23 08:35	1
13C2-8:2-FTS	100		50 - 200	11/26/23 09:53	11/28/23 08:35	1

Lab Sample ID: LCS 380-65224/23-A
Matrix: Water
Analysis Batch: 65375

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65224

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	59.9	50.3		ng/L		84	70 - 130

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QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: LCS 380-65224/23-A
Matrix: Water
Analysis Batch: 65375

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65224

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	59.9	54.6		ng/L		91	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	59.9	57.0		ng/L		95	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	59.9	57.6		ng/L		96	70 - 130
Perfluorobutanesulfonic acid (PFBS)	59.9	60.1		ng/L		100	70 - 130
Perfluorodecanoic acid (PFDA)	59.9	55.6		ng/L		93	70 - 130
Perfluorododecanoic acid (PFDoA)	59.9	59.2		ng/L		99	70 - 130
Perfluoroheptanoic acid (PFHpA)	59.9	56.2		ng/L		94	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	59.9	55.7		ng/L		93	70 - 130
Perfluorohexanoic acid (PFHxA)	59.9	55.5		ng/L		93	70 - 130
Perfluorononanoic acid (PFNA)	59.9	60.4		ng/L		101	70 - 130
Perfluorooctanesulfonic acid (PFOS)	59.9	58.1		ng/L		97	70 - 130
Perfluorooctanoic acid (PFOA)	59.9	56.8		ng/L		95	70 - 130
Perfluoroundecanoic acid (PFUnA)	59.9	60.9		ng/L		102	70 - 130
Perfluorobutanoic acid (PFBA)	59.9	56.7		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	59.9	62.2		ng/L		104	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	59.9	56.9		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	59.9	59.5		ng/L		99	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	59.9	60.1		ng/L		100	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	59.9	59.4		ng/L		99	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	59.9	58.1		ng/L		97	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	59.9	55.9		ng/L		93	70 - 130
Perfluoropentanoic acid (PFPeA)	59.9	57.0		ng/L		95	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	59.9	57.3		ng/L		96	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	59.9	56.0		ng/L		93	70 - 130

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C3 HFPO-DA	94		50 - 200
13C6 PFDA	103		50 - 200
13C5 PFHxA	98		50 - 200
13C4 PFHpA	102		50 - 200
13C8 PFOA	104		50 - 200
13C9 PFNA	102		50 - 200
13C7 PFUnA	97		50 - 200
13C2 PFDoA	102		50 - 200
13C4 PFBA	100		50 - 200

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: LCS 380-65224/23-A
Matrix: Water
Analysis Batch: 65375

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65224

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
13C5 PFPeA	111		50 - 200
13C3 PFBS	89		50 - 200
13C3 PFHxS	100		50 - 200
13C8 PFOS	101		50 - 200
13C2-4:2-FTS	109		50 - 200
13C2-6:2-FTS	102		50 - 200
13C2-8:2-FTS	107		50 - 200

Lab Sample ID: LCSD 380-65224/24-A
Matrix: Water
Analysis Batch: 65375

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 65224

<i>Analyte</i>	<i>Spike Added</i>	<i>LCSD Result</i>	<i>LCSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	56.2	50.4		ng/L		90	70 - 130	0	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	56.2	54.3		ng/L		97	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	56.2	54.6		ng/L		97	70 - 130	4	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	56.2	56.5		ng/L		101	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	56.2	57.7		ng/L		103	70 - 130	4	30
Perfluorodecanoic acid (PFDA)	56.2	53.1		ng/L		95	70 - 130	5	30
Perfluorododecanoic acid (PFDoA)	56.2	57.8		ng/L		103	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	56.2	56.9		ng/L		101	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	56.2	52.8		ng/L		94	70 - 130	5	30
Perfluorohexanoic acid (PFHxA)	56.2	54.6		ng/L		97	70 - 130	2	30
Perfluorononanoic acid (PFNA)	56.2	57.9		ng/L		103	70 - 130	4	30
Perfluorooctanesulfonic acid (PFOS)	56.2	57.4		ng/L		102	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	56.2	55.9		ng/L		100	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	56.2	58.8		ng/L		105	70 - 130	4	30
Perfluorobutanoic acid (PFBA)	56.2	55.4		ng/L		99	70 - 130	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	56.2	58.7		ng/L		104	70 - 130	6	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	56.2	54.8		ng/L		98	70 - 130	4	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	56.2	58.2		ng/L		104	70 - 130	2	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	56.2	53.8		ng/L		96	70 - 130	11	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	56.2	58.7		ng/L		104	70 - 130	1	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	56.2	54.9		ng/L		98	70 - 130	6	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	56.2	55.3		ng/L		98	70 - 130	1	30

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QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: LCSD 380-65224/24-A
Matrix: Water
Analysis Batch: 65375

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 65224

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanoic acid (PFPeA)	56.2	57.6		ng/L		103	70 - 130	1	30
Perfluoroheptanesulfonic acid (PFHpS)	56.2	55.8		ng/L		99	70 - 130	3	30
Perfluoropentanesulfonic acid (PFPeS)	56.2	53.3		ng/L		95	70 - 130	5	30
		LCSD %Recovery	LCSD Qualifier			Limits			
Isotope Dilution									
13C3 HFPO-DA		86					50 - 200		
13C6 PFDA		97					50 - 200		
13C5 PFHxA		92					50 - 200		
13C4 PFHpA		91					50 - 200		
13C8 PFOA		93					50 - 200		
13C9 PFNA		94					50 - 200		
13C7 PFUnA		89					50 - 200		
13C2 PFDoA		93					50 - 200		
13C4 PFBA		96					50 - 200		
13C5 PFPeA		104					50 - 200		
13C3 PFBS		88					50 - 200		
13C3 PFHxS		95					50 - 200		
13C8 PFOS		94					50 - 200		
13C2-4:2-FTS		104					50 - 200		
13C2-6:2-FTS		99					50 - 200		
13C2-8:2-FTS		103					50 - 200		

