eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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City & County of Honolulu
630 South Beretania Street
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Honolulu, Hawaii 96843

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JOB DESCRIPTION

RED-HILL
525.2, 533, 537.1

JOB NUMBER

380-96902-1

Eurofins Eaton Analytical Pomona
941 Corporate Center Drive
Pomona CA 91768-2642

See page two for job notes and contact information.

Eurofins Eaton Analytical Pomona

Job Notes

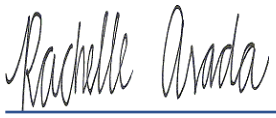
This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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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Authorized for release by
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Table of Contents

Definitions/Glossary

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

Job ID: 380-96902-1
SDG: 525.2, 533, 537.1

Qualifiers

GC/MS Semi VOA

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

LCMS

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

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)
TNTC	Too Numerous To Count

Job ID: 380-96902-1 — Eurofins Eaton Analytical Pomona

Job Narrative
380-96902-1

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 5/22/2024 10:34 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.7°C and 1.3°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
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: 380-96902-1
SDG: 525.2, 533, 537.1

Client Sample ID: MOANALUA WELLS — Lab Sample ID: 380-96902-1

No Detections.

Client Sample ID: AIEA GULCH WELLS PUMP 2 — Lab Sample ID: 380-96902-2

No Detections.

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2 — Lab Sample ID: 380-96902-3

No Detections.

Client Sample ID: HALAWA WELLS UNITS 1&2 P1 — Lab Sample ID: 380-96902-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	2.1		2.0		ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.3		2.0		ng/L	1		537.1	Total/NA

Client Sample ID: FB: MOANALUA WELLS — Lab Sample ID: 380-96902-5

No Detections.

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2 — Lab Sample ID: 380-96902-6

No Detections.

Client Sample ID: FB: AIEA WELLS PUMPS 1&2 (260) P2 — Lab Sample ID: 380-96902-7

No Detections.

Client Sample ID: FB: HALAWA WELLS UNITS 1&2 P1 — Lab Sample ID: 380-96902-8

No Detections.

This Detection Summary does not include radiochemical test results.

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

Job ID: 380-96902-1
SDG: 525.2, 533, 537.1

Client Sample ID: MOANALUA WELLS
Date Collected: 05/20/24 10:09
Date Received: 05/22/24 10:34

Lab Sample ID: 380-96902-1
Matrix: Water

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		05/29/24 09:15	05/30/24 13:09	1
2,4'-DDD	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
2,4'-DDE	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
2,4'-DDT	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
2,4-Dinitrotoluene	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
2,6-Dinitrotoluene	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
2-Methylnaphthalene	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
4,4'-DDD	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
4,4'-DDE	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
4,4'-DDT	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
Acenaphthene	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
Acenaphthylene	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
Acetochlor	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
Alachlor	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:09	1
alpha-BHC	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
alpha-Chlordane	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:09	1
Anthracene	<0.019	F1	0.019		ug/L		05/29/24 09:15	05/30/24 13:09	1
Atrazine	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:09	1
Benz(a)anthracene	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:09	1
Benzo[a]pyrene	<0.019		0.019		ug/L		05/29/24 09:15	05/30/24 13:09	1
Benzo[b]fluoranthene	<0.019		0.019		ug/L		05/29/24 09:15	05/30/24 13:09	1
Benzo[g,h,i]perylene	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:09	1
Benzo[k]fluoranthene	<0.019		0.019		ug/L		05/29/24 09:15	05/30/24 13:09	1
beta-BHC	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58		ug/L		05/29/24 09:15	05/30/24 13:09	1
Bromacil	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
Butachlor	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:09	1
Butylbenzylphthalate	<0.49		0.49		ug/L		05/29/24 09:15	05/30/24 13:09	1
Chlorobenzilate	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
Chloroneb	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
Chlorothalonil (Draconil, Bravo)	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
Chlorpyrifos	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:09	1
Chrysene	<0.019		0.019		ug/L		05/29/24 09:15	05/30/24 13:09	1
delta-BHC	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
Di(2-ethylhexyl)adipate	<0.58		0.58		ug/L		05/29/24 09:15	05/30/24 13:09	1
Dibenz(a,h)anthracene	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:09	1
Diclorvos (DDVP)	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:09	1
Dieldrin	<0.19		0.19		ug/L		05/29/24 09:15	05/30/24 13:09	1
Diethylphthalate	<0.49		0.49		ug/L		05/29/24 09:15	05/30/24 13:09	1
Dimethylphthalate	<0.49		0.49		ug/L		05/29/24 09:15	05/30/24 13:09	1
Di-n-butyl phthalate	<0.97		0.97		ug/L		05/29/24 09:15	05/30/24 13:09	1
Di-n-octyl phthalate	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
Endosulfan I (Alpha)	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
Endosulfan II (Beta)	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
Endosulfan sulfate	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
Endrin	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
Endrin aldehyde	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
EPTC	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
Fluoranthene	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1

