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ANALYTICAL REPORT

PREPARED FOR

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City & County of Honolulu
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Generated 2/6/2024 10:40:02 AM

JOB DESCRIPTION

RED-HILL
525.2, 537.1, 533
RUSH Weekly Red Hill

JOB NUMBER

380-80024-1

Eurofins Eaton Analytical Pomona

Job Notes

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

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

Compliance Statement

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

Authorization



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Definitions/Glossary

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
^3+	Reporting Limit Check Standard is outside acceptance limits, high 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.

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.
*5+	Isotope dilution analyte is outside acceptance limits, high 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.
♠	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)

Definitions/Glossary

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TNTC	Too Numerous To Count

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

Case Narrative

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

Job ID: 380-80024-1

Job ID: 380-80024-1

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Job Narrative 380-80024-1

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 1/24/2024 10:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

GC/MS Semi VOA

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

PFAS

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. HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065) (380-80024-12)

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: 380-80024-1
SDG: 525.2, 537.1, 533

Client Sample ID: MOANALUA WELLS (331-223-TP202)
PWSID Number: HI0000331

Lab Sample ID: 380-80024-1

No Detections.

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
PWSID Number: HI0000331

Lab Sample ID: 380-80024-2

No Detections.

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)
PWSID Number: HI0000331

Lab Sample ID: 380-80024-3

No Detections.

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)
PWSID Number: HI0000331

Lab Sample ID: 380-80024-4

No Detections.

Client Sample ID: MOANALUA WELLS (331-223-TP202)
PWSID Number: HI0000331

Lab Sample ID: 380-80024-9

No Detections.

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
PWSID Number: HI0000331

Lab Sample ID: 380-80024-10

No Detections.

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)
PWSID Number: HI0000331

Lab Sample ID: 380-80024-11

No Detections.

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)
PWSID Number: HI0000331

Lab Sample ID: 380-80024-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	2.6		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	2.1		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.5		2.0	ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	2.0		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	2.4		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.3		2.0	ng/L	1		537.1	Total/NA
Perfluorooctanoic acid (PFOA)	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 HALAWA WELLS UNIT 1&2 P1

Lab Sample ID: 380-80024-16

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: 380-80024-1
SDG: 525.2, 537.1, 533

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-80024-1

Date Collected: 01/22/24 09:46

Matrix: Drinking Water

Date Received: 01/24/24 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	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
2,4'-DDD	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
2,4'-DDE	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
2,4'-DDT	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
2,4-Dinitrotoluene	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
2,6-Dinitrotoluene	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
2-Methylnaphthalene	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
4,4'-DDD	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
4,4'-DDE	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
4,4'-DDT	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
Acenaphthene	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
Acenaphthylene	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
Acetochlor	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
Alachlor	<0.049	^3+	0.049	ug/L		01/27/24 16:17	01/29/24 10:14	1
alpha-BHC	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
alpha-Chlordane	<0.049	^3+	0.049	ug/L		01/27/24 16:17	01/29/24 10:14	1
Anthracene	<0.020		0.020	ug/L		01/27/24 16:17	01/29/24 10:14	1
Atrazine	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:14	1
Benz(a)anthracene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:14	1
Benzo[a]pyrene	<0.020		0.020	ug/L		01/27/24 16:17	01/29/24 10:14	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		01/27/24 16:17	01/29/24 10:14	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:14	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		01/27/24 16:17	01/29/24 10:14	1
beta-BHC	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
Bis(2-ethylhexyl) phthalate	<0.59	^3+	0.59	ug/L		01/27/24 16:17	01/29/24 10:14	1
Bromacil	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
Butachlor	<0.049	^3+	0.049	ug/L		01/27/24 16:17	01/29/24 10:14	1
Butylbenzylphthalate	<0.49		0.49	ug/L		01/27/24 16:17	01/29/24 10:14	1
Chlorobenzilate	<0.098	^3+ *+	0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
Chloroneb	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
Chlorothalonil (Draconil, Bravo)	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
Chlorpyrifos	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:14	1
Chrysene	<0.020		0.020	ug/L		01/27/24 16:17	01/29/24 10:14	1
delta-BHC	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
Di(2-ethylhexyl)adipate	<0.59		0.59	ug/L		01/27/24 16:17	01/29/24 10:14	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:14	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:14	1
Dieldrin	<0.20		0.20	ug/L		01/27/24 16:17	01/29/24 10:14	1
Diethylphthalate	<0.49		0.49	ug/L		01/27/24 16:17	01/29/24 10:14	1
Dimethylphthalate	<0.49		0.49	ug/L		01/27/24 16:17	01/29/24 10:14	1
Di-n-butyl phthalate	<0.98		0.98	ug/L		01/27/24 16:17	01/29/24 10:14	1
Di-n-octyl phthalate	<0.098	^+	0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
Endosulfan I (Alpha)	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
Endosulfan II (Beta)	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
Endosulfan sulfate	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
Endrin	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
Endrin aldehyde	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
EPTC	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
Fluoranthene	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1

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Client Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-80024-1

Date Collected: 01/22/24 09:46

Matrix: Drinking Water

Date Received: 01/24/24 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	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:14	1
gamma-Chlordane	<0.049	^3+	0.049	ug/L		01/27/24 16:17	01/29/24 10:14	1
Heptachlor	<0.039		0.039	ug/L		01/27/24 16:17	01/29/24 10:14	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:14	1
Hexachlorobenzene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:14	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:14	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:14	1
Isophorone	<0.49		0.49	ug/L		01/27/24 16:17	01/29/24 10:14	1
Lindane	<0.039		0.039	ug/L		01/27/24 16:17	01/29/24 10:14	1
Malathion	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
Methoxychlor	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
Metolachlor	<0.049	^3+	0.049	ug/L		01/27/24 16:17	01/29/24 10:14	1
Molinate	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
Naphthalene	<0.29		0.29	ug/L		01/27/24 16:17	01/29/24 10:14	1
Parathion	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
Pendimethalin (Penoxaline)	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
Phenanthrene	<0.039		0.039	ug/L		01/27/24 16:17	01/29/24 10:14	1
Propachlor	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:14	1
Pyrene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:14	1
Simazine	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:14	1
Terbacil	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
Terbutylazine	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1
Thiobencarb	<0.20		0.20	ug/L		01/27/24 16:17	01/29/24 10:14	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		01/27/24 16:17	01/29/24 10:14	1
trans-Nonachlor	<0.049	^3+	0.049	ug/L		01/27/24 16:17	01/29/24 10:14	1
Trifluralin	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:14	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	0.60	T J	ug/L		15.31	N/A	01/27/24 16:17	01/29/24 10:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	85		70 - 130	01/27/24 16:17	01/29/24 10:14	1
Perylene-d12	98		70 - 130	01/27/24 16:17	01/29/24 10:14	1
Triphenylphosphate	99		70 - 130	01/27/24 16:17	01/29/24 10:14	1

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)

Lab Sample ID: 380-80024-2

Date Collected: 01/22/24 10:49

Matrix: Drinking Water

Date Received: 01/24/24 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	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
2,4'-DDD	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
2,4'-DDE	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
2,4'-DDT	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
2,4-Dinitrotoluene	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
2,6-Dinitrotoluene	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
2-Methylnaphthalene	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
4,4'-DDD	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-80024-2

Date Collected: 01/22/24 10:49

Matrix: Drinking Water

Date Received: 01/24/24 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
4,4'-DDE	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
4,4'-DDT	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
Acenaphthene	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
Acenaphthylene	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
Acetochlor	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
Alachlor	<0.049	^3+	0.049	ug/L		01/27/24 16:17	01/29/24 10:34	1
alpha-BHC	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
alpha-Chlordane	<0.049	^3+	0.049	ug/L		01/27/24 16:17	01/29/24 10:34	1
Anthracene	<0.019		0.019	ug/L		01/27/24 16:17	01/29/24 10:34	1
Atrazine	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:34	1
Benz(a)anthracene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:34	1
Benzo[a]pyrene	<0.019		0.019	ug/L		01/27/24 16:17	01/29/24 10:34	1
Benzo[b]fluoranthene	<0.019		0.019	ug/L		01/27/24 16:17	01/29/24 10:34	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:34	1
Benzo[k]fluoranthene	<0.019		0.019	ug/L		01/27/24 16:17	01/29/24 10:34	1
beta-BHC	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
Bis(2-ethylhexyl) phthalate	<0.58	^3+	0.58	ug/L		01/27/24 16:17	01/29/24 10:34	1
Bromacil	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
Butachlor	<0.049	^3+	0.049	ug/L		01/27/24 16:17	01/29/24 10:34	1
Butylbenzylphthalate	<0.49		0.49	ug/L		01/27/24 16:17	01/29/24 10:34	1
Chlorobenzilate	<0.097	^3+ *+	0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
Chloroneb	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
Chlorothalonil (Draconil, Bravo)	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
Chlorpyrifos	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:34	1
Chrysene	<0.019		0.019	ug/L		01/27/24 16:17	01/29/24 10:34	1
delta-BHC	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
Di(2-ethylhexyl)adipate	<0.58		0.58	ug/L		01/27/24 16:17	01/29/24 10:34	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:34	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:34	1
Dieldrin	<0.19		0.19	ug/L		01/27/24 16:17	01/29/24 10:34	1
Diethylphthalate	<0.49		0.49	ug/L		01/27/24 16:17	01/29/24 10:34	1
Dimethylphthalate	<0.49		0.49	ug/L		01/27/24 16:17	01/29/24 10:34	1
Di-n-butyl phthalate	<0.97		0.97	ug/L		01/27/24 16:17	01/29/24 10:34	1
Di-n-octyl phthalate	<0.097	^+	0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
Endosulfan I (Alpha)	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
Endosulfan II (Beta)	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
Endosulfan sulfate	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
Endrin	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
Endrin aldehyde	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
EPTC	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
Fluoranthene	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
Fluorene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:34	1
gamma-Chlordane	<0.049	^3+	0.049	ug/L		01/27/24 16:17	01/29/24 10:34	1
Heptachlor	<0.039		0.039	ug/L		01/27/24 16:17	01/29/24 10:34	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:34	1
Hexachlorobenzene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:34	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:34	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:34	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-80024-2

Date Collected: 01/22/24 10:49

Matrix: Drinking Water

Date Received: 01/24/24 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
Isophorone	<0.49		0.49	ug/L		01/27/24 16:17	01/29/24 10:34	1
Lindane	<0.039		0.039	ug/L		01/27/24 16:17	01/29/24 10:34	1
Malathion	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
Methoxychlor	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
Metolachlor	<0.049	^3+	0.049	ug/L		01/27/24 16:17	01/29/24 10:34	1
Molinate	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
Naphthalene	<0.29		0.29	ug/L		01/27/24 16:17	01/29/24 10:34	1
Parathion	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
Pendimethalin (Penoxaline)	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
Phenanthrene	<0.039		0.039	ug/L		01/27/24 16:17	01/29/24 10:34	1
Propachlor	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:34	1
Pyrene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:34	1
Simazine	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:34	1
Terbacil	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
Terbutylazine	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1
Thiobencarb	<0.19		0.19	ug/L		01/27/24 16:17	01/29/24 10:34	1
Total Permethrin (mixed isomers)	<0.19		0.19	ug/L		01/27/24 16:17	01/29/24 10:34	1
trans-Nonachlor	<0.049	^3+	0.049	ug/L		01/27/24 16:17	01/29/24 10:34	1
Trifluralin	<0.097		0.097	ug/L		01/27/24 16:17	01/29/24 10:34	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	01/27/24 16:17	01/29/24 10:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	88		70 - 130	01/27/24 16:17	01/29/24 10:34	1
Perylene-d12	102		70 - 130	01/27/24 16:17	01/29/24 10:34	1
Triphenylphosphate	94		70 - 130	01/27/24 16:17	01/29/24 10:34	1

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2
(331-203-TP400)**

Lab Sample ID: 380-80024-3

Date Collected: 01/22/24 11:23

Matrix: Drinking Water

Date Received: 01/24/24 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	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
2,4'-DDD	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
2,4'-DDE	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
2,4'-DDT	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
2,4-Dinitrotoluene	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
2,6-Dinitrotoluene	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
2-Methylnaphthalene	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
4,4'-DDD	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
4,4'-DDE	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
4,4'-DDT	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
Acenaphthene	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
Acenaphthylene	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
Acetochlor	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
Alachlor	<0.049	^3+	0.049	ug/L		01/27/24 16:17	01/29/24 09:34	1

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Client Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2
(331-203-TP400)**

Lab Sample ID: 380-80024-3

Date Collected: 01/22/24 11:23

Matrix: Drinking Water

Date Received: 01/24/24 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
alpha-BHC	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
alpha-Chlordane	<0.049	^3+	0.049	ug/L		01/27/24 16:17	01/29/24 09:34	1
Anthracene	<0.020		0.020	ug/L		01/27/24 16:17	01/29/24 09:34	1
Atrazine	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 09:34	1
Benz(a)anthracene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 09:34	1
Benzo[a]pyrene	<0.020		0.020	ug/L		01/27/24 16:17	01/29/24 09:34	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		01/27/24 16:17	01/29/24 09:34	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 09:34	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		01/27/24 16:17	01/29/24 09:34	1
beta-BHC	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
Bis(2-ethylhexyl) phthalate	<0.59	^3+	0.59	ug/L		01/27/24 16:17	01/29/24 09:34	1
Bromacil	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
Butachlor	<0.049	^3+	0.049	ug/L		01/27/24 16:17	01/29/24 09:34	1
Butylbenzylphthalate	<0.49		0.49	ug/L		01/27/24 16:17	01/29/24 09:34	1
Chlorobenzilate	<0.098	*+ ^3+	0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
Chloroneb	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
Chlorothalonil (Draconil, Bravo)	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
Chlorpyrifos	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 09:34	1
Chrysene	<0.020		0.020	ug/L		01/27/24 16:17	01/29/24 09:34	1
delta-BHC	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
Di(2-ethylhexyl)adipate	<0.59		0.59	ug/L		01/27/24 16:17	01/29/24 09:34	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 09:34	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 09:34	1
Dieldrin	<0.20		0.20	ug/L		01/27/24 16:17	01/29/24 09:34	1
Diethylphthalate	<0.49		0.49	ug/L		01/27/24 16:17	01/29/24 09:34	1
Dimethylphthalate	<0.49		0.49	ug/L		01/27/24 16:17	01/29/24 09:34	1
Di-n-butyl phthalate	<0.98		0.98	ug/L		01/27/24 16:17	01/29/24 09:34	1
Di-n-octyl phthalate	<0.098	^+	0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
Endosulfan I (Alpha)	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
Endosulfan II (Beta)	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
Endosulfan sulfate	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
Endrin	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
Endrin aldehyde	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
EPTC	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
Fluoranthene	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
Fluorene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 09:34	1
gamma-Chlordane	<0.049	^3+	0.049	ug/L		01/27/24 16:17	01/29/24 09:34	1
Heptachlor	<0.039		0.039	ug/L		01/27/24 16:17	01/29/24 09:34	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 09:34	1
Hexachlorobenzene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 09:34	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 09:34	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 09:34	1
Isophorone	<0.49		0.49	ug/L		01/27/24 16:17	01/29/24 09:34	1
Lindane	<0.039		0.039	ug/L		01/27/24 16:17	01/29/24 09:34	1
Malathion	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
Methoxychlor	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
Metolachlor	<0.049	^3+	0.049	ug/L		01/27/24 16:17	01/29/24 09:34	1
Molinate	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2
(331-203-TP400)**

Lab Sample ID: 380-80024-3

Date Collected: 01/22/24 11:23

Matrix: Drinking Water

Date Received: 01/24/24 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
Naphthalene	<0.29		0.29	ug/L		01/27/24 16:17	01/29/24 09:34	1
Parathion	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
Pendimethalin (Penoxaline)	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
Phenanthrene	<0.039		0.039	ug/L		01/27/24 16:17	01/29/24 09:34	1
Propachlor	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 09:34	1
Pyrene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 09:34	1
Simazine	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 09:34	1
Terbacil	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
Terbuthylazine	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1
Thiobencarb	<0.20		0.20	ug/L		01/27/24 16:17	01/29/24 09:34	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		01/27/24 16:17	01/29/24 09:34	1
trans-Nonachlor	<0.049	^3+	0.049	ug/L		01/27/24 16:17	01/29/24 09:34	1
Trifluralin	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 09:34	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	01/27/24 16:17	01/29/24 09:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	85		70 - 130	01/27/24 16:17	01/29/24 09:34	1
Perylene-d12	100		70 - 130	01/27/24 16:17	01/29/24 09:34	1
Triphenylphosphate	98		70 - 130	01/27/24 16:17	01/29/24 09:34	1

**Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
(331-206-TP065)**

Lab Sample ID: 380-80024-4

Date Collected: 01/22/24 10:21

Matrix: Drinking Water

Date Received: 01/24/24 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	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
2,4'-DDD	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
2,4'-DDE	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
2,4'-DDT	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
2,4-Dinitrotoluene	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
2,6-Dinitrotoluene	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
2-Methylnaphthalene	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
4,4'-DDD	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
4,4'-DDE	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
4,4'-DDT	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
Acenaphthene	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
Acenaphthylene	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
Acetochlor	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
Alachlor	<0.049	^3+	0.049	ug/L		01/27/24 16:17	01/29/24 10:54	1
alpha-BHC	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
alpha-Chlordane	<0.049	^3+	0.049	ug/L		01/27/24 16:17	01/29/24 10:54	1
Anthracene	<0.020		0.020	ug/L		01/27/24 16:17	01/29/24 10:54	1
Atrazine	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:54	1
Benz(a)anthracene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:54	1
Benzo[a]pyrene	<0.020		0.020	ug/L		01/27/24 16:17	01/29/24 10:54	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

**Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
(331-206-TP065)**

Lab Sample ID: 380-80024-4

Date Collected: 01/22/24 10:21

Matrix: Drinking Water

Date Received: 01/24/24 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[b]fluoranthene	<0.020		0.020	ug/L		01/27/24 16:17	01/29/24 10:54	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:54	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		01/27/24 16:17	01/29/24 10:54	1
beta-BHC	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
Bis(2-ethylhexyl) phthalate	<0.59	^3+	0.59	ug/L		01/27/24 16:17	01/29/24 10:54	1
Bromacil	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
Butachlor	<0.049	^3+	0.049	ug/L		01/27/24 16:17	01/29/24 10:54	1
Butylbenzylphthalate	<0.49		0.49	ug/L		01/27/24 16:17	01/29/24 10:54	1
Chlorobenzilate	<0.098	^3+ *+	0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
Chloroneb	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
Chlorothalonil (Draconil, Bravo)	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
Chlorpyrifos	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:54	1
Chrysene	<0.020		0.020	ug/L		01/27/24 16:17	01/29/24 10:54	1
delta-BHC	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
Di(2-ethylhexyl)adipate	<0.59		0.59	ug/L		01/27/24 16:17	01/29/24 10:54	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:54	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:54	1
Dieldrin	<0.20		0.20	ug/L		01/27/24 16:17	01/29/24 10:54	1
Diethylphthalate	<0.49		0.49	ug/L		01/27/24 16:17	01/29/24 10:54	1
Dimethylphthalate	<0.49		0.49	ug/L		01/27/24 16:17	01/29/24 10:54	1
Di-n-butyl phthalate	<0.98		0.98	ug/L		01/27/24 16:17	01/29/24 10:54	1
Di-n-octyl phthalate	<0.098	^+	0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
Endosulfan I (Alpha)	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
Endosulfan II (Beta)	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
Endosulfan sulfate	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
Endrin	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
Endrin aldehyde	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
EPTC	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
Fluoranthene	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
Fluorene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:54	1
gamma-Chlordane	<0.049	^3+	0.049	ug/L		01/27/24 16:17	01/29/24 10:54	1
Heptachlor	<0.039		0.039	ug/L		01/27/24 16:17	01/29/24 10:54	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:54	1
Hexachlorobenzene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:54	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:54	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:54	1
Isophorone	<0.49		0.49	ug/L		01/27/24 16:17	01/29/24 10:54	1
Lindane	<0.039		0.039	ug/L		01/27/24 16:17	01/29/24 10:54	1
Malathion	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
Methoxychlor	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
Metolachlor	<0.049	^3+	0.049	ug/L		01/27/24 16:17	01/29/24 10:54	1
Molinate	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
Naphthalene	<0.29		0.29	ug/L		01/27/24 16:17	01/29/24 10:54	1
Parathion	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
Pendimethalin (Penoxaline)	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
Phenanthrene	<0.039		0.039	ug/L		01/27/24 16:17	01/29/24 10:54	1
Propachlor	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:54	1
Pyrene	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:54	1