Lab Sample ID: MRL 380-65224/22-A
Matrix: Water
Analysis Batch: 65375

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65224

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.51	J	ng/L		75	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	1.73	J	ng/L		86	50 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	1.71	J	ng/L		85	50 - 150		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	1.74	J	ng/L		87	50 - 150		
Perfluorobutanesulfonic acid (PFBS)	2.00	1.82	J	ng/L		91	50 - 150		
Perfluorodecanoic acid (PFDA)	2.00	1.62	J	ng/L		81	50 - 150		
Perfluorododecanoic acid (PFDoA)	2.00	1.76	J	ng/L		88	50 - 150		
Perfluoroheptanoic acid (PFHpA)	2.00	1.89	J	ng/L		94	50 - 150		
Perfluorohexanesulfonic acid (PFHxS)	2.00	1.75	J	ng/L		87	50 - 150		
Perfluorohexanoic acid (PFHxA)	2.00	1.86	J	ng/L		93	50 - 150		
Perfluorononanoic acid (PFNA)	2.00	1.85	J	ng/L		92	50 - 150		
Perfluorooctanesulfonic acid (PFOS)	2.00	2.00	J	ng/L		100	50 - 150		
Perfluorooctanoic acid (PFOA)	2.00	1.75	J	ng/L		88	50 - 150		

Eurofins Eaton Analytical Pomona

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: MRL 380-65224/22-A
Matrix: Water
Analysis Batch: 65375

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65224

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.00	1.73	J	ng/L		86	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	1.84	J	ng/L		92	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	1.90	J	ng/L		95	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	1.83	J	ng/L		91	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	1.90	J	ng/L		95	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	1.89	J	ng/L		94	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.00	1.76	J	ng/L		88	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	1.75	J	ng/L		87	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	1.55	J	ng/L		77	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	1.62	J	ng/L		81	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	1.81	J	ng/L		90	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	1.78	J	ng/L		89	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	Limits
13C3 HFPO-DA	88		50 - 200
13C6 PFDA	96		50 - 200
13C5 PFHxA	91		50 - 200
13C4 PFHpA	94		50 - 200
13C8 PFOA	99		50 - 200
13C9 PFNA	96		50 - 200
13C7 PFUnA	88		50 - 200
13C2 PFDoA	94		50 - 200
13C4 PFBA	97		50 - 200
13C5 PFPeA	105		50 - 200
13C3 PFBS	86		50 - 200
13C3 PFHxS	91		50 - 200
13C8 PFOS	91		50 - 200
13C2-4:2-FTS	106		50 - 200
13C2-6:2-FTS	95		50 - 200
13C2-8:2-FTS	101		50 - 200

Lab Sample ID: 380-70303-E-1-B MS
Matrix: Water
Analysis Batch: 65375

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 65224

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.2	44.7		ng/L		74	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	49.1		ng/L		81	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: 380-70303-E-1-B MS
Matrix: Water
Analysis Batch: 65375

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 65224

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
13C8 PFOS	95		50 - 200
13C2-4:2-FTS	103		50 - 200
13C2-6:2-FTS	99		50 - 200
13C2-8:2-FTS	117		50 - 200

Lab Sample ID: 380-70303-F-1-B MSD
Matrix: Water
Analysis Batch: 65375

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 65224

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.0	50.5		ng/L		84	70 - 130	12	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.0	55.2		ng/L		92	70 - 130	12	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0	*5- F1	60.0	41.5	*5- F1	ng/L		69	70 - 130	9	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0	*5-	60.0	58.2	*5-	ng/L		97	70 - 130	5	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.0	58.5		ng/L		97	70 - 130	4	30
Perfluorodecanoic acid (PFDA)	<2.0		60.0	56.6		ng/L		94	70 - 130	8	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.0	60.1		ng/L		100	70 - 130	8	30
Perfluoroheptanoic acid (PFHpA)	<2.0	*5-	60.0	58.4	*5-	ng/L		96	70 - 130	14	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.0	55.2		ng/L		91	70 - 130	7	30
Perfluorohexanoic acid (PFHxA)	<2.0	*5-	60.0	55.8	*5-	ng/L		92	70 - 130	2	30
Perfluorononanoic acid (PFNA)	<2.0		60.0	60.3		ng/L		100	70 - 130	8	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.0	58.8		ng/L		97	70 - 130	6	30
Perfluorooctanoic acid (PFOA)	<2.0		60.0	59.3	*5-	ng/L		97	70 - 130	12	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.0	57.9		ng/L		96	70 - 130	4	30
Perfluorobutanoic acid (PFBA)	<2.0	*5-	60.0	56.8	*5-	ng/L		95	70 - 130	11	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.0	64.1		ng/L		107	70 - 130	9	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.0	57.8		ng/L		96	70 - 130	13	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.0	63.2		ng/L		105	70 - 130	9	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0	*5- F1	60.0	40.1	*5- F1	ng/L		67	70 - 130	22	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.0	58.0		ng/L		97	70 - 130	7	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0	*5-	60.0	46.5	*5-	ng/L		77	70 - 130	2	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0	*5-	60.0	45.0	*5-	ng/L		75	70 - 130	4	30
Perfluoropentanoic acid (PFPeA)	<2.0	*5-	60.0	55.4	*5-	ng/L		90	70 - 130	7	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.0	58.1		ng/L		97	70 - 130	10	30

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: 380-70303-F-1-B MSD
Matrix: Water
Analysis Batch: 65375

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 65224

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.0	55.1		ng/L		92	70 - 130	8	30
MSD MSD											
Isotope Dilution	%Recovery	Qualifier	Limits								
13C3 HFPO-DA	21	*5-	50 - 200								
13C6 PFDA	67		50 - 200								
13C5 PFHxA	28	*5-	50 - 200								
13C4 PFHpA	33	*5-	50 - 200								
13C8 PFOA	42	*5-	50 - 200								
13C9 PFNA	55		50 - 200								
13C7 PFUnA	71		50 - 200								
13C2 PFDoA	81		50 - 200								
13C4 PFBA	23	*5-	50 - 200								
13C5 PFPeA	26	*5-	50 - 200								
13C3 PFBS	88		50 - 200								
13C3 PFHxS	94		50 - 200								
13C8 PFOS	94		50 - 200								
13C2-4:2-FTS	104		50 - 200								
13C2-6:2-FTS	100		50 - 200								
13C2-8:2-FTS	119		50 - 200								