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

Job ID: 380-96902-1
SDG: 525.2, 533, 537.1

Client Sample ID: MOANALUA WELLS
Date Collected: 05/20/24 10:09
Date Received: 05/22/24 10:34

Lab Sample ID: 380-96902-1
Matrix: Water

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		05/29/24 09:15	05/30/24 13:09	1
gamma-Chlordane	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:09	1
Heptachlor	<0.039		0.039		ug/L		05/29/24 09:15	05/30/24 13:09	1
Heptachlor epoxide (isomer B)	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:09	1
Hexachlorobenzene	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:09	1
Hexachlorocyclopentadiene	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:09	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:09	1
Isophorone	<0.49		0.49		ug/L		05/29/24 09:15	05/30/24 13:09	1
Lindane	<0.039		0.039		ug/L		05/29/24 09:15	05/30/24 13:09	1
Malathion	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
Methoxychlor	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
Metolachlor	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:09	1
Molinate	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
Naphthalene	<0.29		0.29		ug/L		05/29/24 09:15	05/30/24 13:09	1
Parathion	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
Pendimethalin (Penoxaline)	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
Phenanthrene	<0.039		0.039		ug/L		05/29/24 09:15	05/30/24 13:09	1
Propachlor	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:09	1
Pyrene	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:09	1
Simazine	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:09	1
Terbacil	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
Terbuthylazine	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1
Thiobencarb	<0.19		0.19		ug/L		05/29/24 09:15	05/30/24 13:09	1
Total Permethrin (mixed isomers)	<0.19		0.19		ug/L		05/29/24 09:15	05/30/24 13:09	1
trans-Nonachlor	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:09	1
Trifluralin	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:09	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*			*N/A*	*05/29/24 09:15*	*05/30/24 13:09*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*98*		*70 - 130*	*05/29/24 09:15*	*05/30/24 13:09*	*1*
Perylene-d12	*92*		*70 - 130*	*05/29/24 09:15*	*05/30/24 13:09*	*1*
Triphenylphosphate	*106*		*70 - 130*	*05/29/24 09:15*	*05/30/24 13:09*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1

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

Job ID: 380-96902-1
SDG: 525.2, 533, 537.1

Client Sample ID: MOANALUA WELLS
Date Collected: 05/20/24 10:09
Date Received: 05/22/24 10:34

Lab Sample ID: 380-96902-1
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 15:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*72*		*50 - 200*	*05/23/24 10:26*	*05/24/24 15:50*	*1*
13C6 PFDA	*72*		*50 - 200*	*05/23/24 10:26*	*05/24/24 15:50*	*1*
13C5 PFHxA	*80*		*50 - 200*	*05/23/24 10:26*	*05/24/24 15:50*	*1*
13C4 PFHpA	*82*		*50 - 200*	*05/23/24 10:26*	*05/24/24 15:50*	*1*
13C8 PFOA	*84*		*50 - 200*	*05/23/24 10:26*	*05/24/24 15:50*	*1*
13C9 PFNA	*78*		*50 - 200*	*05/23/24 10:26*	*05/24/24 15:50*	*1*
13C7 PFUnA	*68*		*50 - 200*	*05/23/24 10:26*	*05/24/24 15:50*	*1*
13C2 PFDoA	*71*		*50 - 200*	*05/23/24 10:26*	*05/24/24 15:50*	*1*
13C4 PFBA	*88*		*50 - 200*	*05/23/24 10:26*	*05/24/24 15:50*	*1*
13C5 PFPeA	*93*		*50 - 200*	*05/23/24 10:26*	*05/24/24 15:50*	*1*
13C3 PFBS	*96*		*50 - 200*	*05/23/24 10:26*	*05/24/24 15:50*	*1*
13C3 PFHxS	*99*		*50 - 200*	*05/23/24 10:26*	*05/24/24 15:50*	*1*
13C8 PFOS	*98*		*50 - 200*	*05/23/24 10:26*	*05/24/24 15:50*	*1*
13C2-4:2-FTS	*120*		*50 - 200*	*05/23/24 10:26*	*05/24/24 15:50*	*1*
13C2-6:2-FTS	*111*		*50 - 200*	*05/23/24 10:26*	*05/24/24 15:50*	*1*
13C2-8:2-FTS	*86*		*50 - 200*	*05/23/24 10:26*	*05/24/24 15:50*	*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		05/23/24 10:15	05/24/24 20:16	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:16	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:16	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:16	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:16	1

Client Sample ID: MOANALUA WELLS

Date Collected: 05/20/24 10:09
Date Received: 05/22/24 10:34

Lab Sample ID: 380-96902-1

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:16	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:16	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:16	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:16	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:16	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:16	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:16	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:16	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:16	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:16	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:16	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:16	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*101*		*70 - 130*	*05/23/24 10:15*	*05/24/24 20:16*	*1*
13C2 PFHxA	*106*		*70 - 130*	*05/23/24 10:15*	*05/24/24 20:16*	*1*
13C2 PFDA	*109*		*70 - 130*	*05/23/24 10:15*	*05/24/24 20:16*	*1*
13C3-GenX	*96*		*70 - 130*	*05/23/24 10:15*	*05/24/24 20:16*	*1*