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Client Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

**Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
(331-206-TP065)**

Lab Sample ID: 380-80024-4

Date Collected: 01/22/24 10:21

Matrix: Drinking Water

Date Received: 01/24/24 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
Simazine	<0.049		0.049	ug/L		01/27/24 16:17	01/29/24 10:54	1
Terbacil	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
Terbutylazine	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1
Thiobencarb	<0.20		0.20	ug/L		01/27/24 16:17	01/29/24 10:54	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		01/27/24 16:17	01/29/24 10:54	1
trans-Nonachlor	<0.049	^3+	0.049	ug/L		01/27/24 16:17	01/29/24 10:54	1
Trifluralin	<0.098		0.098	ug/L		01/27/24 16:17	01/29/24 10:54	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	0.65	T J	ug/L		15.32	N/A	01/27/24 16:17	01/29/24 10:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	90		70 - 130	01/27/24 16:17	01/29/24 10:54	1
Perylene-d12	102		70 - 130	01/27/24 16:17	01/29/24 10:54	1
Triphenylphosphate	104		70 - 130	01/27/24 16:17	01/29/24 10:54	1

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-80024-9

Date Collected: 01/22/24 09:46

Matrix: Drinking Water

Date Received: 01/24/24 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-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1

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Client Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-80024-9

Date Collected: 01/22/24 09:46

Matrix: Drinking Water

Date Received: 01/24/24 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
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:19	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	89		50 - 200			01/25/24 12:41	01/27/24 02:19	1
13C6 PFDA	94		50 - 200			01/25/24 12:41	01/27/24 02:19	1
13C5 PFHxA	99		50 - 200			01/25/24 12:41	01/27/24 02:19	1
13C4 PFHpA	101		50 - 200			01/25/24 12:41	01/27/24 02:19	1
13C8 PFOA	102		50 - 200			01/25/24 12:41	01/27/24 02:19	1
13C9 PFNA	96		50 - 200			01/25/24 12:41	01/27/24 02:19	1
13C7 PFUnA	97		50 - 200			01/25/24 12:41	01/27/24 02:19	1
13C2 PFDoA	99		50 - 200			01/25/24 12:41	01/27/24 02:19	1
13C4 PFBA	102		50 - 200			01/25/24 12:41	01/27/24 02:19	1
13C5 PFPeA	104		50 - 200			01/25/24 12:41	01/27/24 02:19	1
13C3 PFBS	98		50 - 200			01/25/24 12:41	01/27/24 02:19	1
13C3 PFHxS	107		50 - 200			01/25/24 12:41	01/27/24 02:19	1
13C8 PFOS	100		50 - 200			01/25/24 12:41	01/27/24 02:19	1
13C2-4:2-FTS	125		50 - 200			01/25/24 12:41	01/27/24 02:19	1
13C2-6:2-FTS	123		50 - 200			01/25/24 12:41	01/27/24 02:19	1
13C2-8:2-FTS	101		50 - 200			01/25/24 12:41	01/27/24 02:19	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		01/26/24 11:29	01/29/24 16:38	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 16:38	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 16:38	1
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 16:38	1
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 16:38	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 16:38	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 16:38	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 16:38	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 16:38	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 16:38	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 16:38	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 16:38	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 16:38	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 16:38	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 16:38	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 16:38	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 16:38	1

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Client Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-80024-9

Date Collected: 01/22/24 09:46

Matrix: Drinking Water

Date Received: 01/24/24 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
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 16:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	111		70 - 130			01/26/24 11:29	01/29/24 16:38	1
13C2 PFHxA	102		70 - 130			01/26/24 11:29	01/29/24 16:38	1
13C2 PFDA	101		70 - 130			01/26/24 11:29	01/29/24 16:38	1
13C3-GenX	106		70 - 130			01/26/24 11:29	01/29/24 16:38	1

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)

Lab Sample ID: 380-80024-10

Date Collected: 01/22/24 10:49

Matrix: Drinking Water

Date Received: 01/24/24 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-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:30	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:30	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:30	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:30	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:30	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:30	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:30	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:30	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:30	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:30	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:30	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:30	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:30	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:30	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:30	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:30	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:30	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:30	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:30	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:30	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:30	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:30	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:30	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		01/25/24 12:41	01/27/24 02:30	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-80024-10

Date Collected: 01/22/24 10:49

Matrix: Drinking Water

Date Received: 01/24/24 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		01/25/24 12:41	01/27/24 02:30	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	89		50 - 200			01/25/24 12:41	01/27/24 02:30	1
13C6 PFDA	94		50 - 200			01/25/24 12:41	01/27/24 02:30	1
13C5 PFHxA	96		50 - 200			01/25/24 12:41	01/27/24 02:30	1
13C4 PFHpA	103		50 - 200			01/25/24 12:41	01/27/24 02:30	1
13C8 PFOA	102		50 - 200			01/25/24 12:41	01/27/24 02:30	1
13C9 PFNA	96		50 - 200			01/25/24 12:41	01/27/24 02:30	1
13C7 PFUnA	94		50 - 200			01/25/24 12:41	01/27/24 02:30	1
13C2 PFDoA	96		50 - 200			01/25/24 12:41	01/27/24 02:30	1
13C4 PFBA	103		50 - 200			01/25/24 12:41	01/27/24 02:30	1
13C5 PFPeA	105		50 - 200			01/25/24 12:41	01/27/24 02:30	1
13C3 PFBS	102		50 - 200			01/25/24 12:41	01/27/24 02:30	1
13C3 PFHxS	110		50 - 200			01/25/24 12:41	01/27/24 02:30	1
13C8 PFOS	104		50 - 200			01/25/24 12:41	01/27/24 02:30	1
13C2-4:2-FTS	129		50 - 200			01/25/24 12:41	01/27/24 02:30	1
13C2-6:2-FTS	129		50 - 200			01/25/24 12:41	01/27/24 02:30	1
13C2-8:2-FTS	103		50 - 200			01/25/24 12:41	01/27/24 02:30	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		01/26/24 11:29	01/30/24 10:28	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		01/26/24 11:29	01/30/24 10:28	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		01/26/24 11:29	01/30/24 10:28	1
N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		01/26/24 11:29	01/30/24 10:28	1
N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		01/26/24 11:29	01/30/24 10:28	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		01/26/24 11:29	01/30/24 10:28	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		01/26/24 11:29	01/30/24 10:28	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		01/26/24 11:29	01/30/24 10:28	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		01/26/24 11:29	01/30/24 10:28	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		01/26/24 11:29	01/30/24 10:28	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		01/26/24 11:29	01/30/24 10:28	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		01/26/24 11:29	01/30/24 10:28	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		01/26/24 11:29	01/30/24 10:28	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		01/26/24 11:29	01/30/24 10:28	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		01/26/24 11:29	01/30/24 10:28	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		01/26/24 11:29	01/30/24 10:28	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		01/26/24 11:29	01/30/24 10:28	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		01/26/24 11:29	01/30/24 10:28	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	107		70 - 130			01/26/24 11:29	01/30/24 10:28	1
13C2 PFHxA	107		70 - 130			01/26/24 11:29	01/30/24 10:28	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-80024-10

Date Collected: 01/22/24 10:49

Matrix: Drinking Water

Date Received: 01/24/24 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	103		70 - 130	01/26/24 11:29	01/30/24 10:28	1
13C3-GenX	106		70 - 130	01/26/24 11:29	01/30/24 10:28	1

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2
(331-203-TP400)**

Lab Sample ID: 380-80024-11

Date Collected: 01/22/24 11:23

Matrix: Drinking Water

Date Received: 01/24/24 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		01/26/24 12:12	01/29/24 03:02	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:02	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:02	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:02	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:02	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:02	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:02	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:02	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:02	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:02	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:02	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:02	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:02	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:02	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:02	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:02	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:02	1
Nonafuoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:02	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:02	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:02	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:02	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:02	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:02	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:02	1
Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
13C3 HFPO-DA	94		50 - 200	01/26/24 12:12	01/29/24 03:02	1		
13C6 PFDA	96		50 - 200	01/26/24 12:12	01/29/24 03:02	1		

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Client Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2
(331-203-TP400)**

Lab Sample ID: 380-80024-11

Date Collected: 01/22/24 11:23

Matrix: Drinking Water

Date Received: 01/24/24 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
13C5 PFHxA	100		50 - 200	01/26/24 12:12	01/29/24 03:02	1
13C4 PFHpA	111		50 - 200	01/26/24 12:12	01/29/24 03:02	1
13C8 PFOA	104		50 - 200	01/26/24 12:12	01/29/24 03:02	1
13C9 PFNA	95		50 - 200	01/26/24 12:12	01/29/24 03:02	1
13C7 PFUnA	97		50 - 200	01/26/24 12:12	01/29/24 03:02	1
13C2 PFDoA	99		50 - 200	01/26/24 12:12	01/29/24 03:02	1
13C4 PFBA	102		50 - 200	01/26/24 12:12	01/29/24 03:02	1
13C5 PFPeA	113		50 - 200	01/26/24 12:12	01/29/24 03:02	1
13C3 PFBS	105		50 - 200	01/26/24 12:12	01/29/24 03:02	1
13C3 PFHxS	113		50 - 200	01/26/24 12:12	01/29/24 03:02	1
13C8 PFOS	105		50 - 200	01/26/24 12:12	01/29/24 03:02	1
13C2-4:2-FTS	151		50 - 200	01/26/24 12:12	01/29/24 03:02	1
13C2-6:2-FTS	135		50 - 200	01/26/24 12:12	01/29/24 03:02	1
13C2-8:2-FTS	118		50 - 200	01/26/24 12:12	01/29/24 03:02	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		01/30/24 14:27	01/31/24 14:34	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		01/30/24 14:27	01/31/24 14:34	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		01/30/24 14:27	01/31/24 14:34	1
N-methylperfluorooctanesulfonamide acid (NMeFOSAA)	<2.0		2.0	ng/L		01/30/24 14:27	01/31/24 14:34	1
N-ethylperfluorooctanesulfonamide acid (NEtFOSAA)	<2.0		2.0	ng/L		01/30/24 14:27	01/31/24 14:34	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		01/30/24 14:27	01/31/24 14:34	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		01/30/24 14:27	01/31/24 14:34	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		01/30/24 14:27	01/31/24 14:34	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		01/30/24 14:27	01/31/24 14:34	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		01/30/24 14:27	01/31/24 14:34	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		01/30/24 14:27	01/31/24 14:34	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		01/30/24 14:27	01/31/24 14:34	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		01/30/24 14:27	01/31/24 14:34	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		01/30/24 14:27	01/31/24 14:34	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		01/30/24 14:27	01/31/24 14:34	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		01/30/24 14:27	01/31/24 14:34	1
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		01/30/24 14:27	01/31/24 14:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		01/30/24 14:27	01/31/24 14:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	109		70 - 130	01/30/24 14:27	01/31/24 14:34	1
13C2 PFHxA	111		70 - 130	01/30/24 14:27	01/31/24 14:34	1
13C2 PFDA	103		70 - 130	01/30/24 14:27	01/31/24 14:34	1
13C3-GenX	109		70 - 130	01/30/24 14:27	01/31/24 14:34	1

Client Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

**Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
(331-206-TP065)**

Lab Sample ID: 380-80024-12

Date Collected: 01/22/24 10:21

Matrix: Drinking Water

Date Received: 01/24/24 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		01/26/24 12:12	01/29/24 03:12	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:12	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:12	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:12	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:12	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:12	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:12	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:12	1
Perfluorohexanesulfonic acid (PFHxS)	2.6		2.0	ng/L		01/26/24 12:12	01/29/24 03:12	1
Perfluorohexanoic acid (PFHxA)	2.1		2.0	ng/L		01/26/24 12:12	01/29/24 03:12	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:12	1
Perfluorooctanesulfonic acid (PFOS)	2.5		2.0	ng/L		01/26/24 12:12	01/29/24 03:12	1
Perfluorooctanoic acid (PFOA)	2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:12	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:12	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:12	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:12	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:12	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:12	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:12	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:12	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:12	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:12	1
Perfluoropentanoic acid (PFPeA)	2.4		2.0	ng/L		01/26/24 12:12	01/29/24 03:12	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:12	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		01/26/24 12:12	01/29/24 03:12	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	96		50 - 200			01/26/24 12:12	01/29/24 03:12	1
13C6 PFDA	100		50 - 200			01/26/24 12:12	01/29/24 03:12	1
13C5 PFHxA	101		50 - 200			01/26/24 12:12	01/29/24 03:12	1
13C4 PFHpA	110		50 - 200			01/26/24 12:12	01/29/24 03:12	1
13C8 PFOA	107		50 - 200			01/26/24 12:12	01/29/24 03:12	1
13C9 PFNA	95		50 - 200			01/26/24 12:12	01/29/24 03:12	1
13C7 PFUnA	91		50 - 200			01/26/24 12:12	01/29/24 03:12	1
13C2 PFDoA	97		50 - 200			01/26/24 12:12	01/29/24 03:12	1
13C4 PFBA	105		50 - 200			01/26/24 12:12	01/29/24 03:12	1
13C5 PFPeA	116		50 - 200			01/26/24 12:12	01/29/24 03:12	1
13C3 PFBS	104		50 - 200			01/26/24 12:12	01/29/24 03:12	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

**Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
(331-206-TP065)**

Lab Sample ID: 380-80024-12

Date Collected: 01/22/24 10:21

Matrix: Drinking Water

Date Received: 01/24/24 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
13C3 PFHxS	112		50 - 200	01/26/24 12:12	01/29/24 03:12	1
13C8 PFOS	106		50 - 200	01/26/24 12:12	01/29/24 03:12	1
13C2-4:2-FTS	140		50 - 200	01/26/24 12:12	01/29/24 03:12	1
13C2-6:2-FTS	132		50 - 200	01/26/24 12:12	01/29/24 03:12	1
13C2-8:2-FTS	109		50 - 200	01/26/24 12:12	01/29/24 03:12	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		01/26/24 11:29	01/29/24 17:06	1
Perfluorooctanesulfonic acid (PFOS)	2.3		2.0	ng/L		01/26/24 11:29	01/29/24 17:06	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 17:06	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 17:06	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 17:06	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 17:06	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 17:06	1
Perfluorooctanoic acid (PFOA)	2.0		2.0	ng/L		01/26/24 11:29	01/29/24 17:06	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 17:06	1
Perfluorohexanesulfonic acid (PFHxS)	2.6		2.0	ng/L		01/26/24 11:29	01/29/24 17:06	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 17:06	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 17:06	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 17:06	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 17:06	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 17:06	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 17:06	1
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 17:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		01/26/24 11:29	01/29/24 17:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	109		70 - 130	01/26/24 11:29	01/29/24 17:06	1
13C2 PFHxA	103		70 - 130	01/26/24 11:29	01/29/24 17:06	1
13C2 PFDA	103		70 - 130	01/26/24 11:29	01/29/24 17:06	1
13C3-GenX	104		70 - 130	01/26/24 11:29	01/29/24 17:06	1

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

Lab Sample ID: 380-80024-16

Date Collected: 01/22/24 10:21

Matrix: Water

Date Received: 01/24/24 10:30

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: 380-80024-16

Date Collected: 01/22/24 10:21

Matrix: Water

Date Received: 01/24/24 10:30

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		01/29/24 11:10	01/30/24 19:47	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	79		50 - 200	01/29/24 11:10	01/30/24 19:47	1
13C6 PFDA	85		50 - 200	01/29/24 11:10	01/30/24 19:47	1
13C5 PFHxA	87		50 - 200	01/29/24 11:10	01/30/24 19:47	1
13C4 PFHpA	91		50 - 200	01/29/24 11:10	01/30/24 19:47	1
13C8 PFOA	89		50 - 200	01/29/24 11:10	01/30/24 19:47	1
13C9 PFNA	85		50 - 200	01/29/24 11:10	01/30/24 19:47	1
13C7 PFUnA	81		50 - 200	01/29/24 11:10	01/30/24 19:47	1
13C2 PFDoA	90		50 - 200	01/29/24 11:10	01/30/24 19:47	1
13C4 PFBA	95		50 - 200	01/29/24 11:10	01/30/24 19:47	1
13C5 PFPeA	98		50 - 200	01/29/24 11:10	01/30/24 19:47	1
13C3 PFBS	96		50 - 200	01/29/24 11:10	01/30/24 19:47	1
13C3 PFHxS	97		50 - 200	01/29/24 11:10	01/30/24 19:47	1
13C8 PFOS	89		50 - 200	01/29/24 11:10	01/30/24 19:47	1
13C2-4:2-FTS	101		50 - 200	01/29/24 11:10	01/30/24 19:47	1
13C2-6:2-FTS	95		50 - 200	01/29/24 11:10	01/30/24 19:47	1
13C2-8:2-FTS	91		50 - 200	01/29/24 11:10	01/30/24 19:47	1

Client Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: 380-80024-16

Date Collected: 01/22/24 10:21

Matrix: Water

Date Received: 01/24/24 10:30

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		01/31/24 08:02	02/02/24 12:30	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		01/31/24 08:02	02/02/24 12:30	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		01/31/24 08:02	02/02/24 12:30	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		01/31/24 08:02	02/02/24 12:30	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		01/31/24 08:02	02/02/24 12:30	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		01/31/24 08:02	02/02/24 12:30	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		01/31/24 08:02	02/02/24 12:30	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		01/31/24 08:02	02/02/24 12:30	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		01/31/24 08:02	02/02/24 12:30	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		01/31/24 08:02	02/02/24 12:30	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		01/31/24 08:02	02/02/24 12:30	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		01/31/24 08:02	02/02/24 12:30	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		01/31/24 08:02	02/02/24 12:30	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		01/31/24 08:02	02/02/24 12:30	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		01/31/24 08:02	02/02/24 12:30	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		01/31/24 08:02	02/02/24 12:30	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		01/31/24 08:02	02/02/24 12:30	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		01/31/24 08:02	02/02/24 12:30	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	102		70 - 130			01/31/24 08:02	02/02/24 12:30	1
13C2 PFHxA	100		70 - 130			01/31/24 08:02	02/02/24 12:30	1
13C2 PFDA	101		70 - 130			01/31/24 08:02	02/02/24 12:30	1
13C3-GenX	94		70 - 130			01/31/24 08:02	02/02/24 12:30	1