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Lab Sample ID: MBL 380-63818/23-A
Matrix: Water
Analysis Batch: 64059

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63818

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		11/15/23 07:42	11/16/23 17:27	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		11/15/23 07:42	11/16/23 17:27	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		11/15/23 07:42	11/16/23 17:27	1
N-methylperfluorooctanesulfonamide acid (NMeFOSAA)	<0.58		2.0	ng/L		11/15/23 07:42	11/16/23 17:27	1
N-ethylperfluorooctanesulfonamide acid (NEtFOSAA)	<0.42		2.0	ng/L		11/15/23 07:42	11/16/23 17:27	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		11/15/23 07:42	11/16/23 17:27	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		11/15/23 07:42	11/16/23 17:27	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		11/15/23 07:42	11/16/23 17:27	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		11/15/23 07:42	11/16/23 17:27	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		11/15/23 07:42	11/16/23 17:27	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		11/15/23 07:42	11/16/23 17:27	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		11/15/23 07:42	11/16/23 17:27	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		11/15/23 07:42	11/16/23 17:27	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		11/15/23 07:42	11/16/23 17:27	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		11/15/23 07:42	11/16/23 17:27	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		11/15/23 07:42	11/16/23 17:27	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		11/15/23 07:42	11/16/23 17:27	1

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QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: MBL 380-63818/23-A
Matrix: Water
Analysis Batch: 64059

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63818

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		11/15/23 07:42	11/16/23 17:27	1

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	95		70 - 130	11/15/23 07:42	11/16/23 17:27	1
13C2 PFHxA	106		70 - 130	11/15/23 07:42	11/16/23 17:27	1
13C2 PFDA	98		70 - 130	11/15/23 07:42	11/16/23 17:27	1
13C3-GenX	100		70 - 130	11/15/23 07:42	11/16/23 17:27	1

Lab Sample ID: LCS 380-63818/25-A
Matrix: Water
Analysis Batch: 64059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63818

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	50.1	38.6		ng/L		77	70 - 130
Perfluorooctanesulfonic acid (PFOS)	46.4	37.6		ng/L		81	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.1	38.3		ng/L		76	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.1	40.5		ng/L		81	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.1	38.7		ng/L		77	70 - 130
Perfluorohexanoic acid (PFHxA)	50.1	42.5		ng/L		85	70 - 130
Perfluorododecanoic acid (PFDoA)	50.1	39.3		ng/L		78	70 - 130
Perfluorooctanoic acid (PFOA)	50.1	42.2		ng/L		84	70 - 130
Perfluorodecanoic acid (PFDA)	50.1	41.3		ng/L		83	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	45.7	38.7		ng/L		85	70 - 130
Perfluorobutanesulfonic acid (PFBS)	44.3	38.1		ng/L		86	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.1	42.6		ng/L		85	70 - 130
Perfluorononanoic acid (PFNA)	50.1	43.3		ng/L		86	70 - 130
Perfluorotetradecanoic acid (PFTA)	50.1	36.8		ng/L		73	70 - 130
Perfluorotridecanoic acid (PFTTrDA)	50.1	40.2		ng/L		80	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	46.8	37.4		ng/L		80	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	47.3	37.4		ng/L		79	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	47.3	39.8		ng/L		84	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	88		70 - 130
13C2 PFHxA	97		70 - 130
13C2 PFDA	92		70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: LCS 380-63818/25-A
Matrix: Water
Analysis Batch: 64059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63818

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
13C3-GenX	94		70 - 130

Lab Sample ID: LCSD 380-63818/26-A
Matrix: Water
Analysis Batch: 64059

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63818

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	50.1	49.0		ng/L		98	70 - 130	24	30	
Perfluorooctanesulfonic acid (PFOS)	46.4	44.5		ng/L		96	70 - 130	17	30	
Perfluoroundecanoic acid (PFUnA)	50.1	45.8		ng/L		91	70 - 130	18	30	
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.1	45.6		ng/L		91	70 - 130	12	30	
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.1	44.3		ng/L		88	70 - 130	13	30	
Perfluorohexanoic acid (PFHxA)	50.1	48.9		ng/L		98	70 - 130	14	30	
Perfluorododecanoic acid (PFDoA)	50.1	46.0		ng/L		92	70 - 130	16	30	
Perfluorooctanoic acid (PFOA)	50.1	48.1		ng/L		96	70 - 130	13	30	
Perfluorodecanoic acid (PFDA)	50.1	48.0		ng/L		96	70 - 130	15	30	
Perfluorohexanesulfonic acid (PFHxS)	45.7	45.1		ng/L		99	70 - 130	15	30	
Perfluorobutanesulfonic acid (PFBS)	44.3	44.6		ng/L		101	70 - 130	16	30	
Perfluoroheptanoic acid (PFHpA)	50.1	47.0		ng/L		94	70 - 130	10	30	
Perfluorononanoic acid (PFNA)	50.1	49.3		ng/L		98	70 - 130	13	30	
Perfluorotetradecanoic acid (PFTA)	50.1	40.9		ng/L		82	70 - 130	11	30	
Perfluorotridecanoic acid (PFTrDA)	50.1	46.2		ng/L		92	70 - 130	14	30	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	46.8	43.0		ng/L		92	70 - 130	14	30	
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	47.3	43.9		ng/L		93	70 - 130	16	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	47.3	44.9		ng/L		95	70 - 130	12	30	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
d5-NEtFOSAA	93		70 - 130
13C2 PFHxA	103		70 - 130
13C2 PFDA	104		70 - 130
13C3-GenX	100		70 - 130