Client Sample ID: AIEA GULCH WELLS PUMP 2

Date Collected: 05/20/24 11:01
Date Received: 05/22/24 10:34

Lab Sample ID: 380-96902-2

Matrix: Water

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		05/29/24 09:15	05/30/24 13:29	1
2,4'-DDD	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
2,4'-DDE	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
2,4'-DDT	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
2,4-Dinitrotoluene	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
2,6-Dinitrotoluene	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
2-Methylnaphthalene	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
4,4'-DDD	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
4,4'-DDE	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
4,4'-DDT	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
Acenaphthene	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
Acenaphthylene	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
Acetochlor	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
Alachlor	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:29	1
alpha-BHC	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
alpha-Chlordane	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:29	1
Anthracene	<0.019		0.019		ug/L		05/29/24 09:15	05/30/24 13:29	1
Atrazine	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:29	1
Benz(a)anthracene	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:29	1
Benzo[a]pyrene	<0.019		0.019		ug/L		05/29/24 09:15	05/30/24 13:29	1
Benzo[b]fluoranthene	<0.019		0.019		ug/L		05/29/24 09:15	05/30/24 13:29	1
Benzo[g,h,i]perylene	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:29	1

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

Job ID: 380-96902-1
SDG: 525.2, 533, 537.1

Client Sample ID: AIEA GULCH WELLS PUMP 2
Date Collected: 05/20/24 11:01
Date Received: 05/22/24 10:34

Lab Sample ID: 380-96902-2
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	<0.019		0.019		ug/L		05/29/24 09:15	05/30/24 13:29	1
beta-BHC	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58		ug/L		05/29/24 09:15	05/30/24 13:29	1
Bromacil	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
Butachlor	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:29	1
Butylbenzylphthalate	<0.49		0.49		ug/L		05/29/24 09:15	05/30/24 13:29	1
Chlorobenzilate	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
Chloroneb	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
Chlorothalonil (Draconil, Bravo)	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
Chlorpyrifos	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:29	1
Chrysene	<0.019		0.019		ug/L		05/29/24 09:15	05/30/24 13:29	1
delta-BHC	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
Di(2-ethylhexyl)adipate	<0.58		0.58		ug/L		05/29/24 09:15	05/30/24 13:29	1
Dibenz(a,h)anthracene	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:29	1
Diclorvos (DDVP)	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:29	1
Dieldrin	<0.19		0.19		ug/L		05/29/24 09:15	05/30/24 13:29	1
Diethylphthalate	<0.49		0.49		ug/L		05/29/24 09:15	05/30/24 13:29	1
Dimethylphthalate	<0.49		0.49		ug/L		05/29/24 09:15	05/30/24 13:29	1
Di-n-butyl phthalate	<0.97		0.97		ug/L		05/29/24 09:15	05/30/24 13:29	1
Di-n-octyl phthalate	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
Endosulfan I (Alpha)	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
Endosulfan II (Beta)	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
Endosulfan sulfate	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
Endrin	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
Endrin aldehyde	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
EPTC	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
Fluoranthene	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
Fluorene	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:29	1
gamma-Chlordane	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:29	1
Heptachlor	<0.039		0.039		ug/L		05/29/24 09:15	05/30/24 13:29	1
Heptachlor epoxide (isomer B)	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:29	1
Hexachlorobenzene	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:29	1
Hexachlorocyclopentadiene	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:29	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:29	1
Isophorone	<0.49		0.49		ug/L		05/29/24 09:15	05/30/24 13:29	1
Lindane	<0.039		0.039		ug/L		05/29/24 09:15	05/30/24 13:29	1
Malathion	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
Methoxychlor	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
Metolachlor	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:29	1
Molinate	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
Naphthalene	<0.29		0.29		ug/L		05/29/24 09:15	05/30/24 13:29	1
Parathion	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
Pendimethalin (Penoxaline)	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
Phenanthrene	<0.039		0.039		ug/L		05/29/24 09:15	05/30/24 13:29	1
Propachlor	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:29	1
Pyrene	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:29	1
Simazine	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:29	1
Terbacil	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1
Terbuthylazine	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Date Collected: 05/20/24 11:01
Date Received: 05/22/24 10:34

Lab Sample ID: 380-96902-2

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Thiobencarb	<0.19		0.19		ug/L		05/29/24 09:15	05/30/24 13:29	1
Total Permethrin (mixed isomers)	<0.19		0.19		ug/L		05/29/24 09:15	05/30/24 13:29	1
trans-Nonachlor	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:29	1
Trifluralin	<0.097		0.097		ug/L		05/29/24 09:15	05/30/24 13:29	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*			*N/A*	*05/29/24 09:15*	*05/30/24 13:29*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*98*		*70 - 130*	*05/29/24 09:15*	*05/30/24 13:29*	*1*
Perylene-d12	*96*		*70 - 130*	*05/29/24 09:15*	*05/30/24 13:29*	*1*
Triphenylphosphate	*109*		*70 - 130*	*05/29/24 09:15*	*05/30/24 13:29*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:00	1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Date Collected: 05/20/24 11:01
Date Received: 05/22/24 10:34