Action Limit Summary

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-80024-1

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	<0.049	^3+	ug/L	2	0.049	525.2	Total/NA
Atrazine	<0.049		ug/L	3	0.049	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	^3+	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	<0.098		ug/L	2	0.098	525.2	Total/NA
Heptachlor	<0.039		ug/L	0.4	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.049		ug/L	0.2	0.049	525.2	Total/NA
Hexachlorobenzene	<0.049		ug/L	1	0.049	525.2	Total/NA
Hexachlorocyclopentadiene	<0.049		ug/L	50	0.049	525.2	Total/NA
Lindane	<0.039		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	<0.098		ug/L	40	0.098	525.2	Total/NA
Simazine	<0.049		ug/L	4	0.049	525.2	Total/NA

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-80024-2

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	<0.049	^3+	ug/L	2	0.049	525.2	Total/NA
Atrazine	<0.049		ug/L	3	0.049	525.2	Total/NA
Benzo[a]pyrene	<0.019		ug/L	0.2	0.019	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.58	^3+	ug/L	6	0.58	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.58		ug/L	400	0.58	525.2	Total/NA
Endrin	<0.097		ug/L	2	0.097	525.2	Total/NA
Heptachlor	<0.039		ug/L	0.4	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.049		ug/L	0.2	0.049	525.2	Total/NA
Hexachlorobenzene	<0.049		ug/L	1	0.049	525.2	Total/NA
Hexachlorocyclopentadiene	<0.049		ug/L	50	0.049	525.2	Total/NA
Lindane	<0.039		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	<0.097		ug/L	40	0.097	525.2	Total/NA
Simazine	<0.049		ug/L	4	0.049	525.2	Total/NA

Action Limit Summary

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2
(331-203-TP400)
PWSID Number: HI0000331

Lab Sample ID: 380-80024-3

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Alachlor	<0.049	³⁺	ug/L	2	0.049	525.2	Total/NA
Atrazine	<0.049		ug/L	3	0.049	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	³⁺	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	<0.098		ug/L	2	0.098	525.2	Total/NA
Heptachlor	<0.039		ug/L	0.4	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.049		ug/L	0.2	0.049	525.2	Total/NA
Hexachlorobenzene	<0.049		ug/L	1	0.049	525.2	Total/NA
Hexachlorocyclopentadiene	<0.049		ug/L	50	0.049	525.2	Total/NA
Lindane	<0.039		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	<0.098		ug/L	40	0.098	525.2	Total/NA
Simazine	<0.049		ug/L	4	0.049	525.2	Total/NA

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
(331-206-TP065)
PWSID Number: HI0000331

Lab Sample ID: 380-80024-4

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Alachlor	<0.049	³⁺	ug/L	2	0.049	525.2	Total/NA
Atrazine	<0.049		ug/L	3	0.049	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	³⁺	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	<0.098		ug/L	2	0.098	525.2	Total/NA
Heptachlor	<0.039		ug/L	0.4	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.049		ug/L	0.2	0.049	525.2	Total/NA
Hexachlorobenzene	<0.049		ug/L	1	0.049	525.2	Total/NA
Hexachlorocyclopentadiene	<0.049		ug/L	50	0.049	525.2	Total/NA
Lindane	<0.039		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	<0.098		ug/L	40	0.098	525.2	Total/NA
Simazine	<0.049		ug/L	4	0.049	525.2	Total/NA

Surrogate Summary

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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)
380-80024-1	MOANALUA WELLS (331-223-T	85	98	99
380-80024-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	88	102	94
380-80024-3	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)	85	100	98
380-80024-3 DU	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)	88	101	101
380-80024-4	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	90	102	104

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)
380-80012-Z-2-A MS	Matrix Spike	90	98	99
LCS 380-73421/23-A	Lab Control Sample	87	100	100
MB 380-73421/21-A	Method Blank	88	100	98
MRL 380-73421/22-A	Lab Control Sample	87	100	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)
380-80024-9	MOANALUA WELLS (331-223-T	111	102	101	106
380-80024-10	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	107	107	103	106
380-80024-11	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)	109	111	103	109
380-80024-12	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	109	103	103	104

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: 380-80024-1
 SDG: 525.2, 537.1, 533

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-79994-U-1-A MS	Matrix Spike	94	98	89	87
380-79994-V-1-A MSD	Matrix Spike Duplicate	104	98	98	100
380-80024-16	FB HALAWA WELLS UNIT 1&2 P1	102	100	101	94
380-80384-E-1-B MS	Matrix Spike	109	100	113	102
380-80384-F-1-B MSD	Matrix Spike Duplicate	103	100	110	100
380-80795-B-2-A LMS	Matrix Spike	99	104	98	97
380-80810-B-2-A DU	Duplicate	102	108	101	102
LCS 380-73540/23-A	Lab Control Sample	99	92	89	84
LCS 380-73984/19-A	Lab Control Sample	98	102	99	101
LCS 380-74132/23-A	Lab Control Sample	92	92	102	86
MBL 380-73540/21-A	Method Blank	100	97	93	94
MBL 380-73984/17-A	Method Blank	110	111	106	109
MBL 380-74132/21-A	Method Blank	91	93	99	85
MRL 380-73540/22-A	Lab Control Sample	98	93	91	84
MRL 380-73984/18-A	Lab Control Sample	102	105	103	104
MRL 380-74132/22-A	Lab Control Sample	94	97	94	90

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: 380-80024-1
SDG: 525.2, 537.1, 533

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)	PFDaA (50-200)
380-80024-9	MOANALUA WELLS (331-223-T	89	94	99	101	102	96	97	99
380-80024-10	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	89	94	96	103	102	96	94	96
380-80024-11	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)	94	96	100	111	104	95	97	99
380-80024-12	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	96	100	101	110	107	95	91	97

		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)
380-80024-9	MOANALUA WELLS (331-223-T	102	104	98	107	100	125	123	101
380-80024-10	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	103	105	102	110	104	129	129	103
380-80024-11	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)	102	113	105	113	105	151	135	118
380-80024-12	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	105	116	104	112	106	140	132	109

Surrogate Legend

- HFPODA = 13C3 HFPO-DA
- C6PFDA = 13C6 PFDA
- 13C5PHA = 13C5 PFHxA
- C4PFHA = 13C4 PFHpA
- C8PFOA = 13C8 PFOA
- C9PFNA = 13C9 PFNA
- 13C7PUA = 13C7 PFUnA
- PFDaA = 13C2 PFDaA
- 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)	PFDaA (50-200)
380-79277-D-1-A DU	Duplicate	46 *5-	53	46 *5-	58	55	50	55	61
380-79947-E-2-A MSD	Matrix Spike Duplicate	81	58	81	90	88	73	56	64
380-79947-F-2-A MS	Matrix Spike	84	61	87	95	91	80	58	66
380-80024-16	FB HALAWA WELLS UNIT 1&2 P1	79	85	87	91	89	85	81	90
380-80293-B-2-A MS	Matrix Spike	92	94	95	100	103	97	89	91
380-80293-C-2-A MSD	Matrix Spike Duplicate	89	92	95	103	99	96	95	96
380-79267-AU-1-A MS	Matrix Spike	58	73	68	70	69	67	73	80
LCS 380-73320/23-A	Lab Control Sample	87	94	95	99	95	90	97	99
LCS 380-73550/21-A	Lab Control Sample	90	94	94	101	100	95	94	94

Eurofins Eaton Analytical Pomona

Isotope Dilution Summary

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

Job ID: 380-80024-1
 SDG: 525.2, 537.1, 533

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)	PFDaA (50-200)
LCS 380-73755/21-A	Lab Control Sample	73	81	89	89	87	83	83	89
MBL 380-73320/21-A	Method Blank	80	89	91	95	93	89	88	88
MBL 380-73550/19-A	Method Blank	82	88	95	103	93	91	90	90
MBL 380-73755/19-A	Method Blank	62	73	78	79	78	74	75	81
MRL 380-73320/22-A	Lab Control Sample	84	94	97	100	96	94	97	96
MRL 380-73550/20-A	Lab Control Sample	78	91	94	100	98	92	89	89
MRL 380-73755/20-A	Lab Control Sample	69	84	86	89	87	84	81	88

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)
380-79277-D-1-A DU	Duplicate	59	59	94	93	86	165	103	95
380-79947-E-2-A MSD	Matrix Spike Duplicate	97	191	82	97	99	192	213 *5+	146
380-79947-F-2-A MS	Matrix Spike	100	189	85	96	101	196	203 *5+	140
380-80024-16	FB HALAWA WELLS UNIT 1&2 P1	95	98	96	97	89	101	95	91
380-80293-B-2-A MS	Matrix Spike	99	140	99	108	100	143	142	114
380-80293-C-2-A MSD	Matrix Spike Duplicate	98	134	96	109	99	141	132	115
380-79267-AU-1-A MS	Matrix Spike	71	69	98	99	87	115	101	97
LCS 380-73320/23-A	Lab Control Sample	95	95	106	107	103	118	119	105
LCS 380-73550/21-A	Lab Control Sample	100	102	102	110	99	144	128	118
LCS 380-73755/21-A	Lab Control Sample	89	91	93	91	84	105	100	91
MBL 380-73320/21-A	Method Blank	96	96	100	102	96	112	116	92
MBL 380-73550/19-A	Method Blank	94	94	92	101	99	118	119	105
MBL 380-73755/19-A	Method Blank	82	78	82	81	75	93	86	82
MRL 380-73320/22-A	Lab Control Sample	100	100	104	104	99	118	118	101
MRL 380-73550/20-A	Lab Control Sample	91	95	96	105	97	133	127	106
MRL 380-73755/20-A	Lab Control Sample	89	90	96	91	84	99	96	90

Surrogate Legend

- HFPODA = 13C3 HFPO-DA
- C6PFDA = 13C6 PFDA
- 13C5PHA = 13C5 PFHxA
- C4PFHA = 13C4 PFHpA
- C8PFOA = 13C8 PFOA
- C9PFNA = 13C9 PFNA
- 13C7PUA = 13C7 PFUnA
- PFDaA = 13C2 PFDaA
- 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: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: MB 380-73421/21-A
Matrix: Water
Analysis Batch: 73749

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73421

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
2,4'-DDD	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
2,4'-DDE	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
2,4'-DDT	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
2,4-Dinitrotoluene	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
2,6-Dinitrotoluene	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
2-Methylnaphthalene	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
4,4'-DDD	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
4,4'-DDE	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
4,4'-DDT	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
Acenaphthene	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
Acenaphthylene	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
Acetochlor	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
Alachlor	<0.049		0.049	ug/L		01/27/24 15:09	01/29/24 08:54	1
alpha-BHC	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
alpha-Chlordane	<0.049		0.049	ug/L		01/27/24 15:09	01/29/24 08:54	1
Anthracene	<0.020		0.020	ug/L		01/27/24 15:09	01/29/24 08:54	1
Atrazine	<0.049		0.049	ug/L		01/27/24 15:09	01/29/24 08:54	1
Benz(a)anthracene	<0.049		0.049	ug/L		01/27/24 15:09	01/29/24 08:54	1
Benzo[a]pyrene	<0.020		0.020	ug/L		01/27/24 15:09	01/29/24 08:54	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		01/27/24 15:09	01/29/24 08:54	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		01/27/24 15:09	01/29/24 08:54	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		01/27/24 15:09	01/29/24 08:54	1
beta-BHC	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		01/27/24 15:09	01/29/24 08:54	1
Bromacil	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
Butachlor	<0.049		0.049	ug/L		01/27/24 15:09	01/29/24 08:54	1
Butylbenzylphthalate	<0.49		0.49	ug/L		01/27/24 15:09	01/29/24 08:54	1
Chlorobenzilate	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
Chloroneb	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
Chlorothalonil (Draconil, Bravo)	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
Chlorpyrifos	<0.049		0.049	ug/L		01/27/24 15:09	01/29/24 08:54	1
Chrysene	<0.020		0.020	ug/L		01/27/24 15:09	01/29/24 08:54	1
delta-BHC	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
Di(2-ethylhexyl)adipate	<0.59		0.59	ug/L		01/27/24 15:09	01/29/24 08:54	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		01/27/24 15:09	01/29/24 08:54	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		01/27/24 15:09	01/29/24 08:54	1
Dieldrin	<0.20		0.20	ug/L		01/27/24 15:09	01/29/24 08:54	1
Diethylphthalate	<0.49		0.49	ug/L		01/27/24 15:09	01/29/24 08:54	1
Dimethylphthalate	<0.49		0.49	ug/L		01/27/24 15:09	01/29/24 08:54	1
Di-n-butyl phthalate	<0.98		0.98	ug/L		01/27/24 15:09	01/29/24 08:54	1
Di-n-octyl phthalate	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
Endosulfan I (Alpha)	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
Endosulfan II (Beta)	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
Endosulfan sulfate	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
Endrin	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
Endrin aldehyde	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
EPTC	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1

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QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: MB 380-73421/21-A
Matrix: Water
Analysis Batch: 73749

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73421

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
Fluorene	<0.049		0.049	ug/L		01/27/24 15:09	01/29/24 08:54	1
gamma-Chlordane	<0.049		0.049	ug/L		01/27/24 15:09	01/29/24 08:54	1
Heptachlor	<0.039		0.039	ug/L		01/27/24 15:09	01/29/24 08:54	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		01/27/24 15:09	01/29/24 08:54	1
Hexachlorobenzene	<0.049		0.049	ug/L		01/27/24 15:09	01/29/24 08:54	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		01/27/24 15:09	01/29/24 08:54	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		01/27/24 15:09	01/29/24 08:54	1
Isophorone	<0.49		0.49	ug/L		01/27/24 15:09	01/29/24 08:54	1
Lindane	<0.039		0.039	ug/L		01/27/24 15:09	01/29/24 08:54	1
Malathion	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
Methoxychlor	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
Metolachlor	<0.049		0.049	ug/L		01/27/24 15:09	01/29/24 08:54	1
Molinate	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
Naphthalene	<0.29		0.29	ug/L		01/27/24 15:09	01/29/24 08:54	1
Parathion	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
Pendimethalin (Penoxaline)	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
Phenanthrene	<0.039		0.039	ug/L		01/27/24 15:09	01/29/24 08:54	1
Propachlor	<0.049		0.049	ug/L		01/27/24 15:09	01/29/24 08:54	1
Pyrene	<0.049		0.049	ug/L		01/27/24 15:09	01/29/24 08:54	1
Simazine	<0.049		0.049	ug/L		01/27/24 15:09	01/29/24 08:54	1
Terbacil	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
Terbutylazine	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1
Thiobencarb	<0.20		0.20	ug/L		01/27/24 15:09	01/29/24 08:54	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		01/27/24 15:09	01/29/24 08:54	1
trans-Nonachlor	<0.049		0.049	ug/L		01/27/24 15:09	01/29/24 08:54	1
Trifluralin	<0.098		0.098	ug/L		01/27/24 15:09	01/29/24 08:54	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	0.591	T J	ug/L		2.51	N/A	01/27/24 15:09	01/29/24 08:54	1
Unknown	1.04	T J	ug/L		3.67	N/A	01/27/24 15:09	01/29/24 08:54	1
Unknown	0.495	T J	ug/L		6.24	N/A	01/27/24 15:09	01/29/24 08:54	1
9-Octadecenamide, (Z)-	0.672	T J N	ug/L		7.21	301-02-0	01/27/24 15:09	01/29/24 08:54	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	88		70 - 130	01/27/24 15:09	01/29/24 08:54	1
Perylene-d12	100		70 - 130	01/27/24 15:09	01/29/24 08:54	1
Triphenylphosphate	98		70 - 130	01/27/24 15:09	01/29/24 08:54	1

Lab Sample ID: LCS 380-73421/23-A
Matrix: Water
Analysis Batch: 73749

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73421

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	1.96	1.70		ug/L		87	70 - 130
2,4'-DDD	1.96	2.05		ug/L		104	70 - 130
2,4'-DDE	1.96	1.82		ug/L		93	70 - 130
2,4'-DDT	1.96	1.88		ug/L		96	70 - 130

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QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: LCS 380-73421/23-A
Matrix: Water
Analysis Batch: 73749

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73421

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4-Dinitrotoluene	1.96	1.78		ug/L		91	70 - 130
2,6-Dinitrotoluene	1.96	1.70		ug/L		87	70 - 130
2-Methylnaphthalene	1.96	1.68		ug/L		86	70 - 130
4,4'-DDD	1.96	1.86		ug/L		95	70 - 130
4,4'-DDE	1.96	1.79		ug/L		91	70 - 130
4,4'-DDT	1.96	1.89		ug/L		97	70 - 130
Acenaphthene	1.96	1.84		ug/L		94	70 - 130
Acenaphthylene	1.96	1.91		ug/L		98	70 - 130
Acetochlor	1.96	2.24		ug/L		114	70 - 130
Alachlor	1.96	2.22		ug/L		113	70 - 130
alpha-BHC	1.96	1.77		ug/L		90	70 - 130
alpha-Chlordane	1.96	1.87		ug/L		95	70 - 130
Anthracene	1.96	1.85		ug/L		94	70 - 130
Atrazine	1.96	1.91		ug/L		97	70 - 130
Benz(a)anthracene	1.96	1.86		ug/L		95	70 - 130
Benzo[a]pyrene	1.96	1.82		ug/L		93	70 - 130
Benzo[b]fluoranthene	1.96	1.99		ug/L		102	70 - 130
Benzo[g,h,i]perylene	1.96	2.52		ug/L		128	70 - 130
Benzo[k]fluoranthene	1.96	1.91		ug/L		97	70 - 130
beta-BHC	1.96	1.78		ug/L		91	70 - 130
Bis(2-ethylhexyl) phthalate	1.96	2.41		ug/L		123	70 - 130
Bromacil	1.96	1.97		ug/L		100	70 - 130
Butachlor	1.96	2.39		ug/L		122	70 - 130
Butylbenzylphthalate	1.96	2.21		ug/L		113	70 - 130
Chlorobenzilate	1.96	2.81	*+	ug/L		143	70 - 130
Chloroneb	1.96	1.79		ug/L		91	70 - 130
Chlorothalonil (Draconil, Bravo)	1.96	1.88		ug/L		96	70 - 130
Chlorpyrifos	1.96	2.08		ug/L		106	70 - 130
Chrysene	1.96	1.78		ug/L		91	70 - 130
delta-BHC	1.96	1.78		ug/L		91	70 - 130
Di(2-ethylhexyl)adipate	1.96	2.17		ug/L		110	70 - 130
Dibenz(a,h)anthracene	1.96	2.18		ug/L		111	70 - 130
Diclorvos (DDVP)	1.96	1.88		ug/L		96	70 - 130
Dieldrin	1.96	1.99		ug/L		102	70 - 130
Diethylphthalate	1.96	2.10		ug/L		107	70 - 130
Dimethylphthalate	1.96	2.05		ug/L		104	70 - 130
Di-n-butyl phthalate	3.92	4.21		ug/L		107	70 - 130
Di-n-octyl phthalate	1.96	2.45		ug/L		125	70 - 130
Endosulfan I (Alpha)	1.96	1.83		ug/L		93	70 - 130
Endosulfan II (Beta)	1.96	2.05		ug/L		104	70 - 130
Endosulfan sulfate	1.96	1.99		ug/L		101	70 - 130
Endrin	1.96	1.95		ug/L		100	70 - 130
Endrin aldehyde	1.96	1.80		ug/L		92	70 - 130
EPTC	1.96	1.77		ug/L		90	70 - 130
Fluoranthene	1.96	1.88		ug/L		96	70 - 130
Fluorene	1.96	1.93		ug/L		99	70 - 130
gamma-Chlordane	1.96	1.97		ug/L		100	70 - 130
Heptachlor	1.96	1.87		ug/L		96	70 - 130
Heptachlor epoxide (isomer B)	1.96	1.72		ug/L		87	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: LCS 380-73421/23-A
Matrix: Water
Analysis Batch: 73749