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: MRL 380-63818/24-A
Matrix: Water
Analysis Batch: 64059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63818

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	1.85	J	ng/L		92	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.86	1.83	J	ng/L		98	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	1.92	J	ng/L		96	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	1.98	J	ng/L		99	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.00	J	ng/L		100	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	1.97	J	ng/L		98	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	1.97	J	ng/L		98	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.17	J	ng/L		108	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.01	J	ng/L		100	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.83	1.88	J	ng/L		103	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.77	1.85	J	ng/L		104	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.12	J	ng/L		106	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.08	J	ng/L		104	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	1.71	J	ng/L		86	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.04	J	ng/L		102	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.87	1.82	J	ng/L		97	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.89	1.80	J	ng/L		95	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	1.91	J	ng/L		101	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	MRL Limits
d5-NEtFOSAA	95		70 - 130
13C2 PFHxA	99		70 - 130
13C2 PFDA	101		70 - 130
13C3-GenX	94		70 - 130

Lab Sample ID: 380-70278-2 MS
Matrix: Drinking Water
Analysis Batch: 64059

Client Sample ID: AIEA GULCH WELLS PUMP 2
Prep Type: Total/NA
Prep Batch: 63818

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.2	47.8		ng/L		95	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		46.5	46.7		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		50.2	47.2		ng/L		94	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.2	47.0		ng/L		94	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: 380-70278-2 MS
Matrix: Drinking Water
Analysis Batch: 64059

Client Sample ID: AIEA GULCH WELLS PUMP 2
Prep Type: Total/NA
Prep Batch: 63818

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.2	46.4		ng/L		92	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		50.2	50.7		ng/L		101	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		50.2	46.7		ng/L		93	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		50.2	51.7		ng/L		103	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		50.2	51.0		ng/L		102	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		45.8	48.0		ng/L		105	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		44.4	46.8		ng/L		105	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		50.2	51.0		ng/L		102	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		50.2	52.6		ng/L		105	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		50.2	40.9		ng/L		81	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.2	48.3		ng/L		96	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		46.9	46.1		ng/L		98	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid(11Cl-PF3OUdS)	<2.0		47.4	48.3		ng/L		102	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		47.4	46.9		ng/L		99	70 - 130

Surrogate	MS %Recovery	MS Qualifier	MS Limits
d5-NEtFOSAA	95		70 - 130
13C2 PFHxA	105		70 - 130
13C2 PFDA	103		70 - 130
13C3-GenX	100		70 - 130

Lab Sample ID: 380-70278-2 MSD
Matrix: Drinking Water
Analysis Batch: 64059

Client Sample ID: AIEA GULCH WELLS PUMP 2
Prep Type: Total/NA
Prep Batch: 63818

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.2	44.0		ng/L		88	70 - 130	8	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		46.5	44.9		ng/L		97	70 - 130	4	30
Perfluoroundecanoic acid (PFUnA)	<2.0		50.2	46.2		ng/L		92	70 - 130	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.2	47.4		ng/L		94	70 - 130	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.2	44.7		ng/L		89	70 - 130	4	30
Perfluorohexanoic acid (PFHxA)	<2.0		50.2	48.7		ng/L		97	70 - 130	4	30
Perfluorododecanoic acid (PFDoA)	<2.0		50.2	46.5		ng/L		93	70 - 130	0	30
Perfluorooctanoic acid (PFOA)	<2.0		50.2	50.4		ng/L		100	70 - 130	2	30
Perfluorodecanoic acid (PFDA)	<2.0		50.2	48.5		ng/L		97	70 - 130	5	30

QC Sample Results

Client: City & County of Honolulu
 Project/Site: RED-HILL

Job ID: 380-70278-1

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: 380-70278-2 MSD

Client Sample ID: AIEA GULCH WELLS PUMP 2

Matrix: Drinking Water

Prep Type: Total/NA

Analysis Batch: 64059

Prep Batch: 63818

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)	<2.0		45.8	46.3		ng/L		101	70 - 130	4	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		44.4	45.5		ng/L		102	70 - 130	3	30
Perfluoroheptanoic acid (PFHpA)	<2.0		50.2	49.3		ng/L		98	70 - 130	3	30
Perfluorononanoic acid (PFNA)	<2.0		50.2	50.3		ng/L		100	70 - 130	4	30
Perfluorotetradecanoic acid (PFTA)	<2.0		50.2	39.8		ng/L		79	70 - 130	3	30
Perfluorotridecanoic acid (PFTTrDA)	<2.0		50.2	47.4		ng/L		94	70 - 130	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		46.9	45.4		ng/L		97	70 - 130	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		47.4	45.3		ng/L		95	70 - 130	6	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		47.4	46.5		ng/L		98	70 - 130	1	30
Surrogate											
	MSD %Recovery	MSD Qualifier									Limits
d5-NEtFOSAA	90										70 - 130
13C2 PFHxA	109										70 - 130
13C2 PFDA	109										70 - 130
13C3-GenX	106										70 - 130

QC Association Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

GC/MS Semi VOA

Prep Batch: 63164

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-70278-1	MOANALUA WELLS	Total/NA	Drinking Water	525.2	
380-70278-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	525.2	
380-70278-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	525.2	
380-70278-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	525.2	
MB 380-63164/21-A	Method Blank	Total/NA	Water	525.2	
LCS 380-63164/23-A	Lab Control Sample	Total/NA	Water	525.2	
MRL 380-63164/22-A	Lab Control Sample	Total/NA	Water	525.2	
380-69983-F-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-70054-K-1-A DU	Duplicate	Total/NA	Water	525.2	

Analysis Batch: 63499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-70278-1	MOANALUA WELLS	Total/NA	Drinking Water	525.2	63164
380-70278-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	525.2	63164
380-70278-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	525.2	63164
380-70278-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	525.2	63164
MB 380-63164/21-A	Method Blank	Total/NA	Water	525.2	63164
LCS 380-63164/23-A	Lab Control Sample	Total/NA	Water	525.2	63164
MRL 380-63164/22-A	Lab Control Sample	Total/NA	Water	525.2	63164
380-69983-F-1-A MS	Matrix Spike	Total/NA	Water	525.2	63164
380-70054-K-1-A DU	Duplicate	Total/NA	Water	525.2	63164