Lab Sample ID: 380-96902-2

Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	66		50 - 200	05/23/24 10:26	05/24/24 16:00	1
13C6 PFDA	57		50 - 200	05/23/24 10:26	05/24/24 16:00	1
13C5 PFHxA	73		50 - 200	05/23/24 10:26	05/24/24 16:00	1
13C4 PFHpA	75		50 - 200	05/23/24 10:26	05/24/24 16:00	1
13C8 PFOA	70		50 - 200	05/23/24 10:26	05/24/24 16:00	1
13C9 PFNA	60		50 - 200	05/23/24 10:26	05/24/24 16:00	1
13C7 PFUnA	60		50 - 200	05/23/24 10:26	05/24/24 16:00	1
13C2 PFDoA	67		50 - 200	05/23/24 10:26	05/24/24 16:00	1
13C4 PFBA	81		50 - 200	05/23/24 10:26	05/24/24 16:00	1
13C5 PFPeA	82		50 - 200	05/23/24 10:26	05/24/24 16:00	1
13C3 PFBS	103		50 - 200	05/23/24 10:26	05/24/24 16:00	1
13C3 PFHxS	106		50 - 200	05/23/24 10:26	05/24/24 16:00	1
13C8 PFOS	100		50 - 200	05/23/24 10:26	05/24/24 16:00	1
13C2-4:2-FTS	126		50 - 200	05/23/24 10:26	05/24/24 16:00	1
13C2-6:2-FTS	109		50 - 200	05/23/24 10:26	05/24/24 16:00	1
13C2-8:2-FTS	88		50 - 200	05/23/24 10:26	05/24/24 16:00	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		05/23/24 10:15	05/24/24 20:25	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:25	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:25	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:25	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:25	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:25	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:25	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:25	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:25	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:25	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:25	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:25	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:25	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:25	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:25	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:25	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	104		70 - 130	05/23/24 10:15	05/24/24 20:25	1
13C2 PFHxA	109		70 - 130	05/23/24 10:15	05/24/24 20:25	1
13C2 PFDA	110		70 - 130	05/23/24 10:15	05/24/24 20:25	1
13C3-GenX	103		70 - 130	05/23/24 10:15	05/24/24 20:25	1

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

Date Collected: 05/20/24 11:27
Date Received: 05/22/24 10:34

Lab Sample ID: 380-96902-3

Matrix: Water

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		05/29/24 09:15	05/30/24 13:49	1
2,4'-DDD	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
2,4'-DDE	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
2,4'-DDT	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
2,4-Dinitrotoluene	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
2,6-Dinitrotoluene	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
2-Methylnaphthalene	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
4,4'-DDD	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
4,4'-DDE	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
4,4'-DDT	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
Acenaphthene	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
Acenaphthylene	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
Acetochlor	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
Alachlor	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:49	1
alpha-BHC	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
alpha-Chlordane	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:49	1
Anthracene	<0.020		0.020		ug/L		05/29/24 09:15	05/30/24 13:49	1
Atrazine	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:49	1
Benz(a)anthracene	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:49	1
Benzo[a]pyrene	<0.020		0.020		ug/L		05/29/24 09:15	05/30/24 13:49	1
Benzo[b]fluoranthene	<0.020		0.020		ug/L		05/29/24 09:15	05/30/24 13:49	1
Benzo[g,h,i]perylene	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:49	1
Benzo[k]fluoranthene	<0.020		0.020		ug/L		05/29/24 09:15	05/30/24 13:49	1
beta-BHC	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59		ug/L		05/29/24 09:15	05/30/24 13:49	1
Bromacil	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
Butachlor	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:49	1
Butylbenzylphthalate	<0.49		0.49		ug/L		05/29/24 09:15	05/30/24 13:49	1
Chlorobenzilate	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
Chloroneb	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
Chlorothalonil (Draconil, Bravo)	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
Chlorpyrifos	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:49	1
Chrysene	<0.020		0.020		ug/L		05/29/24 09:15	05/30/24 13:49	1
delta-BHC	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
Di(2-ethylhexyl)adipate	<0.59		0.59		ug/L		05/29/24 09:15	05/30/24 13:49	1
Dibenz(a,h)anthracene	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:49	1
Diclorvos (DDVP)	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:49	1
Dieldrin	<0.20		0.20		ug/L		05/29/24 09:15	05/30/24 13:49	1
Diethylphthalate	<0.49		0.49		ug/L		05/29/24 09:15	05/30/24 13:49	1
Dimethylphthalate	<0.49		0.49		ug/L		05/29/24 09:15	05/30/24 13:49	1
Di-n-butyl phthalate	<0.98		0.98		ug/L		05/29/24 09:15	05/30/24 13:49	1
Di-n-octyl phthalate	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
Endosulfan I (Alpha)	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
Endosulfan II (Beta)	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
Endosulfan sulfate	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
Endrin	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
Endrin aldehyde	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
EPTC	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
Fluoranthene	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1