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73421

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexachlorobenzene	1.96	1.63		ug/L		83	70 - 130
Hexachlorocyclopentadiene	1.96	1.64		ug/L		83	70 - 130
Indeno[1,2,3-cd]pyrene	1.96	2.13		ug/L		109	70 - 130
Isophorone	1.96	1.84		ug/L		94	70 - 130
Lindane	1.96	1.76		ug/L		90	70 - 130
Malathion	1.96	1.79		ug/L		91	70 - 130
Methoxychlor	1.96	2.10		ug/L		107	70 - 130
Metolachlor	1.96	2.05		ug/L		105	70 - 130
Molinate	1.96	1.87		ug/L		95	70 - 130
Naphthalene	1.96	1.76		ug/L		90	70 - 130
Parathion	1.96	2.42		ug/L		123	70 - 130
Pendimethalin (Penoxaline)	1.96	1.94		ug/L		99	70 - 130
Phenanthrene	1.96	1.84		ug/L		94	70 - 130
Propachlor	1.96	1.92		ug/L		98	70 - 130
Pyrene	1.96	1.93		ug/L		98	70 - 130
Simazine	1.96	1.80		ug/L		92	70 - 130
Terbacil	1.96	2.44		ug/L		124	70 - 130
Terbutylazine	1.96	1.87		ug/L		96	70 - 130
Thiobencarb	1.96	2.18		ug/L		111	70 - 130
trans-Nonachlor	1.96	1.84		ug/L		94	70 - 130
Trifluralin	1.96	2.03		ug/L		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	87		70 - 130
Perylene-d12	100		70 - 130
Triphenylphosphate	100		70 - 130

Lab Sample ID: MRL 380-73421/22-A
Matrix: Water
Analysis Batch: 73749

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73421

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.0976	0.106		ug/L		109	50 - 150
2,4'-DDD	0.0976	0.107		ug/L		110	50 - 150
2,4'-DDE	0.0976	0.0853	J	ug/L		87	50 - 150
2,4'-DDT	0.0976	0.0732	J	ug/L		75	50 - 150
2,4-Dinitrotoluene	0.0976	0.134		ug/L		137	50 - 150
2,6-Dinitrotoluene	0.0976	0.139		ug/L		142	50 - 150
2-Methylnaphthalene	0.0976	0.0992		ug/L		102	50 - 150
4,4'-DDD	0.0976	0.0749	J	ug/L		77	50 - 150
4,4'-DDE	0.0976	0.0868	J	ug/L		89	50 - 150
4,4'-DDT	0.0976	0.0783	J	ug/L		80	50 - 150
Acenaphthene	0.0976	0.126		ug/L		129	50 - 150
Acenaphthylene	0.0976	0.123		ug/L		126	50 - 150
Acetochlor	0.0488	0.0582	J	ug/L		119	50 - 150
Alachlor	0.0488	0.0790	^3+	ug/L		162	50 - 150
alpha-BHC	0.0976	0.122		ug/L		125	50 - 150
alpha-Chlordane	0.0244	0.0385	J ^3+	ug/L		158	50 - 150

QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: MRL 380-73421/22-A
Matrix: Water
Analysis Batch: 73749

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73421

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Anthracene	0.0195	0.0250		ug/L		128	50 - 150
Atrazine	0.0488	<0.047		ug/L		75	50 - 150
Benz(a)anthracene	0.0488	0.0392	J	ug/L		80	50 - 150
Benzo[a]pyrene	0.0195	0.0137	J	ug/L		70	50 - 150
Benzo[b]fluoranthene	0.0195	0.0156	J	ug/L		80	50 - 150
Benzo[g,h,i]perylene	0.0488	0.0555		ug/L		114	50 - 150
Benzo[k]fluoranthene	0.0195	<0.017		ug/L		74	50 - 150
beta-BHC	0.0976	0.125		ug/L		128	50 - 150
Bis(2-ethylhexyl) phthalate	0.586	0.945	^3+	ug/L		161	50 - 150
Bromacil	0.0976	0.104		ug/L		106	50 - 150
Butachlor	0.0488	0.0772	^3+	ug/L		158	50 - 150
Butylbenzylphthalate	0.146	0.205	J	ug/L		140	50 - 150
Chlorobenzilate	0.0976	0.148	^3+	ug/L		152	50 - 150
Chloroneb	0.0976	0.104		ug/L		107	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0976	0.0835	J	ug/L		86	50 - 150
Chlorpyrifos	0.0488	0.0459	J	ug/L		94	50 - 150
Chrysene	0.0195	0.0162	J	ug/L		83	50 - 150
delta-BHC	0.0976	0.101		ug/L		104	50 - 150
Di(2-ethylhexyl)adipate	0.293	0.439	J	ug/L		150	50 - 150
Dibenz(a,h)anthracene	0.0488	0.0392	J	ug/L		80	50 - 150
Diclorvos (DDVP)	0.0488	0.0566		ug/L		116	50 - 150
Dieldrin	0.0976	0.103	J	ug/L		105	50 - 150
Diethylphthalate	0.146	0.197	J	ug/L		134	50 - 150
Dimethylphthalate	0.293	0.376	J	ug/L		128	50 - 150
Di-n-butyl phthalate	0.293	0.341	J	ug/L		116	49 - 243
Di-n-octyl phthalate	0.0976	0.102		ug/L		105	50 - 150
Endosulfan I (Alpha)	0.0976	0.0997		ug/L		102	50 - 150
Endosulfan II (Beta)	0.0976	0.133		ug/L		136	50 - 150
Endosulfan sulfate	0.0976	0.0905	J	ug/L		93	50 - 150
Endrin	0.0976	0.0924	J	ug/L		95	50 - 150
Endrin aldehyde	0.0976	0.121		ug/L		124	50 - 150
EPTC	0.0976	0.100		ug/L		103	50 - 150
Fluoranthene	0.0488	0.0445	J	ug/L		91	50 - 150
Fluorene	0.0488	0.0619		ug/L		127	50 - 150
gamma-Chlordane	0.0244	0.0381	J ^3+	ug/L		156	50 - 150
Heptachlor	0.0390	0.0471		ug/L		121	50 - 150
Heptachlor epoxide (isomer B)	0.0488	0.0720		ug/L		147	50 - 150
Hexachlorobenzene	0.0488	<0.040		ug/L		77	50 - 150
Hexachlorocyclopentadiene	0.0488	<0.037		ug/L		73	50 - 150
Indeno[1,2,3-cd]pyrene	0.0488	0.0426	J	ug/L		87	50 - 150
Isophorone	0.0976	0.115	J	ug/L		118	50 - 150
Lindane	0.0390	0.0569		ug/L		146	50 - 150
Malathion	0.0976	0.141		ug/L		144	50 - 150
Methoxychlor	0.0976	0.0842	J	ug/L		86	50 - 150
Metolachlor	0.0488	0.0814	^3+	ug/L		167	50 - 150
Molinate	0.0976	0.0956	J	ug/L		98	50 - 150
Naphthalene	0.0976	0.0854	J	ug/L		88	50 - 150
Parathion	0.0976	0.120		ug/L		123	50 - 150
Pendimethalin (Penoxaline)	0.0976	0.0819	J	ug/L		84	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: MRL 380-73421/22-A
Matrix: Water
Analysis Batch: 73749

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73421

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Phenanthrene	0.0195	0.0272	J	ug/L		139	50 - 150
Propachlor	0.0488	0.0509		ug/L		104	50 - 150
Pyrene	0.0488	0.0458	J	ug/L		94	50 - 150
Simazine	0.0488	0.0672		ug/L		138	50 - 150
Terbacil	0.0976	0.139		ug/L		142	50 - 150
Terbutylazine	0.0976	0.0715	J	ug/L		73	50 - 150
Thiobencarb	0.0976	0.107	J	ug/L		109	50 - 150
trans-Nonachlor	0.0244	0.0410	J ^3+	ug/L		168	50 - 150
Trifluralin	0.0976	0.0738	J	ug/L		76	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	87		70 - 130
Perylene-d12	100		70 - 130
Triphenylphosphate	100		70 - 130

Lab Sample ID: 380-80012-Z-2-A MS
Matrix: Water
Analysis Batch: 73749

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73421

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	<0.098		1.95	1.71		ug/L		87	70 - 130
2,4'-DDD	<0.098		1.95	2.03		ug/L		104	70 - 130
2,4'-DDE	<0.098		1.95	1.81		ug/L		93	70 - 130
2,4'-DDT	<0.098		1.95	1.91		ug/L		98	70 - 130
2,4-Dinitrotoluene	<0.098		1.95	1.85		ug/L		95	70 - 130
2,6-Dinitrotoluene	<0.098		1.95	1.75		ug/L		90	70 - 130
2-Methylnaphthalene	<0.098		1.95	1.71		ug/L		88	70 - 130
4,4'-DDD	<0.098		1.95	1.83		ug/L		94	70 - 130
4,4'-DDE	<0.098		1.95	1.81		ug/L		93	70 - 130
4,4'-DDT	<0.098		1.95	1.88		ug/L		96	70 - 130
Acenaphthene	<0.098		1.95	1.84		ug/L		94	70 - 130
Acenaphthylene	<0.098		1.95	1.91		ug/L		98	70 - 130
Acetochlor	<0.098		1.95	2.24		ug/L		115	70 - 130
Alachlor	<0.049	^3+	1.95	2.20		ug/L		113	70 - 130
alpha-BHC	<0.098		1.95	1.79		ug/L		92	70 - 130
alpha-Chlordane	<0.049	^3+	1.95	1.84		ug/L		94	70 - 130
Anthracene	<0.020	F1	1.95	0.235	F1	ug/L		12	70 - 130
Atrazine	<0.049		1.95	1.97		ug/L		101	70 - 130
Benz(a)anthracene	<0.049	F1	1.95	1.23	F1	ug/L		63	70 - 130
Benzo[a]pyrene	<0.020	F1	1.95	0.632	F1	ug/L		32	70 - 130
Benzo[b]fluoranthene	<0.020		1.95	2.02		ug/L		104	70 - 130
Benzo[g,h,i]perylene	<0.049		1.95	2.50		ug/L		128	70 - 130
Benzo[k]fluoranthene	<0.020		1.95	1.96		ug/L		100	70 - 130
beta-BHC	<0.098		1.95	1.82		ug/L		93	70 - 130
Bis(2-ethylhexyl) phthalate	<0.59	^3+	1.95	2.51		ug/L		129	70 - 130
Bromacil	<0.098		1.95	2.00		ug/L		103	70 - 130
Butachlor	<0.049	^3+	1.95	2.33		ug/L		119	70 - 130
Butylbenzylphthalate	<0.49		1.95	2.19		ug/L		112	70 - 130

QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: 380-80012-Z-2-A MS
Matrix: Water
Analysis Batch: 73749

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73421

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				Limits
Chlorobenzilate	<0.098	^3+ F1 *+	1.95	2.77	F1	ug/L		142	70 - 130
Chloroneb	<0.098		1.95	1.79		ug/L		92	70 - 130
Chlorothalonil (Draconil, Bravo)	<0.098		1.95	1.88		ug/L		96	70 - 130
Chlorpyrifos	<0.049		1.95	2.06		ug/L		106	70 - 130
Chrysene	<0.020		1.95	1.75		ug/L		89	70 - 130
delta-BHC	<0.098		1.95	1.80		ug/L		92	70 - 130
Di(2-ethylhexyl)adipate	<0.59		1.95	2.22		ug/L		114	70 - 130
Dibenz(a,h)anthracene	<0.049		1.95	2.19		ug/L		112	70 - 130
Diclorvos (DDVP)	<0.049		1.95	1.92		ug/L		99	70 - 130
Dieldrin	<0.20		1.95	1.92		ug/L		99	70 - 130
Diethylphthalate	<0.49		1.95	2.13		ug/L		109	70 - 130
Dimethylphthalate	<0.49		1.95	2.08		ug/L		107	70 - 130
Di-n-butyl phthalate	<0.98		3.90	4.16		ug/L		107	70 - 130
Di-n-octyl phthalate	<0.098	F1 ^+	1.95	2.58	F1	ug/L		132	70 - 130
Endosulfan I (Alpha)	<0.098		1.95	1.82		ug/L		93	70 - 130
Endosulfan II (Beta)	<0.098		1.95	2.04		ug/L		104	70 - 130
Endosulfan sulfate	<0.098		1.95	1.96		ug/L		100	70 - 130
Endrin	<0.098		1.95	1.96		ug/L		100	70 - 130
Endrin aldehyde	<0.098		1.95	1.71		ug/L		88	70 - 130
EPTC	<0.098		1.95	1.86		ug/L		95	70 - 130
Fluoranthene	<0.098		1.95	1.87		ug/L		96	70 - 130
Fluorene	<0.049		1.95	1.98		ug/L		102	70 - 130
gamma-Chlordane	<0.049	^3+	1.95	1.95		ug/L		100	70 - 130
Heptachlor	<0.039		1.95	1.86		ug/L		95	70 - 130
Heptachlor epoxide (isomer B)	<0.049		1.95	1.71		ug/L		88	70 - 130
Hexachlorobenzene	<0.049		1.95	1.68		ug/L		86	70 - 130
Hexachlorocyclopentadiene	<0.049		1.95	1.70		ug/L		87	70 - 130
Indeno[1,2,3-cd]pyrene	<0.049		1.95	2.21		ug/L		113	70 - 130
Isophorone	<0.49		1.95	1.91		ug/L		98	70 - 130
Lindane	<0.039		1.95	1.84		ug/L		94	70 - 130
Malathion	<0.098		1.95	1.81		ug/L		93	70 - 130
Methoxychlor	<0.098		1.95	2.12		ug/L		108	70 - 130
Metolachlor	<0.049	^3+	1.95	2.05		ug/L		105	70 - 130
Molinate	<0.098		1.95	1.96		ug/L		101	70 - 130
Naphthalene	<0.29		1.95	1.80		ug/L		92	70 - 130
Parathion	<0.098		1.95	2.46		ug/L		126	70 - 130
Pendimethalin (Penoxaline)	<0.098		1.95	1.95		ug/L		100	70 - 130
Phenanthrene	<0.039		1.95	1.87		ug/L		96	70 - 130
Propachlor	<0.049		1.95	2.00		ug/L		102	70 - 130
Pyrene	<0.049		1.95	1.82		ug/L		93	70 - 130
Simazine	<0.049		1.95	1.86		ug/L		95	70 - 130
Terbacil	<0.098		1.95	2.46		ug/L		126	70 - 130
Terbutylazine	<0.098		1.95	1.94		ug/L		100	70 - 130
Thiobencarb	<0.20		1.95	2.17		ug/L		111	70 - 130
trans-Nonachlor	<0.049	^3+	1.95	1.82		ug/L		93	70 - 130
Trifluralin	<0.098		1.95	2.11		ug/L		108	70 - 130

QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: 380-80012-Z-2-A MS
Matrix: Water
Analysis Batch: 73749

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73421

Surrogate	%Recovery	MS MS Qualifier	Limits
2-Nitro-m-xylene	90		70 - 130
Perylene-d12	98		70 - 130
Triphenylphosphate	99		70 - 130

Lab Sample ID: 380-80024-3 DU
Matrix: Drinking Water
Analysis Batch: 73749

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)
Prep Type: Total/NA
Prep Batch: 73421

Analyte	Sample Result	Sample Qualifier	DU		Unit	D	RPD	Limit
			Result	Qualifier				
1-Methylnaphthalene	<0.098		<0.098		ug/L		NC	20
2,4'-DDD	<0.098		<0.098		ug/L		NC	20
2,4'-DDE	<0.098		<0.098		ug/L		NC	20
2,4'-DDT	<0.098		<0.098		ug/L		NC	20
2,4-Dinitrotoluene	<0.098		<0.098		ug/L		NC	20
2,6-Dinitrotoluene	<0.098		<0.098		ug/L		NC	20
2-Methylnaphthalene	<0.098		<0.098		ug/L		NC	20
4,4'-DDD	<0.098		<0.098		ug/L		NC	20
4,4'-DDE	<0.098		<0.098		ug/L		NC	20
4,4'-DDT	<0.098		<0.098		ug/L		NC	20
Acenaphthene	<0.098		<0.098		ug/L		NC	20
Acenaphthylene	<0.098		<0.098		ug/L		NC	20
Acetochlor	<0.098		<0.098		ug/L		NC	20
Alachlor	<0.049	^3+	<0.049		ug/L		NC	20
alpha-BHC	<0.098		<0.098		ug/L		NC	20
alpha-Chlordane	<0.049	^3+	<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	<0.098		<0.098		ug/L		NC	20
Bis(2-ethylhexyl) phthalate	<0.59	^3+	<0.59		ug/L		NC	20
Bromacil	<0.098		<0.098		ug/L		NC	20
Butachlor	<0.049	^3+	<0.049		ug/L		NC	20
Butylbenzylphthalate	<0.49		<0.49		ug/L		NC	20
Chlorobenzilate	<0.098	*+ ^3+	<0.098	*+	ug/L		NC	20
Chloroneb	<0.098		<0.098		ug/L		NC	20
Chlorothalonil (Draconil, Bravo)	<0.098		<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	<0.098		<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: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: 380-80024-3 DU
Matrix: Drinking Water
Analysis Batch: 73749

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)
Prep Type: Total/NA
Prep Batch: 73421

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	<0.98		<0.98		ug/L		NC	20
Di-n-octyl phthalate	<0.098	^+	<0.098		ug/L		NC	20
Endosulfan I (Alpha)	<0.098		<0.098		ug/L		NC	20
Endosulfan II (Beta)	<0.098		<0.098		ug/L		NC	20
Endosulfan sulfate	<0.098		<0.098		ug/L		NC	20
Endrin	<0.098		<0.098		ug/L		NC	20
Endrin aldehyde	<0.098		<0.098		ug/L		NC	20
EPTC	<0.098		<0.098		ug/L		NC	20
Fluoranthene	<0.098		<0.098		ug/L		NC	20
Fluorene	<0.049		<0.049		ug/L		NC	20
gamma-Chlordane	<0.049	^3+	<0.049		ug/L		NC	20
Heptachlor	<0.039		<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	<0.039		<0.039		ug/L		NC	20
Malathion	<0.098		<0.098		ug/L		NC	20
Methoxychlor	<0.098		<0.098		ug/L		NC	20
Metolachlor	<0.049	^3+	<0.049		ug/L		NC	20
Molinate	<0.098		<0.098		ug/L		NC	20
Naphthalene	<0.29		<0.29		ug/L		NC	20
Parathion	<0.098		<0.098		ug/L		NC	20
Pendimethalin (Penoxaline)	<0.098		<0.098		ug/L		NC	20
Phenanthrene	<0.039		<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	<0.098		<0.098		ug/L		NC	20
Terbutylazine	<0.098		<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	^3+	<0.049		ug/L		NC	20
Trifluralin	<0.098		<0.098		ug/L		NC	20