LCMS

Prep Batch: 63818

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-70278-1	MOANALUA WELLS	Total/NA	Drinking Water	537.1 DW	
380-70278-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	537.1 DW	
380-70278-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	537.1 DW	
380-70278-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	537.1 DW	
380-70278-9	FB MOANALUA WELLS	Total/NA	Water	537.1 DW	
380-70278-10	FB AIEA GULCH WELLS PUMP 2	Total/NA	Water	537.1 DW	
380-70278-11	FB AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	537.1 DW	
380-70278-12	FB HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	537.1 DW	
MBL 380-63818/23-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-63818/25-A	Lab Control Sample	Total/NA	Water	537.1 DW	
LCSD 380-63818/26-A	Lab Control Sample Dup	Total/NA	Water	537.1 DW	
MRL 380-63818/24-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-70278-2 MS	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	537.1 DW	
380-70278-2 MSD	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	537.1 DW	

Analysis Batch: 64059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-70278-1	MOANALUA WELLS	Total/NA	Drinking Water	537.1	63818
380-70278-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	537.1	63818
380-70278-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	537.1	63818
380-70278-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	537.1	63818
380-70278-9	FB MOANALUA WELLS	Total/NA	Water	537.1	63818
380-70278-10	FB AIEA GULCH WELLS PUMP 2	Total/NA	Water	537.1	63818
380-70278-11	FB AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	537.1	63818
380-70278-12	FB HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	537.1	63818

QC Association Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

LCMS (Continued)

Analysis Batch: 64059 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MBL 380-63818/23-A	Method Blank	Total/NA	Water	537.1	63818
LCS 380-63818/25-A	Lab Control Sample	Total/NA	Water	537.1	63818
LCSD 380-63818/26-A	Lab Control Sample Dup	Total/NA	Water	537.1	63818
MRL 380-63818/24-A	Lab Control Sample	Total/NA	Water	537.1	63818
380-70278-2 MS	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	537.1	63818
380-70278-2 MSD	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	537.1	63818

Prep Batch: 64918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-70278-1	MOANALUA WELLS	Total/NA	Drinking Water	533	
380-70278-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	533	
380-70278-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	533	
380-70278-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	533	
380-70278-9	FB MOANALUA WELLS	Total/NA	Water	533	
MBL 380-64918/21-A	Method Blank	Total/NA	Water	533	
LCS 380-64918/23-A	Lab Control Sample	Total/NA	Water	533	
LCSD 380-64918/24-A	Lab Control Sample Dup	Total/NA	Water	533	
MRL 380-64918/22-A	Lab Control Sample	Total/NA	Water	533	
380-71991-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-71991-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Prep Batch: 65224

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-70278-10	FB AIEA GULCH WELLS PUMP 2	Total/NA	Water	533	
380-70278-11	FB AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	533	
380-70278-12	FB HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	533	
MBL 380-65224/21-A	Method Blank	Total/NA	Water	533	
LCS 380-65224/23-A	Lab Control Sample	Total/NA	Water	533	
LCSD 380-65224/24-A	Lab Control Sample Dup	Total/NA	Water	533	
MRL 380-65224/22-A	Lab Control Sample	Total/NA	Water	533	
380-70303-E-1-B MS	Matrix Spike	Total/NA	Water	533	
380-70303-F-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 65351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-70278-1	MOANALUA WELLS	Total/NA	Drinking Water	533	64918
380-70278-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	533	64918
380-70278-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	533	64918
380-70278-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	533	64918
380-70278-9	FB MOANALUA WELLS	Total/NA	Water	533	64918
MBL 380-64918/21-A	Method Blank	Total/NA	Water	533	64918
LCS 380-64918/23-A	Lab Control Sample	Total/NA	Water	533	64918
LCSD 380-64918/24-A	Lab Control Sample Dup	Total/NA	Water	533	64918
MRL 380-64918/22-A	Lab Control Sample	Total/NA	Water	533	64918
380-71991-B-1-A MS	Matrix Spike	Total/NA	Water	533	64918
380-71991-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	64918

Analysis Batch: 65375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-70278-10	FB AIEA GULCH WELLS PUMP 2	Total/NA	Water	533	65224
380-70278-11	FB AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	533	65224

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QC Association Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

LCMS (Continued)

Analysis Batch: 65375 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-70278-12	FB HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	533	65224
MBL 380-65224/21-A	Method Blank	Total/NA	Water	533	65224
LCS 380-65224/23-A	Lab Control Sample	Total/NA	Water	533	65224
LCSD 380-65224/24-A	Lab Control Sample Dup	Total/NA	Water	533	65224
MRL 380-65224/22-A	Lab Control Sample	Total/NA	Water	533	65224
380-70303-E-1-B MS	Matrix Spike	Total/NA	Water	533	65224
380-70303-F-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	533	65224

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Lab Chronicle

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-70278-1

Date Collected: 11/06/23 09:51

Matrix: Drinking Water

Date Received: 11/08/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			63164	OTM3	EA POM	11/09/23 09:48
Total/NA	Analysis	525.2		1	63499	Q8LA	EA POM	11/12/23 17:21
Total/NA	Prep	533			64918	XTD8	EA POM	11/22/23 05:06
Total/NA	Analysis	533		1	65351	UKDT	EA POM	11/28/23 07:10
Total/NA	Prep	537.1 DW			63818	SL5Q	EA POM	11/15/23 07:42
Total/NA	Analysis	537.1		1	64059	SZ9R	EA POM	11/16/23 18:44