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

Job ID: 380-96902-1
SDG: 525.2, 533, 537.1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2
Date Collected: 05/20/24 11:27
Date Received: 05/22/24 10:34

Lab Sample ID: 380-96902-3
Matrix: Water

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		05/29/24 09:15	05/30/24 13:49	1
gamma-Chlordane	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:49	1
Heptachlor	<0.039		0.039		ug/L		05/29/24 09:15	05/30/24 13:49	1
Heptachlor epoxide (isomer B)	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:49	1
Hexachlorobenzene	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:49	1
Hexachlorocyclopentadiene	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:49	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:49	1
Isophorone	<0.49		0.49		ug/L		05/29/24 09:15	05/30/24 13:49	1
Lindane	<0.039		0.039		ug/L		05/29/24 09:15	05/30/24 13:49	1
Malathion	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
Methoxychlor	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
Metolachlor	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:49	1
Molinate	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
Naphthalene	<0.29		0.29		ug/L		05/29/24 09:15	05/30/24 13:49	1
Parathion	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
Pendimethalin (Penoxaline)	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
Phenanthrene	<0.039		0.039		ug/L		05/29/24 09:15	05/30/24 13:49	1
Propachlor	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:49	1
Pyrene	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:49	1
Simazine	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:49	1
Terbacil	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
Terbuthylazine	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1
Thiobencarb	<0.20		0.20		ug/L		05/29/24 09:15	05/30/24 13:49	1
Total Permethrin (mixed isomers)	<0.20		0.20		ug/L		05/29/24 09:15	05/30/24 13:49	1
trans-Nonachlor	<0.049		0.049		ug/L		05/29/24 09:15	05/30/24 13:49	1
Trifluralin	<0.098		0.098		ug/L		05/29/24 09:15	05/30/24 13:49	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*			*N/A*	*05/29/24 09:15*	*05/30/24 13:49*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*96*		*70 - 130*	*05/29/24 09:15*	*05/30/24 13:49*	*1*
Perylene-d12	*90*		*70 - 130*	*05/29/24 09:15*	*05/30/24 13:49*	*1*
Triphenylphosphate	*96*		*70 - 130*	*05/29/24 09:15*	*05/30/24 13:49*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1

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

Job ID: 380-96902-1
SDG: 525.2, 533, 537.1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2
Date Collected: 05/20/24 11:27
Date Received: 05/22/24 10:34

Lab Sample ID: 380-96902-3
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*94*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:10*	*1*
13C6 PFDA	*97*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:10*	*1*
13C5 PFHxA	*95*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:10*	*1*
13C4 PFHpA	*104*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:10*	*1*
13C8 PFOA	*104*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:10*	*1*
13C9 PFNA	*104*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:10*	*1*
13C7 PFUnA	*88*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:10*	*1*
13C2 PFDoA	*86*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:10*	*1*
13C4 PFBA	*101*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:10*	*1*
13C5 PFPeA	*106*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:10*	*1*
13C3 PFBS	*102*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:10*	*1*
13C3 PFHxS	*105*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:10*	*1*
13C8 PFOS	*101*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:10*	*1*
13C2-4:2-FTS	*122*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:10*	*1*
13C2-6:2-FTS	*103*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:10*	*1*
13C2-8:2-FTS	*86*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:10*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:35	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:35	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:35	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:35	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:35	1

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

Job ID: 380-96902-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-96902-3

Date Collected: 05/20/24 11:27
Date Received: 05/22/24 10:34

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:35	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:35	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:35	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:35	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:35	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:35	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:35	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:35	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:35	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:35	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:35	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:35	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*100*		*70 - 130*	*05/23/24 10:15*	*05/24/24 20:35*	*1*
13C2 PFHxA	*112*		*70 - 130*	*05/23/24 10:15*	*05/24/24 20:35*	*1*
13C2 PFDA	*105*		*70 - 130*	*05/23/24 10:15*	*05/24/24 20:35*	*1*
13C3-GenX	*99*		*70 - 130*	*05/23/24 10:15*	*05/24/24 20:35*	*1*

Client Sample ID: HALAWA WELLS UNITS 1&2 P1

Lab Sample ID: 380-96902-4

Date Collected: 05/20/24 10:35
Date Received: 05/22/24 10:34

Matrix: Water

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		05/23/24 10:15	05/24/24 20:45	1
Perfluorooctanesulfonic acid (PFOS)	**2.1**		2.0		ng/L		05/23/24 10:15	05/24/24 20:45	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:45	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:45	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:45	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:45	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:45	1
Perfluorohexanesulfonic acid (PFHxS)	**2.3**		2.0		ng/L		05/23/24 10:15	05/24/24 20:45	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:45	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:45	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:45	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:45	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:45	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 20:45	1