Surrogate	DU DU		Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	88		70 - 130
Perylene-d12	101		70 - 130
Triphenylphosphate	101		70 - 130

QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: MBL 380-73320/21-A
Matrix: Water
Analysis Batch: 73561

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73320

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		01/25/24 12:41	01/26/24 22:33	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		01/25/24 12:41	01/26/24 22:33	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		01/25/24 12:41	01/26/24 22:33	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		01/25/24 12:41	01/26/24 22:33	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		01/25/24 12:41	01/26/24 22:33	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		01/25/24 12:41	01/26/24 22:33	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		01/25/24 12:41	01/26/24 22:33	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		01/25/24 12:41	01/26/24 22:33	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		01/25/24 12:41	01/26/24 22:33	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		01/25/24 12:41	01/26/24 22:33	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		01/25/24 12:41	01/26/24 22:33	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		01/25/24 12:41	01/26/24 22:33	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		01/25/24 12:41	01/26/24 22:33	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		01/25/24 12:41	01/26/24 22:33	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		01/25/24 12:41	01/26/24 22:33	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		01/25/24 12:41	01/26/24 22:33	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		01/25/24 12:41	01/26/24 22:33	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		01/25/24 12:41	01/26/24 22:33	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		01/25/24 12:41	01/26/24 22:33	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		01/25/24 12:41	01/26/24 22:33	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		01/25/24 12:41	01/26/24 22:33	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		01/25/24 12:41	01/26/24 22:33	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		01/25/24 12:41	01/26/24 22:33	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		01/25/24 12:41	01/26/24 22:33	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		01/25/24 12:41	01/26/24 22:33	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	80		50 - 200	01/25/24 12:41	01/26/24 22:33	1
13C6 PFDA	89		50 - 200	01/25/24 12:41	01/26/24 22:33	1
13C5 PFHxA	91		50 - 200	01/25/24 12:41	01/26/24 22:33	1
13C4 PFHpA	95		50 - 200	01/25/24 12:41	01/26/24 22:33	1
13C8 PFOA	93		50 - 200	01/25/24 12:41	01/26/24 22:33	1
13C9 PFNA	89		50 - 200	01/25/24 12:41	01/26/24 22:33	1
13C7 PFUnA	88		50 - 200	01/25/24 12:41	01/26/24 22:33	1
13C2 PFDoA	88		50 - 200	01/25/24 12:41	01/26/24 22:33	1
13C4 PFBA	96		50 - 200	01/25/24 12:41	01/26/24 22:33	1
13C5 PFPeA	96		50 - 200	01/25/24 12:41	01/26/24 22:33	1
13C3 PFBS	100		50 - 200	01/25/24 12:41	01/26/24 22:33	1
13C3 PFHxS	102		50 - 200	01/25/24 12:41	01/26/24 22:33	1

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QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: MBL 380-73320/21-A
Matrix: Water
Analysis Batch: 73561

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73320

<i>Isotope Dilution</i>	<i>MBL %Recovery</i>	<i>MBL Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C8 PFOS	96		50 - 200	01/25/24 12:41	01/26/24 22:33	1
13C2-4:2-FTS	112		50 - 200	01/25/24 12:41	01/26/24 22:33	1
13C2-6:2-FTS	116		50 - 200	01/25/24 12:41	01/26/24 22:33	1
13C2-8:2-FTS	92		50 - 200	01/25/24 12:41	01/26/24 22:33	1

Lab Sample ID: LCS 380-73320/23-A
Matrix: Water
Analysis Batch: 73561

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73320

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.2	61.7		ng/L		102	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.2	60.3		ng/L		100	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.2	57.7		ng/L		96	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.2	60.5		ng/L		100	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.2	60.2		ng/L		100	70 - 130
Perfluorodecanoic acid (PFDA)	60.2	61.1		ng/L		102	70 - 130
Perfluorododecanoic acid (PFDoA)	60.2	62.0		ng/L		103	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.2	62.0		ng/L		103	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.2	61.1		ng/L		101	70 - 130
Perfluorohexanoic acid (PFHxA)	60.2	61.0		ng/L		101	70 - 130
Perfluorononanoic acid (PFNA)	60.2	65.7		ng/L		109	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.2	60.9		ng/L		101	70 - 130
Perfluorooctanoic acid (PFOA)	60.2	62.4		ng/L		104	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.2	63.2		ng/L		105	70 - 130
Perfluorobutanoic acid (PFBA)	60.2	62.1		ng/L		103	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.2	64.0		ng/L		106	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.2	64.1		ng/L		106	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.2	64.0		ng/L		106	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.2	62.7		ng/L		104	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	60.2	56.9		ng/L		95	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.2	58.6		ng/L		97	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.2	60.2		ng/L		100	70 - 130
Perfluoropentanoic acid (PFPeA)	60.2	62.4		ng/L		104	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.2	63.3		ng/L		105	70 - 130

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QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: LCS 380-73320/23-A
Matrix: Water
Analysis Batch: 73561

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73320

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Perfluoropentanesulfonic acid (PFPeS)	60.2	59.7		ng/L		99	70 - 130	
LCS LCS								
Isotope Dilution	%Recovery	Qualifier						Limits
13C3 HFPO-DA	87							50 - 200
13C6 PFDA	94							50 - 200
13C5 PFHxA	95							50 - 200
13C4 PFHpA	99							50 - 200
13C8 PFOA	95							50 - 200
13C9 PFNA	90							50 - 200
13C7 PFUnA	97							50 - 200
13C2 PFDoA	99							50 - 200
13C4 PFBA	95							50 - 200
13C5 PFPeA	95							50 - 200
13C3 PFBS	106							50 - 200
13C3 PFHxS	107							50 - 200
13C8 PFOS	103							50 - 200
13C2-4:2-FTS	118							50 - 200
13C2-6:2-FTS	119							50 - 200
13C2-8:2-FTS	105							50 - 200

Lab Sample ID: MRL 380-73320/22-A
Matrix: Water
Analysis Batch: 73561

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73320

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	2.29	J	ng/L		114	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	2.24	J	ng/L		111	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.12	J	ng/L		106	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	2.38	J	ng/L		118	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.28	J	ng/L		114	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.28	J	ng/L		113	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.34	J	ng/L		117	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.42	J	ng/L		120	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.35	J	ng/L		117	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.26	J	ng/L		112	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.39	J	ng/L		119	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.52	J	ng/L		126	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.35	J	ng/L		117	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.31	J	ng/L		115	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	2.24	J	ng/L		112	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: MRL 380-73320/22-A
Matrix: Water
Analysis Batch: 73561

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73320

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.36	J	ng/L		117	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.39	J	ng/L		119	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.36	J	ng/L		118	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	2.32	J	ng/L		115	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.01	2.21	J	ng/L		110	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	2.25	J	ng/L		112	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	2.08	J	ng/L		103	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	2.30	J	ng/L		114	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	2.46	J	ng/L		123	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	2.25	J	ng/L		112	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	84		50 - 200
13C6 PFDA	94		50 - 200
13C5 PFHxA	97		50 - 200
13C4 PFHpA	100		50 - 200
13C8 PFOA	96		50 - 200
13C9 PFNA	94		50 - 200
13C7 PFUnA	97		50 - 200
13C2 PFDoA	96		50 - 200
13C4 PFBA	100		50 - 200
13C5 PFPeA	100		50 - 200
13C3 PFBS	104		50 - 200
13C3 PFHxS	104		50 - 200
13C8 PFOS	99		50 - 200
13C2-4:2-FTS	118		50 - 200
13C2-6:2-FTS	118		50 - 200
13C2-8:2-FTS	101		50 - 200

Lab Sample ID: 380-79947-E-2-A MSD
Matrix: Water
Analysis Batch: 73561

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 73320

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.1	56.9		ng/L		95	70 - 130	5	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.1	57.0		ng/L		95	70 - 130	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.1	56.5		ng/L		94	70 - 130	3	30

QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: 380-79947-E-2-A MSD
Matrix: Water
Analysis Batch: 73561

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 73320

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		60.1	59.8		ng/L		99	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	8.3		60.1	70.6		ng/L		104	70 - 130	8	30
Perfluorodecanoic acid (PFDA)	<2.0		60.1	63.6		ng/L		105	70 - 130	6	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.1	62.4		ng/L		104	70 - 130	9	30
Perfluoroheptanoic acid (PFHpA)	7.1		60.1	69.5		ng/L		104	70 - 130	5	30
Perfluorohexanesulfonic acid (PFHxS)	7.3		60.1	70.0		ng/L		104	70 - 130	9	30
Perfluorohexanoic acid (PFHxA)	13		60.1	75.9		ng/L		104	70 - 130	6	30
Perfluorononanoic acid (PFNA)	<2.0		60.1	64.9		ng/L		105	70 - 130	6	30
Perfluorooctanesulfonic acid (PFOS)	12		60.1	73.2		ng/L		101	70 - 130	4	30
Perfluorooctanoic acid (PFOA)	10		60.1	74.2		ng/L		107	70 - 130	4	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.1	63.0		ng/L		105	70 - 130	6	30
Perfluorobutanoic acid (PFBA)	7.2		60.1	68.8		ng/L		102	70 - 130	5	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.1	66.2		ng/L		110	70 - 130	7	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0	*5+	60.1	64.9		ng/L		108	70 - 130	9	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0	*5+	60.1	63.4	*5+	ng/L		105	70 - 130	6	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.1	62.3		ng/L		104	70 - 130	5	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.1	66.7		ng/L		111	70 - 130	13	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0	F1	60.1	84.0	F1	ng/L		140	70 - 130	4	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.1	63.3		ng/L		105	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)	16		60.1	75.8		ng/L		100	70 - 130	2	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.1	63.2		ng/L		104	70 - 130	11	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.1	60.2		ng/L		99	70 - 130	6	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	MSD Limits
13C3 HFPO-DA	81		50 - 200
13C6 PFDA	58		50 - 200
13C5 PFHxA	81		50 - 200
13C4 PFHpA	90		50 - 200
13C8 PFOA	88		50 - 200
13C9 PFNA	73		50 - 200
13C7 PFUnA	56		50 - 200
13C2 PFDoA	64		50 - 200
13C4 PFBA	97		50 - 200
13C5 PFPeA	191		50 - 200
13C3 PFBS	82		50 - 200
13C3 PFHxS	97		50 - 200
13C8 PFOS	99		50 - 200

QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: 380-79947-E-2-A MSD
Matrix: Water
Analysis Batch: 73561

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 73320

<i>Isotope Dilution</i>	<i>MSD %Recovery</i>	<i>MSD Qualifier</i>	<i>Limits</i>
13C2-4:2-FTS	192		50 - 200
13C2-6:2-FTS	213	*5+	50 - 200
13C2-8:2-FTS	146		50 - 200

Lab Sample ID: 380-79947-F-2-A MS
Matrix: Water
Analysis Batch: 73561

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73320

<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		60.1	54.3		ng/L		90	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.1	55.4		ng/L		92	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.1	55.0		ng/L		91	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.1	58.4		ng/L		97	70 - 130
Perfluorobutanesulfonic acid (PFBS)	8.3		60.1	65.1		ng/L		95	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.1	60.0		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.1	57.2		ng/L		95	70 - 130
Perfluoroheptanoic acid (PFHpA)	7.1		60.1	65.9		ng/L		98	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	7.3		60.1	64.1		ng/L		94	70 - 130
Perfluorohexanoic acid (PFHxA)	13		60.1	71.5		ng/L		97	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.1	61.0		ng/L		99	70 - 130
Perfluorooctanesulfonic acid (PFOS)	12		60.1	70.1		ng/L		96	70 - 130
Perfluorooctanoic acid (PFOA)	10		60.1	71.6		ng/L		102	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.1	59.2		ng/L		98	70 - 130
Perfluorobutanoic acid (PFBA)	7.2		60.1	65.3		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.1	62.0		ng/L		103	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0	*5+	60.1	59.3		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0	*5+	60.1	59.6	*5+	ng/L		99	70 - 130
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.1	59.6		ng/L		99	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.1	58.7		ng/L		98	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0	F1	60.1	80.8	F1	ng/L		134	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.1	63.6		ng/L		106	70 - 130
Perfluoropentanoic acid (PFPeA)	16		60.1	74.5		ng/L		98	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.1	56.8		ng/L		94	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.1	56.9		ng/L		94	70 - 130

QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

<i>Isotope Dilution</i>	<i>MS MS</i>	<i>Limits</i>
<i>%Recovery</i>	<i>Qualifier</i>	
13C3 HFPO-DA	84	50 - 200
13C6 PFDA	61	50 - 200
13C5 PFHxA	87	50 - 200
13C4 PFHpA	95	50 - 200
13C8 PFOA	91	50 - 200
13C9 PFNA	80	50 - 200
13C7 PFUnA	58	50 - 200
13C2 PFDoA	66	50 - 200
13C4 PFBA	100	50 - 200
13C5 PFPeA	189	50 - 200
13C3 PFBS	85	50 - 200
13C3 PFHxS	96	50 - 200
13C8 PFOS	101	50 - 200
13C2-4:2-FTS	196	50 - 200
13C2-6:2-FTS	203 *5+	50 - 200
13C2-8:2-FTS	140	50 - 200

Lab Sample ID: MBL 380-73550/19-A
Matrix: Water
Analysis Batch: 73694

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73550

<i>Analyte</i>	<i>MBL</i>	<i>MBL</i>	<i>RL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	<i>Result</i>	<i>Qualifier</i>						
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1

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QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: MBL 380-73550/19-A
Matrix: Water
Analysis Batch: 73694

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73550

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		01/26/24 12:12	01/29/24 01:55	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	82		50 - 200	01/26/24 12:12	01/29/24 01:55	1
13C6 PFDA	88		50 - 200	01/26/24 12:12	01/29/24 01:55	1
13C5 PFHxA	95		50 - 200	01/26/24 12:12	01/29/24 01:55	1
13C4 PFHpA	103		50 - 200	01/26/24 12:12	01/29/24 01:55	1
13C8 PFOA	93		50 - 200	01/26/24 12:12	01/29/24 01:55	1
13C9 PFNA	91		50 - 200	01/26/24 12:12	01/29/24 01:55	1
13C7 PFUnA	90		50 - 200	01/26/24 12:12	01/29/24 01:55	1
13C2 PFDoA	90		50 - 200	01/26/24 12:12	01/29/24 01:55	1
13C4 PFBA	94		50 - 200	01/26/24 12:12	01/29/24 01:55	1
13C5 PFPeA	94		50 - 200	01/26/24 12:12	01/29/24 01:55	1
13C3 PFBS	92		50 - 200	01/26/24 12:12	01/29/24 01:55	1
13C3 PFHxS	101		50 - 200	01/26/24 12:12	01/29/24 01:55	1
13C8 PFOS	99		50 - 200	01/26/24 12:12	01/29/24 01:55	1
13C2-4:2-FTS	118		50 - 200	01/26/24 12:12	01/29/24 01:55	1
13C2-6:2-FTS	119		50 - 200	01/26/24 12:12	01/29/24 01:55	1
13C2-8:2-FTS	105		50 - 200	01/26/24 12:12	01/29/24 01:55	1

Lab Sample ID: LCS 380-73550/21-A
Matrix: Water
Analysis Batch: 73694

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73550

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.1	62.0		ng/L		103	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.1	66.8		ng/L		111	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.1	60.0		ng/L		100	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.1	56.6		ng/L		94	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.1	62.6		ng/L		104	70 - 130
Perfluorodecanoic acid (PFDA)	60.1	64.9		ng/L		108	70 - 130
Perfluorododecanoic acid (PFDoA)	60.1	59.6		ng/L		99	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.1	63.2		ng/L		105	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.1	62.2		ng/L		103	70 - 130
Perfluorohexanoic acid (PFHxA)	60.1	60.8		ng/L		101	70 - 130
Perfluorononanoic acid (PFNA)	60.1	65.0		ng/L		108	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.1	66.6		ng/L		111	70 - 130
Perfluorooctanoic acid (PFOA)	60.1	62.5		ng/L		104	70 - 130

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QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: LCS 380-73550/21-A
Matrix: Water
Analysis Batch: 73694

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73550

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	60.1	63.3		ng/L		105	70 - 130
Perfluorobutanoic acid (PFBA)	60.1	62.3		ng/L		104	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.1	60.2		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.1	63.7		ng/L		106	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.1	66.4		ng/L		110	70 - 130
Nonafluoro-3,6-dioxiheptanoic acid (NFDHA)	60.1	55.8		ng/L		93	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	60.1	61.2		ng/L		102	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.1	61.1		ng/L		102	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.1	59.0		ng/L		98	70 - 130
Perfluoropentanoic acid (PFPeA)	60.1	61.4		ng/L		102	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.1	68.6		ng/L		114	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	60.1	59.6		ng/L		99	70 - 130

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	90		50 - 200
13C6 PFDA	94		50 - 200
13C5 PFHxA	94		50 - 200
13C4 PFHpA	101		50 - 200
13C8 PFOA	100		50 - 200
13C9 PFNA	95		50 - 200
13C7 PFUnA	94		50 - 200
13C2 PFDoA	94		50 - 200
13C4 PFBA	100		50 - 200
13C5 PFPeA	102		50 - 200
13C3 PFBS	102		50 - 200
13C3 PFHxS	110		50 - 200
13C8 PFOS	99		50 - 200
13C2-4:2-FTS	144		50 - 200
13C2-6:2-FTS	128		50 - 200
13C2-8:2-FTS	118		50 - 200

Lab Sample ID: MRL 380-73550/20-A
Matrix: Water
Analysis Batch: 73694

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73550

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	2.06	J	ng/L		103	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	2.12	J	ng/L		105	50 - 150

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QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: MRL 380-73550/20-A
Matrix: Water
Analysis Batch: 73694

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73550

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	1.97	J	ng/L		98	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	2.13	J	ng/L		106	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.24	J	ng/L		111	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.01	J	ng/L		100	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.12	J	ng/L		105	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.24	J	ng/L		112	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.13	J	ng/L		106	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.04	J	ng/L		102	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.19	J	ng/L		109	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.30	J	ng/L		115	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.15	J	ng/L		107	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.12	J	ng/L		105	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	2.11	J	ng/L		105	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.10	J	ng/L		104	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.26	J	ng/L		113	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.21	J	ng/L		110	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	1.92	J	ng/L		96	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.01	2.09	J	ng/L		104	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	2.19	J	ng/L		109	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.93	J	ng/L		96	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	2.18	J	ng/L		109	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	2.36	J	ng/L		118	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	2.03	J	ng/L		101	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	78		50 - 200
13C6 PFDA	91		50 - 200
13C5 PFHxA	94		50 - 200
13C4 PFHpA	100		50 - 200
13C8 PFOA	98		50 - 200
13C9 PFNA	92		50 - 200
13C7 PFUnA	89		50 - 200
13C2 PFDoA	89		50 - 200
13C4 PFBA	91		50 - 200
13C5 PFPeA	95		50 - 200
13C3 PFBS	96		50 - 200
13C3 PFHxS	105		50 - 200

QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: MRL 380-73550/20-A
Matrix: Water
Analysis Batch: 73694