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-70278-2

Date Collected: 11/06/23 10:54

Matrix: Drinking Water

Date Received: 11/08/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			63164	OTM3	EA POM	11/09/23 09:48
Total/NA	Analysis	525.2		1	63499	Q8LA	EA POM	11/12/23 17:41
Total/NA	Prep	533			64918	XTD8	EA POM	11/22/23 05:06
Total/NA	Analysis	533		1	65351	UKDT	EA POM	11/28/23 07:19
Total/NA	Prep	537.1 DW			63818	SL5Q	EA POM	11/15/23 07:42
Total/NA	Analysis	537.1		1	64059	SZ9R	EA POM	11/16/23 18:06

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-70278-3

Date Collected: 11/06/23 11:22

Matrix: Drinking Water

Date Received: 11/08/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			63164	OTM3	EA POM	11/09/23 09:48
Total/NA	Analysis	525.2		1	63499	Q8LA	EA POM	11/12/23 18:01
Total/NA	Prep	533			64918	XTD8	EA POM	11/22/23 05:06
Total/NA	Analysis	533		1	65351	UKDT	EA POM	11/28/23 07:28
Total/NA	Prep	537.1 DW			63818	SL5Q	EA POM	11/15/23 07:42
Total/NA	Analysis	537.1		1	64059	SZ9R	EA POM	11/16/23 18:54

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-70278-4

Date Collected: 11/06/23 10:27

Matrix: Drinking Water

Date Received: 11/08/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			63164	OTM3	EA POM	11/09/23 09:48
Total/NA	Analysis	525.2		1	63499	Q8LA	EA POM	11/12/23 18:21
Total/NA	Prep	533			64918	XTD8	EA POM	11/22/23 05:06
Total/NA	Analysis	533		1	65351	UKDT	EA POM	11/28/23 07:38
Total/NA	Prep	537.1 DW			63818	SL5Q	EA POM	11/15/23 07:42
Total/NA	Analysis	537.1		1	64059	SZ9R	EA POM	11/16/23 19:03

Lab Chronicle

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Client Sample ID: FB MOANALUA WELLS

Lab Sample ID: 380-70278-9

Date Collected: 11/06/23 09:51

Matrix: Water

Date Received: 11/08/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			64918	XTD8	EA POM	11/22/23 05:06
Total/NA	Analysis	533		1	65351	UKDT	EA POM	11/28/23 07:47
Total/NA	Prep	537.1 DW			63818	SL5Q	EA POM	11/15/23 07:42
Total/NA	Analysis	537.1		1	64059	SZ9R	EA POM	11/16/23 19:13

Client Sample ID: FB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-70278-10

Date Collected: 11/06/23 10:54

Matrix: Water

Date Received: 11/08/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			65224	T2EP	EA POM	11/26/23 09:53
Total/NA	Analysis	533		1	65375	UKDT	EA POM	11/28/23 10:11
Total/NA	Prep	537.1 DW			63818	SL5Q	EA POM	11/15/23 07:42
Total/NA	Analysis	537.1		1	64059	SZ9R	EA POM	11/16/23 19:22

Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-70278-11

Date Collected: 11/06/23 11:22

Matrix: Water

Date Received: 11/08/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			65224	T2EP	EA POM	11/26/23 09:53
Total/NA	Analysis	533		1	65375	UKDT	EA POM	11/28/23 10:20
Total/NA	Prep	537.1 DW			63818	SL5Q	EA POM	11/15/23 07:42
Total/NA	Analysis	537.1		1	64059	SZ9R	EA POM	11/16/23 19:32

Client Sample ID: FB HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-70278-12

Date Collected: 11/06/23 10:27

Matrix: Water

Date Received: 11/08/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			65224	T2EP	EA POM	11/26/23 09:53
Total/NA	Analysis	533		1	65375	UKDT	EA POM	11/28/23 10:29
Total/NA	Prep	537.1 DW			63818	SL5Q	EA POM	11/15/23 07:42
Total/NA	Analysis	537.1		1	64059	SZ9R	EA POM	11/16/23 19:42

Laboratory References:

EA POM = Eurofins Eaton Analytical Pomona, 941 Corporate Center Drive, Pomona, CA 91768-2642, TEL (626)386-1100

Accreditation/Certification Summary

Client: City & County of Honolulu
 Project/Site: RED-HILL

Job ID: 380-70278-1

Laboratory: Eurofins Eaton Analytical Pomona

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	01-31-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	Drinking Water	1-Methylnaphthalene
525.2	525.2	Drinking Water	2,4'-DDD
525.2	525.2	Drinking Water	2,4'-DDE
525.2	525.2	Drinking Water	2,4'-DDT
525.2	525.2	Drinking Water	2,4-Dinitrotoluene
525.2	525.2	Drinking Water	2,6-Dinitrotoluene
525.2	525.2	Drinking Water	2-Methylnaphthalene
525.2	525.2	Drinking Water	4,4'-DDD
525.2	525.2	Drinking Water	4,4'-DDE
525.2	525.2	Drinking Water	4,4'-DDT
525.2	525.2	Drinking Water	Acenaphthene
525.2	525.2	Drinking Water	Acenaphthylene
525.2	525.2	Drinking Water	Acetochlor
525.2	525.2	Drinking Water	alpha-BHC
525.2	525.2	Drinking Water	alpha-Chlordane
525.2	525.2	Drinking Water	Anthracene
525.2	525.2	Drinking Water	Benz(a)anthracene
525.2	525.2	Drinking Water	Benzo[b]fluoranthene
525.2	525.2	Drinking Water	Benzo[g,h,i]perylene
525.2	525.2	Drinking Water	Benzo[k]fluoranthene
525.2	525.2	Drinking Water	beta-BHC
525.2	525.2	Drinking Water	Bromacil
525.2	525.2	Drinking Water	Butylbenzylphthalate
525.2	525.2	Drinking Water	Chlorobenzilate
525.2	525.2	Drinking Water	Chloroneb
525.2	525.2	Drinking Water	Chlorothalonil (Draconil, Bravo)
525.2	525.2	Drinking Water	Chlorpyrifos
525.2	525.2	Drinking Water	Chrysene
525.2	525.2	Drinking Water	delta-BHC
525.2	525.2	Drinking Water	Dibenz(a,h)anthracene
525.2	525.2	Drinking Water	Diclorvos (DDVP)
525.2	525.2	Drinking Water	Diethylphthalate
525.2	525.2	Drinking Water	Dimethylphthalate
525.2	525.2	Drinking Water	Di-n-butyl phthalate
525.2	525.2	Drinking Water	Di-n-octyl phthalate
525.2	525.2	Drinking Water	Endosulfan I (Alpha)
525.2	525.2	Drinking Water	Endosulfan II (Beta)
525.2	525.2	Drinking Water	Endosulfan sulfate
525.2	525.2	Drinking Water	Endrin aldehyde
525.2	525.2	Drinking Water	EPTC
525.2	525.2	Drinking Water	Fluoranthene
525.2	525.2	Drinking Water	Fluorene
525.2	525.2	Drinking Water	gamma-Chlordane
525.2	525.2	Drinking Water	Indeno[1,2,3-cd]pyrene
525.2	525.2	Drinking Water	Isophorone