Client Sample ID: HALAWA WELLS UNITS 1&2 P1

Lab Sample ID: 380-96902-4
Date Collected: 05/20/24 10:35
Matrix: Water
Date Received: 05/22/24 10:34

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		05/23/24 10:15	05/24/24 20:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*98*		*70 - 130*	*05/23/24 10:15*	*05/24/24 20:45*	*1*
13C2 PFHxA	*111*		*70 - 130*	*05/23/24 10:15*	*05/24/24 20:45*	*1*
13C2 PFDA	*108*		*70 - 130*	*05/23/24 10:15*	*05/24/24 20:45*	*1*
13C3-GenX	*101*		*70 - 130*	*05/23/24 10:15*	*05/24/24 20:45*	*1*

Client Sample ID: FB: MOANALUA WELLS

Lab Sample ID: 380-96902-5
Date Collected: 05/20/24 10:09
Matrix: Water
Date Received: 05/22/24 10:34

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:29	1

Client Sample ID: FB: MOANALUA WELLS

Date Collected: 05/20/24 10:09
Date Received: 05/22/24 10:34

Lab Sample ID: 380-96902-5

Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	102		50 - 200	05/23/24 10:26	05/24/24 16:29	1
13C6 PFDA	101		50 - 200	05/23/24 10:26	05/24/24 16:29	1
13C5 PFHxA	103		50 - 200	05/23/24 10:26	05/24/24 16:29	1
13C4 PFHpA	108		50 - 200	05/23/24 10:26	05/24/24 16:29	1
13C8 PFOA	109		50 - 200	05/23/24 10:26	05/24/24 16:29	1
13C9 PFNA	107		50 - 200	05/23/24 10:26	05/24/24 16:29	1
13C7 PFUnA	94		50 - 200	05/23/24 10:26	05/24/24 16:29	1
13C2 PFDoA	93		50 - 200	05/23/24 10:26	05/24/24 16:29	1
13C4 PFBA	103		50 - 200	05/23/24 10:26	05/24/24 16:29	1
13C5 PFPeA	108		50 - 200	05/23/24 10:26	05/24/24 16:29	1
13C3 PFBS	105		50 - 200	05/23/24 10:26	05/24/24 16:29	1
13C3 PFHxS	108		50 - 200	05/23/24 10:26	05/24/24 16:29	1
13C8 PFOS	105		50 - 200	05/23/24 10:26	05/24/24 16:29	1
13C2-4:2-FTS	123		50 - 200	05/23/24 10:26	05/24/24 16:29	1
13C2-6:2-FTS	105		50 - 200	05/23/24 10:26	05/24/24 16:29	1
13C2-8:2-FTS	93		50 - 200	05/23/24 10:26	05/24/24 16:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:06	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:06	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:06	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:06	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:06	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:06	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:06	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:06	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:06	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:06	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:06	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:06	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:06	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:06	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:06	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:06	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	102		70 - 130	05/23/24 10:15	05/24/24 21:06	1
13C2 PFHxA	108		70 - 130	05/23/24 10:15	05/24/24 21:06	1
13C2 PFDA	111		70 - 130	05/23/24 10:15	05/24/24 21:06	1
13C3-GenX	98		70 - 130	05/23/24 10:15	05/24/24 21:06	1

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

Job ID: 380-96902-1
SDG: 525.2, 533, 537.1

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2
Date Collected: 05/20/24 11:01
Date Received: 05/22/24 10:34

Lab Sample ID: 380-96902-6
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*96*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:38*	*1*
13C6 PFDA	*97*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:38*	*1*
13C5 PFHxA	*100*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:38*	*1*
13C4 PFHpA	*105*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:38*	*1*
13C8 PFOA	*101*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:38*	*1*
13C9 PFNA	*101*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:38*	*1*
13C7 PFUnA	*85*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:38*	*1*
13C2 PFDoA	*90*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:38*	*1*
13C4 PFBA	*100*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:38*	*1*
13C5 PFPeA	*100*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:38*	*1*
13C3 PFBS	*107*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:38*	*1*
13C3 PFHxS	*109*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:38*	*1*
13C8 PFOS	*104*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:38*	*1*

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-96902-6

Date Collected: 05/20/24 11:01
Matrix: Water
Date Received: 05/22/24 10:34

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2-4:2-FTS	*120*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:38*	*1*
13C2-6:2-FTS	*104*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:38*	*1*
13C2-8:2-FTS	*90*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:38*	*1*

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:17	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:17	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:17	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:17	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:17	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:17	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:17	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:17	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:17	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:17	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:17	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:17	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:17	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:17	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/23/24 10:15	05/24/24 21:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*106*		*70 - 130*	*05/23/24 10:15*	*05/24/24 21:17*	*1*
13C2 PFHxA	*110*		*70 - 130*	*05/23/24 10:15*	*05/24/24 21:17*	*1*
13C2 PFDA	*106*		*70 - 130*	*05/23/24 10:15*	*05/24/24 21:17*	*1*
13C3-GenX	*100*		*70 - 130*	*05/23/24 10:15*	*05/24/24 21:17*	*1*