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73550

<i>Isotope Dilution</i>	<i>MRL %Recovery</i>	<i>MRL Qualifier</i>	<i>Limits</i>
13C8 PFOS	97		50 - 200
13C2-4:2-FTS	133		50 - 200
13C2-6:2-FTS	127		50 - 200
13C2-8:2-FTS	106		50 - 200

Lab Sample ID: 380-80293-B-2-A MS
Matrix: Water
Analysis Batch: 73694

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73550

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		60.1	60.2		ng/L		100	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.1	61.5		ng/L		102	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.1	63.1		ng/L		105	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.1	55.5		ng/L		92	70 - 130
Perfluorobutanesulfonic acid (PFBS)	8.7		60.1	73.4		ng/L		108	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.1	61.6		ng/L		103	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.1	57.2		ng/L		95	70 - 130
Perfluoroheptanoic acid (PFHpA)	3.3		60.1	67.7		ng/L		107	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	8.2		60.1	71.6		ng/L		105	70 - 130
Perfluorohexanoic acid (PFHxA)	7.2		60.1	70.8		ng/L		106	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.1	60.5		ng/L		101	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.1	66.4		ng/L		109	70 - 130
Perfluorooctanoic acid (PFOA)	4.6		60.1	68.2		ng/L		106	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.1	64.9		ng/L		108	70 - 130
Perfluorobutanoic acid (PFBA)	4.3		60.1	67.9		ng/L		106	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.1	64.0		ng/L		106	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.1	71.8		ng/L		119	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.1	62.5		ng/L		104	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.1	57.0		ng/L		95	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.1	61.4		ng/L		102	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.1	76.5		ng/L		127	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.1	64.0		ng/L		106	70 - 130
Perfluoropentanoic acid (PFPeA)	7.2		60.1	62.7		ng/L		92	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.1	69.0		ng/L		115	70 - 130

QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: 380-80293-B-2-A MS
Matrix: Water
Analysis Batch: 73694

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73550

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.1	62.5		ng/L		102	70 - 130
MS MS									
Isotope Dilution	%Recovery	Qualifier	Limits						
13C3 HFPO-DA	92		50 - 200						
13C6 PFDA	94		50 - 200						
13C5 PFHxA	95		50 - 200						
13C4 PFHpA	100		50 - 200						
13C8 PFOA	103		50 - 200						
13C9 PFNA	97		50 - 200						
13C7 PFUnA	89		50 - 200						
13C2 PFDoA	91		50 - 200						
13C4 PFBA	99		50 - 200						
13C5 PFPeA	140		50 - 200						
13C3 PFBS	99		50 - 200						
13C3 PFHxS	108		50 - 200						
13C8 PFOS	100		50 - 200						
13C2-4:2-FTS	143		50 - 200						
13C2-6:2-FTS	142		50 - 200						
13C2-8:2-FTS	114		50 - 200						

Lab Sample ID: 380-80293-C-2-A MSD
Matrix: Water
Analysis Batch: 73694

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 73550

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.1	63.4		ng/L		106	70 - 130	5	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.1	65.9		ng/L		110	70 - 130	7	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.1	61.1		ng/L		102	70 - 130	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.1	58.1		ng/L		97	70 - 130	5	30
Perfluorobutanesulfonic acid (PFBS)	8.7		60.1	75.5		ng/L		111	70 - 130	3	30
Perfluorodecanoic acid (PFDA)	<2.0		60.1	66.4		ng/L		110	70 - 130	7	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.1	60.3		ng/L		100	70 - 130	5	30
Perfluoroheptanoic acid (PFHpA)	3.3		60.1	64.4		ng/L		102	70 - 130	5	30
Perfluorohexanesulfonic acid (PFHxS)	8.2		60.1	70.6		ng/L		104	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	7.2		60.1	70.0		ng/L		105	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		60.1	64.5		ng/L		107	70 - 130	6	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.1	65.9		ng/L		108	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	4.6		60.1	70.8		ng/L		110	70 - 130	4	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.1	61.9		ng/L		103	70 - 130	5	30
Perfluorobutanoic acid (PFBA)	4.3		60.1	69.3		ng/L		108	70 - 130	2	30

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QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: 380-80293-C-2-A MSD
Matrix: Water
Analysis Batch: 73694

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 73550

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.1	63.5		ng/L		106	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.1	67.7		ng/L		113	70 - 130	6	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.1	62.7		ng/L		104	70 - 130	0	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.1	58.8		ng/L		98	70 - 130	3	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.1	64.3		ng/L		107	70 - 130	5	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.1	76.2		ng/L		127	70 - 130	0	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.1	62.0		ng/L		103	70 - 130	3	30
Perfluoropentanoic acid (PFPeA)	7.2		60.1	69.6		ng/L		104	70 - 130	10	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.1	67.8		ng/L		113	70 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.1	61.3		ng/L		100	70 - 130	2	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	MSD Limits
13C3 HFPO-DA	89		50 - 200
13C6 PFDA	92		50 - 200
13C5 PFHxA	95		50 - 200
13C4 PFHpA	103		50 - 200
13C8 PFOA	99		50 - 200
13C9 PFNA	96		50 - 200
13C7 PFUnA	95		50 - 200
13C2 PFDoA	96		50 - 200
13C4 PFBA	98		50 - 200
13C5 PFPeA	134		50 - 200
13C3 PFBS	96		50 - 200
13C3 PFHxS	109		50 - 200
13C8 PFOS	99		50 - 200
13C2-4:2-FTS	141		50 - 200
13C2-6:2-FTS	132		50 - 200
13C2-8:2-FTS	115		50 - 200

Lab Sample ID: MBL 380-73755/19-A
Matrix: Water
Analysis Batch: 73985

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73755

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1

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QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: MBL 380-73755/19-A
Matrix: Water
Analysis Batch: 73985

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73755

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		01/29/24 11:10	01/30/24 16:20	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	62		50 - 200	01/29/24 11:10	01/30/24 16:20	1
13C6 PFDA	73		50 - 200	01/29/24 11:10	01/30/24 16:20	1
13C5 PFHxA	78		50 - 200	01/29/24 11:10	01/30/24 16:20	1
13C4 PFHpA	79		50 - 200	01/29/24 11:10	01/30/24 16:20	1
13C8 PFOA	78		50 - 200	01/29/24 11:10	01/30/24 16:20	1
13C9 PFNA	74		50 - 200	01/29/24 11:10	01/30/24 16:20	1
13C7 PFUnA	75		50 - 200	01/29/24 11:10	01/30/24 16:20	1
13C2 PFDoA	81		50 - 200	01/29/24 11:10	01/30/24 16:20	1
13C4 PFBA	82		50 - 200	01/29/24 11:10	01/30/24 16:20	1
13C5 PFPeA	78		50 - 200	01/29/24 11:10	01/30/24 16:20	1
13C3 PFBS	82		50 - 200	01/29/24 11:10	01/30/24 16:20	1
13C3 PFHxS	81		50 - 200	01/29/24 11:10	01/30/24 16:20	1
13C8 PFOS	75		50 - 200	01/29/24 11:10	01/30/24 16:20	1
13C2-4:2-FTS	93		50 - 200	01/29/24 11:10	01/30/24 16:20	1
13C2-6:2-FTS	86		50 - 200	01/29/24 11:10	01/30/24 16:20	1
13C2-8:2-FTS	82		50 - 200	01/29/24 11:10	01/30/24 16:20	1

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QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: LCS 380-73755/21-A
Matrix: Water
Analysis Batch: 73985

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73755

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.2	61.1		ng/L		101	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.2	64.3		ng/L		107	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.2	58.8		ng/L		98	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.2	58.0		ng/L		96	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.2	60.3		ng/L		100	70 - 130
Perfluorodecanoic acid (PFDA)	60.2	60.4		ng/L		100	70 - 130
Perfluorododecanoic acid (PFDoA)	60.2	57.2		ng/L		95	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.2	60.4		ng/L		100	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.2	59.8		ng/L		99	70 - 130
Perfluorohexanoic acid (PFHxA)	60.2	58.0		ng/L		96	70 - 130
Perfluorononanoic acid (PFNA)	60.2	60.8		ng/L		101	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.2	61.8		ng/L		103	70 - 130
Perfluorooctanoic acid (PFOA)	60.2	60.0		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.2	56.4		ng/L		94	70 - 130
Perfluorobutanoic acid (PFBA)	60.2	60.7		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.2	61.1		ng/L		102	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.2	60.0		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.2	61.6		ng/L		102	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.2	48.7		ng/L		81	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	60.2	55.8		ng/L		93	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.2	59.5		ng/L		99	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.2	56.0		ng/L		93	70 - 130
Perfluoropentanoic acid (PFPeA)	60.2	56.8		ng/L		94	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.2	64.4		ng/L		107	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	60.2	55.9		ng/L		93	70 - 130

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C3 HFPO-DA	73		50 - 200
13C6 PFDA	81		50 - 200
13C5 PFHxA	89		50 - 200
13C4 PFHpA	89		50 - 200
13C8 PFOA	87		50 - 200
13C9 PFNA	83		50 - 200

QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: LCS 380-73755/21-A
Matrix: Water
Analysis Batch: 73985

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73755

Isotope Dilution	LCS		Limits
	%Recovery	Qualifier	
13C7 PFUnA	83		50 - 200
13C2 PFDoA	89		50 - 200
13C4 PFBA	89		50 - 200
13C5 PFPeA	91		50 - 200
13C3 PFBS	93		50 - 200
13C3 PFHxS	91		50 - 200
13C8 PFOS	84		50 - 200
13C2-4:2-FTS	105		50 - 200
13C2-6:2-FTS	100		50 - 200
13C2-8:2-FTS	91		50 - 200

Lab Sample ID: MRL 380-73755/20-A
Matrix: Water
Analysis Batch: 73985

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73755

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec
							Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.73	J	ng/L		86	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	1.76	J	ng/L		88	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	1.63	J	ng/L		81	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	1.57	J	ng/L		78	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	1.65	J	ng/L		82	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	1.64	J	ng/L		82	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	1.72	J	ng/L		86	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	1.73	J	ng/L		86	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	1.64	J	ng/L		82	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	1.77	J	ng/L		88	50 - 150
Perfluorononanoic acid (PFNA)	2.00	1.89	J	ng/L		95	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	1.85	J	ng/L		92	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	1.77	J	ng/L		89	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	1.70	J	ng/L		85	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	1.72	J	ng/L		86	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	1.84	J	ng/L		92	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	1.96	J	ng/L		98	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	1.83	J	ng/L		91	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	1.36	J	ng/L		68	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.00	1.44	J	ng/L		72	50 - 150

QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: MRL 380-73755/20-A
Matrix: Water
Analysis Batch: 73985

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73755

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	1.77	J	ng/L		88	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	1.79	J	ng/L		89	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	1.72	J	ng/L		86	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	1.75	J	ng/L		87	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	1.54	J	ng/L		77	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	69		50 - 200
13C6 PFDA	84		50 - 200
13C5 PFHxA	86		50 - 200
13C4 PFHpA	89		50 - 200
13C8 PFOA	87		50 - 200
13C9 PFNA	84		50 - 200
13C7 PFUnA	81		50 - 200
13C2 PFDoA	88		50 - 200
13C4 PFBA	89		50 - 200
13C5 PFPeA	90		50 - 200
13C3 PFBS	96		50 - 200
13C3 PFHxS	91		50 - 200
13C8 PFOS	84		50 - 200
13C2-4:2-FTS	99		50 - 200
13C2-6:2-FTS	96		50 - 200
13C2-8:2-FTS	90		50 - 200

Lab Sample ID: 380-79267-AU-1-A MS
Matrix: Water
Analysis Batch: 73985

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73755

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	54.1		ng/L		90	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	54.1		ng/L		90	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	47.8		ng/L		79	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.2	52.4		ng/L		87	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.2	52.0		ng/L		86	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.2	52.5		ng/L		87	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	52.5		ng/L		87	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	54.1		ng/L		90	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	52.3		ng/L		87	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	51.7		ng/L		86	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-80024-1
 SDG: 525.2, 537.1, 533

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

Lab Sample ID: 380-79267-AU-1-A MS
Matrix: Water
Analysis Batch: 73985

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73755

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanoic acid (PFNA)	<2.0		60.2	55.4		ng/L		92	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.2	54.1		ng/L		90	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.2	53.5		ng/L		89	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	51.1		ng/L		85	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.2	51.2		ng/L		85	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	54.6		ng/L		91	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	50.4		ng/L		84	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	53.8		ng/L		89	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0	F1	60.2	39.5	F1	ng/L		66	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.2	46.2		ng/L		77	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	50.9		ng/L		85	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	49.4		ng/L		82	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	52.5		ng/L		87	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	58.3		ng/L		97	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	49.4		ng/L		82	70 - 130

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	58		50 - 200
13C6 PFDA	73		50 - 200
13C5 PFHxA	68		50 - 200
13C4 PFHpA	70		50 - 200
13C8 PFOA	69		50 - 200
13C9 PFNA	67		50 - 200
13C7 PFUnA	73		50 - 200
13C2 PFDoA	80		50 - 200
13C4 PFBA	71		50 - 200
13C5 PFPeA	69		50 - 200
13C3 PFBS	98		50 - 200
13C3 PFHxS	99		50 - 200
13C8 PFOS	87		50 - 200
13C2-4:2-FTS	115		50 - 200
13C2-6:2-FTS	101		50 - 200
13C2-8:2-FTS	97		50 - 200

QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: 380-79277-D-1-A DU
Matrix: Water
Analysis Batch: 73985

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 73755

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		<2.0		ng/L		NC	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		<2.0		ng/L		NC	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		<2.0		ng/L		NC	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		<2.0	*5-	ng/L		NC	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		<2.0		ng/L		NC	30
Perfluorodecanoic acid (PFDA)	<2.0		<2.0		ng/L		NC	30
Perfluorododecanoic acid (PFDoA)	<2.0		<2.0		ng/L		NC	30
Perfluoroheptanoic acid (PFHpA)	<2.0		<2.0		ng/L		NC	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		<2.0		ng/L		NC	30
Perfluorohexanoic acid (PFHxA)	<2.0		<2.0	*5-	ng/L		NC	30
Perfluorononanoic acid (PFNA)	<2.0		<2.0		ng/L		NC	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		<2.0		ng/L		NC	30
Perfluorooctanoic acid (PFOA)	<2.0		<2.0		ng/L		NC	30
Perfluoroundecanoic acid (PFUnA)	<2.0		<2.0		ng/L		NC	30
Perfluorobutanoic acid (PFBA)	<2.0		<2.0		ng/L		NC	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		<2.0		ng/L		NC	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		<2.0		ng/L		NC	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		<2.0		ng/L		NC	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		<2.0	*5-	ng/L		NC	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		<2.0		ng/L		NC	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		<2.0		ng/L		NC	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		<2.0		ng/L		NC	30
Perfluoropentanoic acid (PFPeA)	<2.0		<2.0		ng/L		NC	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		<2.0		ng/L		NC	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		<2.0		ng/L		NC	30

Isotope Dilution	DU %Recovery	DU Qualifier	Limits
13C3 HFPO-DA	46	*5-	50 - 200
13C6 PFDA	53		50 - 200
13C5 PFHxA	46	*5-	50 - 200
13C4 PFHpA	58		50 - 200
13C8 PFOA	55		50 - 200
13C9 PFNA	50		50 - 200

QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: 380-79277-D-1-A DU
Matrix: Water
Analysis Batch: 73985

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 73755

Isotope Dilution	DU DU		Limits
	%Recovery	Qualifier	
13C7 PFUnA	55		50 - 200
13C2 PFDoA	61		50 - 200
13C4 PFBA	59		50 - 200
13C5 PFPeA	59		50 - 200
13C3 PFBS	94		50 - 200
13C3 PFHxS	93		50 - 200
13C8 PFOS	86		50 - 200
13C2-4:2-FTS	165		50 - 200
13C2-6:2-FTS	103		50 - 200
13C2-8:2-FTS	95		50 - 200

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

Lab Sample ID: MBL 380-73540/21-A
Matrix: Water
Analysis Batch: 73746

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73540

Analyte	MBL MBL		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		01/26/24 11:29	01/29/24 13:25	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		01/26/24 11:29	01/29/24 13:25	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		01/26/24 11:29	01/29/24 13:25	1
N-methylperfluorooctanesulfonamide cetic acid (NMeFOSAA)	<0.58		2.0	ng/L		01/26/24 11:29	01/29/24 13:25	1
N-ethylperfluorooctanesulfonamide cetic acid (NEtFOSAA)	<0.42		2.0	ng/L		01/26/24 11:29	01/29/24 13:25	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		01/26/24 11:29	01/29/24 13:25	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		01/26/24 11:29	01/29/24 13:25	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		01/26/24 11:29	01/29/24 13:25	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		01/26/24 11:29	01/29/24 13:25	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		01/26/24 11:29	01/29/24 13:25	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		01/26/24 11:29	01/29/24 13:25	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		01/26/24 11:29	01/29/24 13:25	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		01/26/24 11:29	01/29/24 13:25	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		01/26/24 11:29	01/29/24 13:25	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		01/26/24 11:29	01/29/24 13:25	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		01/26/24 11:29	01/29/24 13:25	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		01/26/24 11:29	01/29/24 13:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		01/26/24 11:29	01/29/24 13:25	1

Surrogate	MBL MBL		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
d5-NEtFOSAA	100		70 - 130	01/26/24 11:29	01/29/24 13:25	1
13C2 PFHxA	97		70 - 130	01/26/24 11:29	01/29/24 13:25	1
13C2 PFDA	93		70 - 130	01/26/24 11:29	01/29/24 13:25	1
13C3-GenX	94		70 - 130	01/26/24 11:29	01/29/24 13:25	1

QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: LCS 380-73540/23-A
Matrix: Water
Analysis Batch: 73746

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73540

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	25.1	18.0		ng/L		72	70 - 130
Perfluorooctanesulfonic acid (PFOS)	25.1	21.0		ng/L		84	70 - 130
Perfluoroundecanoic acid (PFUnA)	25.1	20.2		ng/L		80	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.1	21.1		ng/L		84	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.1	21.7		ng/L		87	70 - 130
Perfluorohexanoic acid (PFHxA)	25.1	20.2		ng/L		80	70 - 130
Perfluorododecanoic acid (PFDoA)	25.1	20.1		ng/L		80	70 - 130
Perfluorooctanoic acid (PFOA)	25.1	22.6		ng/L		90	70 - 130
Perfluorodecanoic acid (PFDA)	25.1	19.9		ng/L		79	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	25.1	22.5		ng/L		90	70 - 130
Perfluorobutanesulfonic acid (PFBS)	25.1	20.5		ng/L		82	70 - 130
Perfluoroheptanoic acid (PFHpA)	25.1	21.1		ng/L		84	70 - 130
Perfluorononanoic acid (PFNA)	25.1	21.0		ng/L		84	70 - 130
Perfluorotetradecanoic acid (PFTA)	25.1	18.9		ng/L		75	70 - 130
Perfluorotridecanoic acid (PFTrDA)	25.1	19.7		ng/L		78	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	25.1	22.5		ng/L		89	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	25.1	20.7		ng/L		83	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	25.1	21.4		ng/L		85	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	99		70 - 130
13C2 PFHxA	92		70 - 130
13C2 PFDA	89		70 - 130
13C3-GenX	84		70 - 130