Accreditation/Certification Summary

Client: City & County of Honolulu
 Project/Site: RED-HILL

Job ID: 380-70278-1

Laboratory: Eurofins Eaton Analytical Pomona (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
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The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	Drinking Water	Malathion
525.2	525.2	Drinking Water	Molinate
525.2	525.2	Drinking Water	Naphthalene
525.2	525.2	Drinking Water	Parathion
525.2	525.2	Drinking Water	Pendimethalin (Penoxaline)
525.2	525.2	Drinking Water	Phenanthrene
525.2	525.2	Drinking Water	Pyrene
525.2	525.2	Drinking Water	Terbacil
525.2	525.2	Drinking Water	Terbutylazine
525.2	525.2	Drinking Water	Thiobencarb
525.2	525.2	Drinking Water	Total Permethrin (mixed isomers)
525.2	525.2	Drinking Water	trans-Nonachlor
525.2	525.2	Drinking Water	Trifluralin
533	533	Drinking Water	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)
533	533	Drinking Water	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)
533	533	Drinking Water	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)
533	533	Drinking Water	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)
533	533	Drinking Water	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
533	533	Drinking Water	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)
533	533	Drinking Water	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)
533	533	Drinking Water	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)
533	533	Drinking Water	Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)
533	533	Drinking Water	Perfluoro-3-methoxypropanoic acid (PFMPA)
533	533	Drinking Water	Perfluoro-4-methoxybutanoic acid (PFMBA)
533	533	Drinking Water	Perfluorobutanoic acid (PFBA)
533	533	Drinking Water	Perfluoroheptanesulfonic acid (PFHpS)
533	533	Drinking Water	Perfluoropentanesulfonic acid (PFPeS)
533	533	Drinking Water	Perfluoropentanoic acid (PFPeA)
533	533	Water	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)
533	533	Water	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)
533	533	Water	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)
533	533	Water	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)
533	533	Water	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
533	533	Water	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)

Accreditation/Certification Summary

Client: City & County of Honolulu
 Project/Site: RED-HILL

Job ID: 380-70278-1

Laboratory: Eurofins Eaton Analytical Pomona (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
533	533	Water	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)
533	533	Water	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)
533	533	Water	Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)
533	533	Water	Perfluoro-3-methoxypropanoic acid (PFMPA)
533	533	Water	Perfluoro-4-methoxybutanoic acid (PFMBA)
533	533	Water	Perfluorobutanoic acid (PFBA)
533	533	Water	Perfluoroheptanesulfonic acid (PFHpS)
533	533	Water	Perfluoropentanesulfonic acid (PFPeS)
533	533	Water	Perfluoropentanoic acid (PFPeA)
537.1	537.1 DW	Drinking Water	11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)
537.1	537.1 DW	Drinking Water	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
537.1	537.1 DW	Drinking Water	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)
537.1	537.1 DW	Drinking Water	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)
537.1	537.1 DW	Water	11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)
537.1	537.1 DW	Water	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
537.1	537.1 DW	Water	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)
537.1	537.1 DW	Water	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)

Method Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Method	Method Description	Protocol	Laboratory
525.2	Semivolatile Organic Compounds (GC/MS)	EPA	EA POM
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA POM
537.1	Perfluorinated Alkyl Acids (LC/MS)	EPA	EA POM
525.2	Extraction of Semivolatile Compounds	EPA	EA POM
533	Extraction of Perfluorinated and Polyfluorinated Alkyl Acids	EPA	EA POM
537.1 DW	Extraction of Perfluorinated Alkyl Acids	EPA	EA POM

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EA POM = Eurofins Eaton Analytical Pomona, 941 Corporate Center Drive, Pomona, CA 91768-2642, TEL (626)386-1100

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Sample Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-70278-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-70278-1	MOANALUA WELLS	Drinking Water	11/06/23 09:51	11/08/23 10:30	HI0000331
380-70278-2	AIEA GULCH WELLS PUMP 2	Drinking Water	11/06/23 10:54	11/08/23 10:30	HI0000331
380-70278-3	AIEA WELLS PUMPS 1&2 (260) P2	Drinking Water	11/06/23 11:22	11/08/23 10:30	HI0000331
380-70278-4	HALAWA WELLS UNITS 1 & 2 P1	Drinking Water	11/06/23 10:27	11/08/23 10:30	HI0000331
380-70278-9	FB MOANALUA WELLS	Water	11/06/23 09:51	11/08/23 10:30	HI0000331
380-70278-10	FB AIEA GULCH WELLS PUMP 2	Water	11/06/23 10:54	11/08/23 10:30	HI0000331
380-70278-11	FB AIEA WELLS PUMPS 1&2 (260) P2	Water	11/06/23 11:22	11/08/23 10:30	HI0000331
380-70278-12	FB HALAWA WELLS UNITS 1 & 2 P1	Water	11/06/23 10:27	11/08/23 10:30	HI0000331

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Monrovia, CA (Suite 100)
 750 Royal Oaks Drive Suite 100
 Monrovia CA 91016
 Phone (626) 386-1100