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

Lab Sample ID: 380-96902-7

Date Collected: 05/20/24 11:27
Matrix: Water
Date Received: 05/22/24 10:34

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		05/23/24 10:26	05/24/24 16:48	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/23/24 10:26	05/24/24 16:48	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/23/24 10:26	05/24/24 16:48	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		05/23/24 10:26	05/24/24 16:48	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		05/23/24 10:26	05/24/24 16:48	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/23/24 10:26	05/24/24 16:48	1

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

Job ID: 380-96902-1
SDG: 525.2, 533, 537.1

Client Sample ID: FB: AIEA WELLS PUMPS 1&2 (260) P2
Date Collected: 05/20/24 11:27
Date Received: 05/22/24 10:34

Lab Sample ID: 380-96902-7
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:48	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:48	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:48	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:48	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:48	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:48	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:48	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:48	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:48	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:48	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:48	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:48	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:48	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:48	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:48	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:48	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:48	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:48	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		05/23/24 10:26	05/24/24 16:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*99*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:48*	*1*
13C6 PFDA	*101*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:48*	*1*
13C5 PFHxA	*101*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:48*	*1*
13C4 PFHpA	*106*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:48*	*1*
13C8 PFOA	*107*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:48*	*1*
13C9 PFNA	*104*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:48*	*1*
13C7 PFUnA	*93*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:48*	*1*
13C2 PFDoA	*91*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:48*	*1*
13C4 PFBA	*102*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:48*	*1*
13C5 PFPeA	*102*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:48*	*1*
13C3 PFBS	*103*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:48*	*1*
13C3 PFHxS	*105*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:48*	*1*
13C8 PFOS	*103*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:48*	*1*
13C2-4:2-FTS	*121*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:48*	*1*
13C2-6:2-FTS	*108*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:48*	*1*
13C2-8:2-FTS	*87*		*50 - 200*	*05/23/24 10:26*	*05/24/24 16:48*	*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		05/23/24 10:15	05/24/24 21:26	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:26	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:26	1

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

Lab Sample ID: 380-96902-7

Date Collected: 05/20/24 11:27
Matrix: Water
Date Received: 05/22/24 10:34

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:26	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:26	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:26	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:26	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:26	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:26	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:26	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:26	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:26	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:26	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:26	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:26	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:26	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*110*		*70 - 130*	*05/23/24 10:15*	*05/24/24 21:26*	*1*
13C2 PFHxA	*109*		*70 - 130*	*05/23/24 10:15*	*05/24/24 21:26*	*1*
13C2 PFDA	*106*		*70 - 130*	*05/23/24 10:15*	*05/24/24 21:26*	*1*
13C3-GenX	*103*		*70 - 130*	*05/23/24 10:15*	*05/24/24 21:26*	*1*

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

Lab Sample ID: 380-96902-8

Date Collected: 05/20/24 10:35
Matrix: Water
Date Received: 05/22/24 10:34

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		05/23/24 10:15	05/24/24 21:36	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:36	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:36	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:36	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:36	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:36	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:36	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:36	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:36	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:36	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:36	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:36	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:36	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:36	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:36	1

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

Job ID: 380-96902-1
SDG: 525.2, 533, 537.1

Client Sample ID: FB: HALAWA WELLS UNITS 1&2 P1
Date Collected: 05/20/24 10:35
Date Received: 05/22/24 10:34

Lab Sample ID: 380-96902-8
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:36	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		05/23/24 10:15	05/24/24 21:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*106*		*70 - 130*	*05/23/24 10:15*	*05/24/24 21:36*	*1*
13C2 PFHxA	*106*		*70 - 130*	*05/23/24 10:15*	*05/24/24 21:36*	*1*
13C2 PFDA	*108*		*70 - 130*	*05/23/24 10:15*	*05/24/24 21:36*	*1*
13C3-GenX	*101*		*70 - 130*	*05/23/24 10:15*	*05/24/24 21:36*	*1*

Action Limit Summary

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

Job ID: 380-96902-1
SDG: 525.2, 533, 537.1

Client Sample ID: MOANALUA WELLS — Lab Sample ID: 380-96902-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Alachlor	<0.049		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		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
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Client Sample ID: AIEA GULCH WELLS PUMP 2 — Lab Sample ID: 380-96902-2

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		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		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
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA

Client Sample ID: AIEA GULCH WELLS PUMP 2 (Continued) — Lab Sample ID: 380-96902-2

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
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2 — Lab Sample ID: 380-96902-3

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		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		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
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Action Limit Summary

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

Job ID: 380-96902-1
SDG: 525.2, 533, 537.1

Client Sample ID: HALAWA WELLS UNITS 1&2 P1 — Lab Sample ID: 380-96902-4

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
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.1		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.3		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Client Sample ID: FB: MOANALUA WELLS — Lab Sample ID: 380-96902-5