Lab Sample ID: MRL 380-73540/22-A
Matrix: Water
Analysis Batch: 73746

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73540

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	1.71	J	ng/L		85	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.06	J	ng/L		103	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	1.90	J	ng/L		95	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.01	2.01	J	ng/L		100	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: MRL 380-73540/22-A
Matrix: Water
Analysis Batch: 73746

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73540

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA)	2.01	2.02	J	ng/L		101	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.00	J	ng/L		99	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	1.95	J	ng/L		97	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.12	J	ng/L		106	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	1.97	J	ng/L		98	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.12	J	ng/L		105	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.03	J	ng/L		101	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.11	J	ng/L		105	50 - 150
Perfluorononanoic acid (PFNA)	2.01	1.96	J	ng/L		98	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.01	1.85	J	ng/L		92	50 - 150
Perfluorotridecanoic acid (PFTTrDA)	2.01	1.83	J	ng/L		91	50 - 150
9-Chlorohexadecafluoro-3-oxan onane-1-sulfonic acid(9Cl-PF3ONS)	2.01	2.17	J	ng/L		108	50 - 150
11-Chloroeicosafuoro-3-oxaund ecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.94	J	ng/L		96	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.12	J	ng/L		106	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	98		70 - 130
13C2 PFHxA	93		70 - 130
13C2 PFDA	91		70 - 130
13C3-GenX	84		70 - 130

Lab Sample ID: 380-79994-U-1-A MS
Matrix: Water
Analysis Batch: 73746

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73540

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		25.2	22.6		ng/L		90	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.2	25.2		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.2	23.2		ng/L		92	70 - 130
N-methylperfluorooctanesulfona midoacetic acid (NMeFOSAA)	<2.0		25.2	24.5		ng/L		97	70 - 130
N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA)	<2.0		25.2	24.8		ng/L		99	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		25.2	24.1		ng/L		96	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		25.2	25.0		ng/L		99	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		25.2	26.2		ng/L		104	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		25.2	23.9		ng/L		95	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: 380-79994-U-1-A MS
Matrix: Water
Analysis Batch: 73746

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73540

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.2	26.0		ng/L		103	70 - 130	
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.2	23.6		ng/L		94	70 - 130	
Perfluoroheptanoic acid (PFHpA)	<2.0		25.2	24.1		ng/L		96	70 - 130	
Perfluorononanoic acid (PFNA)	<2.0		25.2	24.6		ng/L		98	70 - 130	
Perfluorotetradecanoic acid (PFTA)	<2.0		25.2	21.4		ng/L		85	70 - 130	
Perfluorotridecanoic acid (PFTTrDA)	<2.0		25.2	22.1		ng/L		88	70 - 130	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.2	26.5		ng/L		105	70 - 130	
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.2	24.1		ng/L		96	70 - 130	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.2	24.8		ng/L		99	70 - 130	
Surrogate	MS MS									
	%Recovery	Qualifier	Limits							
d5-NEtFOSAA	94		70 - 130							
13C2 PFHxA	98		70 - 130							
13C2 PFDA	89		70 - 130							
13C3-GenX	87		70 - 130							

Lab Sample ID: 380-79994-V-1-A MSD
Matrix: Water
Analysis Batch: 73746

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 73540

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		25.2	24.1		ng/L		96	70 - 130	6	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.2	25.9		ng/L		103	70 - 130	3	30
Perfluoroundecanoic acid (PFUnA)	<2.0		25.2	24.4		ng/L		97	70 - 130	5	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.2	25.3		ng/L		100	70 - 130	3	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.2	26.3		ng/L		104	70 - 130	6	30
Perfluorohexanoic acid (PFHxA)	<2.0		25.2	24.2		ng/L		96	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	<2.0		25.2	25.8		ng/L		103	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	<2.0		25.2	26.5		ng/L		106	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	<2.0		25.2	24.6		ng/L		98	70 - 130	3	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.2	26.5		ng/L		105	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.2	24.1		ng/L		96	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	<2.0		25.2	24.7		ng/L		98	70 - 130	3	30
Perfluorononanoic acid (PFNA)	<2.0		25.2	25.4		ng/L		101	70 - 130	3	30
Perfluorotetradecanoic acid (PFTA)	<2.0		25.2	22.2		ng/L		88	70 - 130	4	30

QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: 380-79994-V-1-A MSD
Matrix: Water
Analysis Batch: 73746

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 73540

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
Perfluorotridecanoic acid (PFTTrDA)	<2.0		25.2	24.1		ng/L		96	70 - 130	8	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.2	27.7		ng/L		110	70 - 130	4	30
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.2	25.2		ng/L		100	70 - 130	5	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.2	24.8		ng/L		99	70 - 130	0	30
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
d5-NEtFOSAA	104		70 - 130								
13C2 PFHxA	98		70 - 130								
13C2 PFDA	98		70 - 130								
13C3-GenX	100		70 - 130								

Lab Sample ID: MBL 380-73984/17-A
Matrix: Water
Analysis Batch: 74152

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73984

Analyte	MBL	MBL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		01/30/24 14:27	01/31/24 11:11	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		01/30/24 14:27	01/31/24 11:11	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		01/30/24 14:27	01/31/24 11:11	1
N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		01/30/24 14:27	01/31/24 11:11	1
N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		01/30/24 14:27	01/31/24 11:11	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		01/30/24 14:27	01/31/24 11:11	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		01/30/24 14:27	01/31/24 11:11	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		01/30/24 14:27	01/31/24 11:11	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		01/30/24 14:27	01/31/24 11:11	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		01/30/24 14:27	01/31/24 11:11	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		01/30/24 14:27	01/31/24 11:11	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		01/30/24 14:27	01/31/24 11:11	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		01/30/24 14:27	01/31/24 11:11	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		01/30/24 14:27	01/31/24 11:11	1
Perfluorotridecanoic acid (PFTTrDA)	<0.36		2.0	ng/L		01/30/24 14:27	01/31/24 11:11	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		01/30/24 14:27	01/31/24 11:11	1
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		01/30/24 14:27	01/31/24 11:11	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		01/30/24 14:27	01/31/24 11:11	1
MBL MBL								
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	110		70 - 130			01/30/24 14:27	01/31/24 11:11	1
13C2 PFHxA	111		70 - 130			01/30/24 14:27	01/31/24 11:11	1
13C2 PFDA	106		70 - 130			01/30/24 14:27	01/31/24 11:11	1

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QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: MBL 380-73984/17-A
Matrix: Water
Analysis Batch: 74152

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73984

<i>Surrogate</i>	<i>MBL</i>	<i>MBL</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3-GenX	109	Qualifier	70 - 130	01/30/24 14:27	01/31/24 11:11	1

Lab Sample ID: LCS 380-73984/19-A
Matrix: Water
Analysis Batch: 74152

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73984

<i>Analyte</i>	<i>Spike</i>	<i>LCS</i>	<i>LCS</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i>
	<i>Added</i>	<i>Result</i>	<i>Qualifier</i>			<i>Limits</i>	<i>Limits</i>
Hexafluoropropylene Oxide	25.0	26.5		ng/L		106	70 - 130
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	25.0	25.4		ng/L		102	70 - 130
Perfluoroundecanoic acid (PFUnA)	25.0	25.6		ng/L		102	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.0	25.5		ng/L		102	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.0	25.9		ng/L		104	70 - 130
Perfluorohexanoic acid (PFHxA)	25.0	25.3		ng/L		101	70 - 130
Perfluorododecanoic acid (PFDoA)	25.0	24.4		ng/L		98	70 - 130
Perfluorooctanoic acid (PFOA)	25.0	26.8		ng/L		107	70 - 130
Perfluorodecanoic acid (PFDA)	25.0	25.4		ng/L		102	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	25.0	27.2		ng/L		109	70 - 130
Perfluorobutanesulfonic acid (PFBS)	25.0	24.2		ng/L		97	70 - 130
Perfluoroheptanoic acid (PFHpA)	25.0	26.0		ng/L		104	70 - 130
Perfluorononanoic acid (PFNA)	25.0	25.8		ng/L		103	70 - 130
Perfluorotetradecanoic acid (PFTA)	25.0	25.7		ng/L		103	70 - 130
Perfluorotridecanoic acid (PFTrDA)	25.0	24.0		ng/L		96	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	25.0	26.4		ng/L		105	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	25.0	20.7		ng/L		83	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	25.0	24.9		ng/L		100	70 - 130

<i>Surrogate</i>	<i>LCS</i>	<i>LCS</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
d5-NEtFOSAA	98		70 - 130
13C2 PFHxA	102		70 - 130
13C2 PFDA	99		70 - 130
13C3-GenX	101		70 - 130

QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: MRL 380-73984/18-A
Matrix: Water
Analysis Batch: 74152

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73984

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.48	J	ng/L		124	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.22	J	ng/L		111	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.28	J	ng/L		114	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.31	J	ng/L		115	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.35	J	ng/L		117	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.42	J	ng/L		121	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.24	J	ng/L		112	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.38	J	ng/L		119	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.30	J	ng/L		115	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.33	J	ng/L		116	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.22	J	ng/L		111	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.41	J	ng/L		120	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.40	J	ng/L		120	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.67	J	ng/L		133	50 - 150
Perfluorotridecanoic acid (PFTTrDA)	2.00	2.11	J	ng/L		105	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.28	J	ng/L		114	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.78	J	ng/L		89	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.20	J	ng/L		110	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	102		70 - 130
13C2 PFHxA	105		70 - 130
13C2 PFDA	103		70 - 130
13C3-GenX	104		70 - 130

Lab Sample ID: 380-80384-E-1-B MS
Matrix: Water
Analysis Batch: 74152

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73984

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		25.1	25.3		ng/L		101	70 - 130
Perfluorooctanesulfonic acid (PFOS)	2.6		25.1	28.2		ng/L		102	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	27.2		ng/L		108	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	26.3		ng/L		105	70 - 130

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QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: 380-80384-E-1-B MS
Matrix: Water
Analysis Batch: 74152

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73984

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec	
				Result	Qualifier				Limits	
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	27.0		ng/L		107	70 - 130	
Perfluorohexanoic acid (PFHxA)	2.7		25.1	26.4		ng/L		95	70 - 130	
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	26.0		ng/L		104	70 - 130	
Perfluorooctanoic acid (PFOA)	2.7		25.1	31.7		ng/L		116	70 - 130	
Perfluorodecanoic acid (PFDA)	<2.0		25.1	27.7		ng/L		109	70 - 130	
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	26.6		ng/L		102	70 - 130	
Perfluorobutanesulfonic acid (PFBS)	3.0		25.1	25.8		ng/L		91	70 - 130	
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	27.5		ng/L		105	70 - 130	
Perfluorononanoic acid (PFNA)	<2.0		25.1	28.8		ng/L		113	70 - 130	
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	26.0		ng/L		103	70 - 130	
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	24.9		ng/L		99	70 - 130	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	26.5		ng/L		106	70 - 130	
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	21.1		ng/L		84	70 - 130	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	24.4		ng/L		97	70 - 130	
MS MS										
Surrogate	%Recovery		Qualifier	Limits						
d5-NEtFOSAA	109			70 - 130						
13C2 PFHxA	100			70 - 130						
13C2 PFDA	113			70 - 130						
13C3-GenX	102			70 - 130						

Lab Sample ID: 380-80384-F-1-B MSD
Matrix: Water
Analysis Batch: 74152

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 73984

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	
				Result	Qualifier				Limits		RPD	Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.2	26.0		ng/L		103	70 - 130		3	30
Perfluorooctanesulfonic acid (PFOS)	2.6		25.2	28.4		ng/L		103	70 - 130		1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		25.2	27.4		ng/L		109	70 - 130		1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.2	27.0		ng/L		108	70 - 130		3	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.2	27.5		ng/L		109	70 - 130		2	30
Perfluorohexanoic acid (PFHxA)	2.7		25.2	27.4		ng/L		98	70 - 130		4	30
Perfluorododecanoic acid (PFDoA)	<2.0		25.2	26.5		ng/L		105	70 - 130		2	30
Perfluorooctanoic acid (PFOA)	2.7		25.2	31.6		ng/L		115	70 - 130		0	30
Perfluorodecanoic acid (PFDA)	<2.0		25.2	28.6		ng/L		112	70 - 130		3	30

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QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: 380-80384-F-1-B MSD
Matrix: Water
Analysis Batch: 74152

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 73984

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.2	27.8		ng/L		107	70 - 130	4	30
Perfluorobutanesulfonic acid (PFBS)	3.0		25.2	25.7		ng/L		90	70 - 130	0	30
Perfluoroheptanoic acid (PFHpA)	<2.0		25.2	27.6		ng/L		105	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		25.2	29.8		ng/L		116	70 - 130	3	30
Perfluorotetradecanoic acid (PFTA)	<2.0		25.2	25.6		ng/L		102	70 - 130	1	30
Perfluorotridecanoic acid (PFTTrDA)	<2.0		25.2	24.5		ng/L		97	70 - 130	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.2	26.8		ng/L		106	70 - 130	1	30
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.2	20.6		ng/L		82	70 - 130	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.2	24.5		ng/L		97	70 - 130	0	30
Surrogate		MSD	MSD								
		%Recovery	Qualifier	Limits							
d5-NEtFOSAA		103		70 - 130							
13C2 PFHxA		100		70 - 130							
13C2 PFDA		110		70 - 130							
13C3-GenX		100		70 - 130							

Lab Sample ID: MBL 380-74132/21-A
Matrix: Water
Analysis Batch: 74566

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 74132

Analyte	MBL	MBL	RL	Unit	D	Prepared	Analyzed	Dil	Fac
	Result	Qualifier							
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		01/31/24 08:02	02/02/24 11:23	1	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		01/31/24 08:02	02/02/24 11:23	1	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		01/31/24 08:02	02/02/24 11:23	1	1
N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		01/31/24 08:02	02/02/24 11:23	1	1
N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		01/31/24 08:02	02/02/24 11:23	1	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		01/31/24 08:02	02/02/24 11:23	1	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		01/31/24 08:02	02/02/24 11:23	1	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		01/31/24 08:02	02/02/24 11:23	1	1
Perfluorodecanoic acid (PFDA)	0.343 J		2.0	ng/L		01/31/24 08:02	02/02/24 11:23	1	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		01/31/24 08:02	02/02/24 11:23	1	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		01/31/24 08:02	02/02/24 11:23	1	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		01/31/24 08:02	02/02/24 11:23	1	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		01/31/24 08:02	02/02/24 11:23	1	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		01/31/24 08:02	02/02/24 11:23	1	1
Perfluorotridecanoic acid (PFTTrDA)	<0.36		2.0	ng/L		01/31/24 08:02	02/02/24 11:23	1	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		01/31/24 08:02	02/02/24 11:23	1	1
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		01/31/24 08:02	02/02/24 11:23	1	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: MBL 380-74132/21-A
Matrix: Water
Analysis Batch: 74566

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 74132

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		01/31/24 08:02	02/02/24 11:23	1

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	91		70 - 130	01/31/24 08:02	02/02/24 11:23	1
13C2 PFHxA	93		70 - 130	01/31/24 08:02	02/02/24 11:23	1
13C2 PFDA	99		70 - 130	01/31/24 08:02	02/02/24 11:23	1
13C3-GenX	85		70 - 130	01/31/24 08:02	02/02/24 11:23	1

Lab Sample ID: LCS 380-74132/23-A
Matrix: Water
Analysis Batch: 74566

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 74132

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	25.0	22.8		ng/L		92	70 - 130
Perfluorooctanesulfonic acid (PFOS)	25.0	27.3		ng/L		109	70 - 130
Perfluoroundecanoic acid (PFUnA)	25.0	26.7		ng/L		107	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.0	25.1		ng/L		100	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.0	24.5		ng/L		98	70 - 130
Perfluorohexanoic acid (PFHxA)	25.0	24.7		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	25.0	26.0		ng/L		104	70 - 130
Perfluorooctanoic acid (PFOA)	25.0	27.1		ng/L		109	70 - 130
Perfluorodecanoic acid (PFDA)	25.0	26.4		ng/L		106	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	25.0	27.8		ng/L		112	70 - 130
Perfluorobutanesulfonic acid (PFBS)	25.0	23.4		ng/L		94	70 - 130
Perfluoroheptanoic acid (PFHpA)	25.0	26.1		ng/L		105	70 - 130
Perfluorononanoic acid (PFNA)	25.0	25.8		ng/L		103	70 - 130
Perfluorotetradecanoic acid (PFTA)	25.0	26.5		ng/L		106	70 - 130
Perfluorotridecanoic acid (PFTTrDA)	25.0	25.5		ng/L		102	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	25.0	26.7		ng/L		107	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	25.0	26.3		ng/L		106	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	25.0	24.2		ng/L		97	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	92		70 - 130
13C2 PFHxA	92		70 - 130
13C2 PFDA	102		70 - 130

QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: LCS 380-74132/23-A
Matrix: Water
Analysis Batch: 74566

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 74132

<i>Surrogate</i>	<i>LCS</i> <i>%Recovery</i>	<i>LCS</i> <i>Qualifier</i>	<i>Limits</i>
13C3-GenX	86		70 - 130

Lab Sample ID: MRL 380-74132/22-A
Matrix: Water
Analysis Batch: 74566

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 74132

<i>Analyte</i>	<i>Spike</i> <i>Added</i>	<i>MRL</i> <i>Result</i>	<i>MRL</i> <i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i> <i>Limits</i>
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	1.99	1.98	J	ng/L		100	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.99	2.34	J	ng/L		117	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.99	2.12	J	ng/L		106	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.99	2.04	J	ng/L		102	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.99	2.03	J	ng/L		102	50 - 150
Perfluorohexanoic acid (PFHxA)	1.99	2.13	J	ng/L		107	50 - 150
Perfluorododecanoic acid (PFDoA)	1.99	2.08	J	ng/L		104	50 - 150
Perfluorooctanoic acid (PFOA)	1.99	2.17	J	ng/L		109	50 - 150
Perfluorodecanoic acid (PFDA)	1.99	2.13	J	ng/L		107	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.99	2.20	J	ng/L		110	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.99	1.93	J	ng/L		97	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.99	2.26	J	ng/L		113	50 - 150
Perfluorononanoic acid (PFNA)	1.99	2.11	J	ng/L		106	50 - 150
Perfluorotetradecanoic acid (PFTA)	1.99	2.23	J	ng/L		112	50 - 150
Perfluorotridecanoic acid (PFTrDA)	1.99	2.07	J	ng/L		104	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.99	2.13	J	ng/L		107	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.99	2.11	J	ng/L		106	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.99	2.03	J	ng/L		102	50 - 150

<i>Surrogate</i>	<i>MRL</i> <i>%Recovery</i>	<i>MRL</i> <i>Qualifier</i>	<i>Limits</i>
d5-NEtFOSAA	94		70 - 130
13C2 PFHxA	97		70 - 130
13C2 PFDA	94		70 - 130
13C3-GenX	90		70 - 130

QC Sample Results

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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