Chain of Custody Record

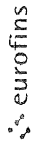
eurofins | *Eurofins*

Client Information Client Contact: Dr Ron Fenstermacher Phone: 808-748-5840 City & County of Honolulu		Lab PIV: Arada Rachelle E-Mail: Rachelle.Arada@eurofins.com Carmer Tracking No(s): 380-27941-2757.2 State of Origin:	
Address: 630 South Beretania Street, Chemistry Lab City: Honolulu State: HI, Zip: 96843 Phone: 808-748-5091 (tel) Email: rfenstermacher@hbws.org		PWSID Due Date Requested: TAT Requested (days): Compliance Project: <input type="checkbox"/> No PO #: C20525101 exp 05312023 WOC #: Project #: 38001111 SSOV#:	
Address: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill Site:		Analysis Requested Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> SUBCONTRACT - 626 PAH Physis LL (EAL) + TICs SUBCONTRACT - 8915 Diesel LL (EAL) and Motor Oil SUBCONTRACT - (MOD) 525plus PLUS TICs SUBCONTRACT - 8015 Gas (Purgable) LL (EAL) SUBCONTRACT - 6015 Gas (Purgable) LL (EAL) SUBCONTRACT - 537 1, DW, PREC - 537 1 Full List SUBCONTRACT - 533 - All Analytes	
Sample Identification MOANALUA WELLS AIEA GULCH WELLS PUMP2 AIEA WELLS PUMPS 1&2 (260)P2 HALAWA WELLS UNITS 1&2 P1		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - pH 4.5 L - EDA Other:	
Sample Date 6-Nov-2023 6-Nov-2023 6-Nov-2023 6-Nov-2023		Sample Time 0951 1054 1122 1027	
Sample Type (C=comp, G=grab) G G G G		Matrix (W=water, S=solid, O=wastewat, AT=tissue, AA=air) Water Water Water Water	
TB MOANALUA WELLS TB AIEA GULCH WELLS PUMP2 TB AIEA WELLS PUMPS 1&2 (260) TB HALAWA WELLS UNITS 1&2		R R R R	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Special Instructions/Note: 1 OUT OF 4 APPROVED BROKEN - 11/08/2023 1 OUT OF 4 APPROVED BROKEN - 11/08/2023	
Deliverable Requested 1, II, III, IV, Other (specify)		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	
Empty Kit Relinquished by		Method of Shipment: FED EX 3 7740 2489 2928 Date/Time: 11/08/2023 10:30 Company: FEAP	
Relinquished by BAILEY		Received by G. PEITNER Date/Time: 11/08/2023 10:30 Company: FEAP	
Relinquished by		Received by Date/Time:	
Custody Seals Intact. <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks: 15A 11.7-20.1-1.6 21.3 21.2 21.0 1-2 0° FROZEN Ver 01/16/2019	



Monrovia, CA (Suite 100)
 750 Royal Oaks Drive Suite 100
 Monrovia, CA 91016
 Phone (626) 386-1100

Chain of Custody Record



Client Information		Lab PM Arada, Rachelle	Carrier Tracking No(s)	COC No 380-27941-2757_2	
Client Contact: Dr Ron Fenstermacher		E-Mail Rachelle.Arada@et.leuonius.com	State of Origin	Page Page 2 of 2	
Company City & County of Honolulu		PWSID	Job #		
Address 630 South Beretania Street, Chemistry Lab Honolulu		Due Date Requested	Preservation Codes		
City Honolulu		TAT Requested (days)	A - HCL N - None B - NaOH O - AsNaO2 C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:		
State Zip HI, 96843		Compliance Project: Δ No	M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trozma Z - other (specify)		
Phone 808-748-5091 (tel)		PO # C20525101 exp 05312023	Total Number of Containers		
Email Rfenstermacher@hbws.org		WO #	X		
Project Name RED-HILL/HBWS sites Event Desc. RUSH Weekly Red Hill		Project # 38001111	Special Instructions/Note:		
Site		SSOW#	X		
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=water/solid, T=tissue, A=air)
MOANALUA WELLS		6-Nov-2023	0951	G	Water
AIEA GULCH WELLS PUMP2		6-Nov-2023	1054	G	Water
AIEA WELLS PUMPS 1&2 (260) P2		6-Nov-2023	1122	G	Water
HALAWA WELLS UNITS 1&2 P1		6-Nov-2023	1027	G	Water
FB MOANALUA WELLS		6-Nov-2023	0951		Water
FB AIEA GULCH WELLS PUMP2		6-Nov-2023	1054		Water
FB AIEA WELLS PUMPS 1&2 (260)		6-Nov-2023	1122		Water
FB HALAWA WELLS UNITS 1&2		6-Nov-2023	1027		Water
Possible Hazard Identification		<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological <input type="checkbox"/> Deliverable Requested I, II, III, IV, Other (specify)			
Empty Kit Relinquished by		Date	Time		
Relinquished by BAILEY		07 NOV 2023	1400	Company HBWS	
Relinquished by		Date/Time	Date/Time	Company	
Relinquished by		Date/Time	Date/Time	Company	
Custody Seals Intact ^ Yes Δ No		Custody Seal No			

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Special Instructions/QC Requirements
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months
 ① 7740 2489 2906
 ② 7740 2489 2880 2917 GR
 ③ 7740 2489 2928
 Method of Shipment: FED EX
 Date/Time: 11/08/2023 10:30
 Received by: G RETNER
 Date/Time: 11/08/2023 10:30
 Company: GRETNER
 Date/Time: _____
 Company: _____
 Date/Time: _____
 Company: _____
 Cooler Temperature(s) °C and Other Remarks
 (75)A 1017-0.1-16/2 130 0.1-12/3 21 0.1-20
 REC PROZEN
 Ver 01/16/2019

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-70278-1

Login Number: 70278
List Number: 1
Creator: Elyas, Matthew

List Source: Eurofins Eaton Analytical Pomona

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.	False	Refer to NCM for affected items.
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	