Lab Sample ID: 380-80795-B-2-A LMS
Matrix: Water
Analysis Batch: 74566

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 74132

Analyte	Sample Result	Sample Qualifier	Spike Added	LMS Result	LMS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.01	2.01		ng/L		100	50 - 150
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.01	3.16		ng/L		114	50 - 150
Perfluoroundecanoic acid (PFUnA)	<2.0		2.01	2.15		ng/L		107	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.01	2.18		ng/L		109	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.01	2.21		ng/L		110	50 - 150
Perfluorohexanoic acid (PFHxA)	3.5		2.01	5.82		ng/L		117	50 - 150
Perfluorododecanoic acid (PFDoA)	<2.0		2.01	2.03		ng/L		101	50 - 150
Perfluorooctanoic acid (PFOA)	<2.0		2.01	3.89		ng/L		110	50 - 150
Perfluorodecanoic acid (PFDA)	<2.0		2.01	2.16		ng/L		108	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.01	3.12		ng/L		107	50 - 150
Perfluorobutanesulfonic acid (PFBS)	<2.0	F1	2.01	6.13	F1	ng/L		230	50 - 150
Perfluoroheptanoic acid (PFHpA)	<2.0		2.01	3.02		ng/L		108	50 - 150
Perfluorononanoic acid (PFNA)	<2.0		2.01	2.24		ng/L		111	50 - 150
Perfluorotetradecanoic acid (PFTA)	<2.0		2.01	2.29		ng/L		114	50 - 150
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.01	2.02		ng/L		101	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.01	2.29		ng/L		114	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.01	2.20		ng/L		109	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.01	2.11		ng/L		105	50 - 150

Surrogate	LMS %Recovery	LMS Qualifier	Limits
d5-NEtFOSAA	99		70 - 130
13C2 PFHxA	104		70 - 130
13C2 PFDA	98		70 - 130
13C3-GenX	97		70 - 130

Lab Sample ID: 380-80810-B-2-A DU
Matrix: Water
Analysis Batch: 74566

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 74132

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		<2.0		ng/L		NC	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		<2.0		ng/L		NC	30
Perfluoroundecanoic acid (PFUnA)	<2.0		<2.0		ng/L		NC	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		<2.0		ng/L		NC	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-80024-1
 SDG: 525.2, 537.1, 533

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

Lab Sample ID: 380-80810-B-2-A DU
Matrix: Water
Analysis Batch: 74566

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 74132

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
N-ethylperfluorooctanesulfonami- doacetic acid (NEtFOSAA)	<2.0		<2.0		ng/L		NC	30
Perfluorohexanoic acid (PFHxA)	4.6		4.51		ng/L		3	30
Perfluorododecanoic acid (PFDoA)	<2.0		<2.0		ng/L		NC	30
Perfluorooctanoic acid (PFOA)	2.8		2.74		ng/L		2	30
Perfluorodecanoic acid (PFDA)	<2.0		<2.0		ng/L		NC	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		<2.0		ng/L		NC	30
Perfluorobutanesulfonic acid (PFBS)	2.1		2.08		ng/L		1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		<2.0		ng/L		NC	30
Perfluorononanoic acid (PFNA)	<2.0		<2.0		ng/L		NC	30
Perfluorotetradecanoic acid (PFTA)	<2.0		<2.0		ng/L		NC	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		<2.0		ng/L		NC	30
9-Chlorohexadecafluoro-3-oxan- onane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		<2.0		ng/L		NC	30
11-Chloroeicosafluoro-3-oxaund- ecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		<2.0		ng/L		NC	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		<2.0		ng/L		NC	30
DU DU								
Surrogate	%Recovery	Qualifier	Limits					
<i>d5-NEtFOSAA</i>	102		70 - 130					
<i>13C2 PFHxA</i>	108		70 - 130					
<i>13C2 PFDA</i>	101		70 - 130					
<i>13C3-GenX</i>	102		70 - 130					

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QC Association Summary

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

GC/MS Semi VOA

Prep Batch: 73421

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80024-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	525.2	
380-80024-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	525.2	
380-80024-3	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP	Total/NA	Drinking Water	525.2	
380-80024-4	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP0	Total/NA	Drinking Water	525.2	
MB 380-73421/21-A	Method Blank	Total/NA	Water	525.2	
LCS 380-73421/23-A	Lab Control Sample	Total/NA	Water	525.2	
MRL 380-73421/22-A	Lab Control Sample	Total/NA	Water	525.2	
380-80012-Z-2-A MS	Matrix Spike	Total/NA	Water	525.2	
380-80024-3 DU	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP	Total/NA	Drinking Water	525.2	

Analysis Batch: 73749

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80024-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	525.2	73421
380-80024-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	525.2	73421
380-80024-3	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP	Total/NA	Drinking Water	525.2	73421
380-80024-4	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP0	Total/NA	Drinking Water	525.2	73421
MB 380-73421/21-A	Method Blank	Total/NA	Water	525.2	73421
LCS 380-73421/23-A	Lab Control Sample	Total/NA	Water	525.2	73421
MRL 380-73421/22-A	Lab Control Sample	Total/NA	Water	525.2	73421
380-80012-Z-2-A MS	Matrix Spike	Total/NA	Water	525.2	73421
380-80024-3 DU	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP	Total/NA	Drinking Water	525.2	73421

LCMS

Prep Batch: 73320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80024-9	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	
380-80024-10	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	
MBL 380-73320/21-A	Method Blank	Total/NA	Water	533	
LCS 380-73320/23-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-73320/22-A	Lab Control Sample	Total/NA	Water	533	
380-79947-E-2-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	
380-79947-F-2-A MS	Matrix Spike	Total/NA	Water	533	

Prep Batch: 73540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80024-9	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	537.1 DW	
380-80024-10	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1 DW	
380-80024-12	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP0	Total/NA	Drinking Water	537.1 DW	
MBL 380-73540/21-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-73540/23-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-73540/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-79994-U-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-79994-V-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Prep Batch: 73550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80024-11	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP	Total/NA	Drinking Water	533	
380-80024-12	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP0	Total/NA	Drinking Water	533	
MBL 380-73550/19-A	Method Blank	Total/NA	Water	533	
LCS 380-73550/21-A	Lab Control Sample	Total/NA	Water	533	

QC Association Summary

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

LCMS (Continued)

Prep Batch: 73550 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MRL 380-73550/20-A	Lab Control Sample	Total/NA	Water	533	
380-80293-B-2-A MS	Matrix Spike	Total/NA	Water	533	
380-80293-C-2-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 73561

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80024-9	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	73320
380-80024-10	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	73320
MBL 380-73320/21-A	Method Blank	Total/NA	Water	533	73320
LCS 380-73320/23-A	Lab Control Sample	Total/NA	Water	533	73320
MRL 380-73320/22-A	Lab Control Sample	Total/NA	Water	533	73320
380-79947-E-2-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	73320
380-79947-F-2-A MS	Matrix Spike	Total/NA	Water	533	73320

Analysis Batch: 73694

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80024-11	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP072)	Total/NA	Drinking Water	533	73550
380-80024-12	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP072)	Total/NA	Drinking Water	533	73550
MBL 380-73550/19-A	Method Blank	Total/NA	Water	533	73550
LCS 380-73550/21-A	Lab Control Sample	Total/NA	Water	533	73550
MRL 380-73550/20-A	Lab Control Sample	Total/NA	Water	533	73550
380-80293-B-2-A MS	Matrix Spike	Total/NA	Water	533	73550
380-80293-C-2-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	73550

Analysis Batch: 73746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80024-9	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	537.1	73540
380-80024-12	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP072)	Total/NA	Drinking Water	537.1	73540
MBL 380-73540/21-A	Method Blank	Total/NA	Water	537.1	73540
LCS 380-73540/23-A	Lab Control Sample	Total/NA	Water	537.1	73540
MRL 380-73540/22-A	Lab Control Sample	Total/NA	Water	537.1	73540
380-79994-U-1-A MS	Matrix Spike	Total/NA	Water	537.1	73540
380-79994-V-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	73540

Prep Batch: 73755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80024-16	FB HALAWA WELLS UNIT 1&2 P1	Total/NA	Water	533	
MBL 380-73755/19-A	Method Blank	Total/NA	Water	533	
LCS 380-73755/21-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-73755/20-A	Lab Control Sample	Total/NA	Water	533	
380-79267-AU-1-A MS	Matrix Spike	Total/NA	Water	533	
380-79277-D-1-A DU	Duplicate	Total/NA	Water	533	

Analysis Batch: 73946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80024-10	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1	73540

Prep Batch: 73984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80024-11	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP072)	Total/NA	Drinking Water	537.1 DW	
MBL 380-73984/17-A	Method Blank	Total/NA	Water	537.1 DW	

QC Association Summary

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

LCMS (Continued)

Prep Batch: 73984 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 380-73984/19-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-73984/18-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-80384-E-1-B MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-80384-F-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 73985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80024-16	FB HALAWA WELLS UNIT 1&2 P1	Total/NA	Water	533	73755
MBL 380-73755/19-A	Method Blank	Total/NA	Water	533	73755
LCS 380-73755/21-A	Lab Control Sample	Total/NA	Water	533	73755
MRL 380-73755/20-A	Lab Control Sample	Total/NA	Water	533	73755
380-79267-AU-1-A MS	Matrix Spike	Total/NA	Water	533	73755
380-79277-D-1-A DU	Duplicate	Total/NA	Water	533	73755

Prep Batch: 74132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80024-16	FB HALAWA WELLS UNIT 1&2 P1	Total/NA	Water	537.1 DW	
MBL 380-74132/21-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-74132/23-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-74132/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-80795-B-2-A LMS	Matrix Spike	Total/NA	Water	537.1 DW	
380-80810-B-2-A DU	Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 74152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80024-11	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP)	Total/NA	Drinking Water	537.1	73984
MBL 380-73984/17-A	Method Blank	Total/NA	Water	537.1	73984
LCS 380-73984/19-A	Lab Control Sample	Total/NA	Water	537.1	73984
MRL 380-73984/18-A	Lab Control Sample	Total/NA	Water	537.1	73984
380-80384-E-1-B MS	Matrix Spike	Total/NA	Water	537.1	73984
380-80384-F-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	73984

Analysis Batch: 74566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80024-16	FB HALAWA WELLS UNIT 1&2 P1	Total/NA	Water	537.1	74132
MBL 380-74132/21-A	Method Blank	Total/NA	Water	537.1	74132
LCS 380-74132/23-A	Lab Control Sample	Total/NA	Water	537.1	74132
MRL 380-74132/22-A	Lab Control Sample	Total/NA	Water	537.1	74132
380-80795-B-2-A LMS	Matrix Spike	Total/NA	Water	537.1	74132
380-80810-B-2-A DU	Duplicate	Total/NA	Water	537.1	74132

Lab Chronicle

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-80024-1

Date Collected: 01/22/24 09:46

Matrix: Drinking Water

Date Received: 01/24/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			73421	N8NE	EA POM	01/27/24 16:17
Total/NA	Analysis	525.2		1	73749	Q8LA	EA POM	01/29/24 10:14

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)

Lab Sample ID: 380-80024-2

Date Collected: 01/22/24 10:49

Matrix: Drinking Water

Date Received: 01/24/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			73421	N8NE	EA POM	01/27/24 16:17
Total/NA	Analysis	525.2		1	73749	Q8LA	EA POM	01/29/24 10:34

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)

Lab Sample ID: 380-80024-3

Date Collected: 01/22/24 11:23

Matrix: Drinking Water

Date Received: 01/24/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			73421	N8NE	EA POM	01/27/24 16:17
Total/NA	Analysis	525.2		1	73749	Q8LA	EA POM	01/29/24 09:34

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)

Lab Sample ID: 380-80024-4

Date Collected: 01/22/24 10:21

Matrix: Drinking Water

Date Received: 01/24/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			73421	N8NE	EA POM	01/27/24 16:17
Total/NA	Analysis	525.2		1	73749	Q8LA	EA POM	01/29/24 10:54

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-80024-9

Date Collected: 01/22/24 09:46

Matrix: Drinking Water

Date Received: 01/24/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			73320	T2EP	EA POM	01/25/24 12:41
Total/NA	Analysis	533		1	73561	SZ9R	EA POM	01/27/24 02:19
Total/NA	Prep	537.1 DW			73540	UMV1	EA POM	01/26/24 11:29
Total/NA	Analysis	537.1		1	73746	SZ9R	EA POM	01/29/24 16:38

Lab Chronicle

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-80024-10

Date Collected: 01/22/24 10:49

Matrix: Drinking Water

Date Received: 01/24/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			73320	T2EP	EA POM	01/25/24 12:41
Total/NA	Analysis	533		1	73561	SZ9R	EA POM	01/27/24 02:30
Total/NA	Prep	537.1 DW			73540	UMV1	EA POM	01/26/24 11:29
Total/NA	Analysis	537.1		1	73946	SZ9R	EA POM	01/30/24 10:28

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2
(331-203-TP400)**

Lab Sample ID: 380-80024-11

Date Collected: 01/22/24 11:23

Matrix: Drinking Water

Date Received: 01/24/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			73550	G9MN	EA POM	01/26/24 12:12
Total/NA	Analysis	533		1	73694	SZ9R	EA POM	01/29/24 03:02
Total/NA	Prep	537.1 DW			73984	A5GB	EA POM	01/30/24 14:27
Total/NA	Analysis	537.1		1	74152	Y5FM	EA POM	01/31/24 14:34

**Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
(331-206-TP065)**

Lab Sample ID: 380-80024-12

Date Collected: 01/22/24 10:21

Matrix: Drinking Water

Date Received: 01/24/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			73550	G9MN	EA POM	01/26/24 12:12
Total/NA	Analysis	533		1	73694	SZ9R	EA POM	01/29/24 03:12
Total/NA	Prep	537.1 DW			73540	UMV1	EA POM	01/26/24 11:29
Total/NA	Analysis	537.1		1	73746	SZ9R	EA POM	01/29/24 17:06

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

Lab Sample ID: 380-80024-16

Date Collected: 01/22/24 10:21

Matrix: Water

Date Received: 01/24/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			73755	AUY6	EA POM	01/29/24 11:10
Total/NA	Analysis	533		1	73985	R6YA	EA POM	01/30/24 19:47
Total/NA	Prep	537.1 DW			74132	SL5Q	EA POM	01/31/24 08:02
Total/NA	Analysis	537.1		1	74566	R6YA	EA POM	02/02/24 12:30

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: 380-80024-1
 SDG: 525.2, 537.1, 533

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 renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

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

Job ID: 380-80024-1
 SDG: 525.2, 537.1, 533

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
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 renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

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

Job ID: 380-80024-1
 SDG: 525.2, 537.1, 533

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)

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

Method Summary

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

Job ID: 380-80024-1
SDG: 525.2, 537.1, 533

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



Sample Summary

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

Job ID: 380-80024-1
 SDG: 525.2, 537.1, 533


Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-80024-1	MOANALUA WELLS (331-223-TP202)	Drinking Water	01/22/24 09:46	01/24/24 10:30	HI0000331
380-80024-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Drinking Water	01/22/24 10:49	01/24/24 10:30	HI0000331
380-80024-3	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)	Drinking Water	01/22/24 11:23	01/24/24 10:30	HI0000331
380-80024-4	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	Drinking Water	01/22/24 10:21	01/24/24 10:30	HI0000331
380-80024-9	MOANALUA WELLS (331-223-TP202)	Drinking Water	01/22/24 09:46	01/24/24 10:30	HI0000331
380-80024-10	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Drinking Water	01/22/24 10:49	01/24/24 10:30	HI0000331
380-80024-11	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)	Drinking Water	01/22/24 11:23	01/24/24 10:30	HI0000331
380-80024-12	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	Drinking Water	01/22/24 10:21	01/24/24 10:30	HI0000331
380-80024-16	FB HALAWA WELLS UNIT 1&2 P1	Water	01/22/24 10:21	01/24/24 10:30	



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

Chain of Custody Record

eurofins

Client Information Client Contact: Dr. Ron Fenstermacher Company: City & County of Honolulu Address: 630 South Beretania Street, Chemistry Lab City: Honolulu State: HI, Zip: 96843 Phone: 808-748-5091 (tel) Email: rfenstermacher@hbws.org Project Name: RED-HILL/HBWS sites Event Desc. RUSH Weekly Red Hill Site:		Lab PM: Arada Rachelle E Mail: Rachelle.Arada@eurofins.com State of Origin:		Carrier Tracking No(s): 380-27941-2757 2 Page: Page 1 of 2 Job #		Preservation Codes: M Hexane N None O AsNaO2 P Na2OAS Q Na2SO3 R - Na2SO4 S - H2SO4 T TSP Dodecahydrate U - Acetone V MCAA W - pH 4-5 X - EDTA Y - Trizma Z - other (specify) Other:	
Due Date Requested: TAT Requested (days): Compliance Project: <input type="checkbox"/> No PO #: C20525101 exp 05312023 WO #:		Analysis Requested: SUBCONTRACT - 625 PAH Physis LL (EAL) + TICS SUBCONTRACT - 8015 Gas (Purgable) LL (EAL) SUBCONTRACT - 8915 Diesel LL (EAL) and Motor Oil SUBCONTRACT (MOD) 525plus PLUS TICS SUBCONTRACT 8015 Gas (Purgable) LL (EAL) SUBCONTRACT 8015 Gas (Purgable) LL (EAL) SUBCONTRACT 8015 Gas (Purgable) LL (EAL) 537 1_DW_PREC - 537 1 Full List 533 - All Analytes		Total Number of containers:		Special Instructions/Note: chloromated chloromated 100% OF 3 ARRIVED BRUEN CA 01/24/2024  380-80024 COC	
Sample Identification: MOANALUA WELLS AIEA GULCH WELLS PUMP2 AIEA WELLS PUMPS 1&2 (260) P2 HALAWA WELLS UNITS 1&2 P1		Sample Date: 22-Jan-2024 Sample Time: 0946 1049 1123 1021		Sample Type (C=Comp, G=grab): G Preservation Code: Water Matrix (W=water, S=solid, O=wastebott, BT=Tissue, A=Air): Water		Field Filtered Sample (Yes or No): Perform MS/MSD (Yes or No): SUBCONTRACT - 625 PAH Physis LL (EAL) + TICS SUBCONTRACT - 8015 Gas (Purgable) LL (EAL) SUBCONTRACT - 8915 Diesel LL (EAL) and Motor Oil SUBCONTRACT (MOD) 525plus PLUS TICS SUBCONTRACT 8015 Gas (Purgable) LL (EAL) SUBCONTRACT 8015 Gas (Purgable) LL (EAL) SUBCONTRACT 8015 Gas (Purgable) LL (EAL) 537 1_DW_PREC - 537 1 Full List 533 - All Analytes	
Possible Hazard Identification: <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Special Instructions/QC Requirements: Method of Shipment: FED Ex Date/Time: 01/24/2024 10:30 Date/Time: 01/24/2024 10:30 Date/Time:		Empty Kit Relinquished by:	
Relinquished by: bailey Date/Time: 25Jan2024 1400 Date/Time:		Relinquished by: G. REITNER Date/Time: 01/24/2024 10:30 Date/Time:		Relinquished by:		Custody Seal No:	
Relinquished by:		Relinquished by:		Relinquished by:		Cooler Temperature(s) °C and Other Remarks: (75.1A) 0.19 - 0.1 - 1.8 - 0.26 - 0.1 - 1.9 - 0.13 - 0.1 - 1.2 GFL - FR22EN Ver: 01/16/2019	

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-80024-1
SDG Number: 525.2, 537.1, 533

Login Number: 80024
List Number: 1
Creator: Ngo, Theodore

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	Containers recd broken. Sufficient sample in remaining containers for analysis.
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	