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
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2 — Lab Sample ID: 380-96902-6

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
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Action Limit Summary

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

Job ID: 380-96902-1
SDG: 525.2, 533, 537.1

Client Sample ID: FB: AIEA WELLS PUMPS 1&2 (260) P2 — Lab Sample ID: 380-96902-7

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
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Client Sample ID: FB: HALAWA WELLS UNITS 1&2 P1 — Lab Sample ID: 380-96902-8

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
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Surrogate Summary

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

Job ID: 380-96902-1
SDG: 525.2, 533, 537.1

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

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		2NMX	PRY	TPP
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)
380-96902-1	MOANALUA WELLS	98	92	106
380-96902-1 MS	MOANALUA WELLS	97	96	114
380-96902-2	AIEA GULCH WELLS PUMP 2	98	96	109
380-96902-2 DU	AIEA GULCH WELLS PUMP 2	101	95	113
380-96902-3	AIEA WELLS PUMPS 1&2 (260) P2	96	90	96
LCS 380-92588/23-A	Lab Control Sample	95	97	113
LCSD 380-92588/24-A	Lab Control Sample Dup	94	97	111
MB 380-92588/21-A	Method Blank	97	97	109
MRL 380-92588/22-A	Lab Control Sample	96	98	108

Surrogate Legend

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

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

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS	PFHxA	PFDA	GenX
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
380-96888-A-1-B MS	Matrix Spike	97	103	100	94
380-96888-A-1-C MSD	Matrix Spike Duplicate	100	104	103	100
380-96902-1	MOANALUA WELLS	101	106	109	96
380-96902-2	AIEA GULCH WELLS PUMP 2	104	109	110	103
380-96902-3	AIEA WELLS PUMPS 1&2 (260) P2	100	112	105	99
380-96902-4	HALAWA WELLS UNITS 1&2 P1	98	111	108	101
380-96902-5	FB: MOANALUA WELLS	102	108	111	98
380-96902-6	FB: AIEA GULCH WELLS PUMP 2	106	110	106	100
380-96902-7	FB: AIEA WELLS PUMPS 1&2 (260) P2	110	109	106	103
380-96902-8	FB: HALAWA WELLS UNITS 1&2 P1	106	106	108	101
LCS 380-91928/23-A	Lab Control Sample	103	104	104	101
MBL 380-91928/21-A	Method Blank	103	107	100	97
MRL 380-91928/22-A	Lab Control Sample	94	100	97	87

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: 380-96902-1
SDG: 525.2, 533, 537.1

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

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-96888-D-1-B MS	Matrix Spike	88	99	89	95	99	102	93	94
380-96888-D-1-C MSD	Matrix Spike Duplicate	81	92	80	83	87	91	83	89
380-96902-1	MOANALUA WELLS	72	72	80	82	84	78	68	71
380-96902-2	AIEA GULCH WELLS PUMP 2	66	57	73	75	70	60	60	67
380-96902-3	AIEA WELLS PUMPS 1&2 (260) P2	94	97	95	104	104	104	88	86
380-96902-5	FB: MOANALUA WELLS	102	101	103	108	109	107	94	93
380-96902-6	FB: AIEA GULCH WELLS PUMP 2	96	97	100	105	101	101	85	90
380-96902-7	FB: AIEA WELLS PUMPS 1&2 (260) P2	99	101	101	106	107	104	93	91
LCS 380-91953/24-A	Lab Control Sample	95	104	98	101	106	107	96	97
MBL 380-91953/22-A	Method Blank	88	97	95	101	102	102	88	89
MRL 380-91953/23-A	Lab Control Sample	89	98	96	104	103	101	91	89

		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)
380-96888-D-1-B MS	Matrix Spike	92	105	108	112	108	116	105	98
380-96888-D-1-C MSD	Matrix Spike Duplicate	84	93	99	106	100	112	102	94
380-96902-1	MOANALUA WELLS	88	93	96	99	98	120	111	86
380-96902-2	AIEA GULCH WELLS PUMP 2	81	82	103	106	100	126	109	88
380-96902-3	AIEA WELLS PUMPS 1&2 (260) P2	101	106	102	105	101	122	103	86
380-96902-5	FB: MOANALUA WELLS	103	108	105	108	105	123	105	93
380-96902-6	FB: AIEA GULCH WELLS PUMP 2	100	100	107	109	104	120	104	90
380-96902-7	FB: AIEA WELLS PUMPS 1&2 (260) P2	102	102	103	105	103	121	108	87
LCS 380-91953/24-A	Lab Control Sample	102	104	109	106	106	114	105	93
MBL 380-91953/22-A	Method Blank	96	103	102	104	99	115	99	86
MRL 380-91953/23-A	Lab Control Sample	102	101	103	103	101	118	100	87

Surrogate Legend

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

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

Lab Sample ID: MB 380-92588/21-A
Matrix: Water
Analysis Batch: 92797

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 92588

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
2,4'-DDD	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
2,4'-DDE	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
2,4'-DDT	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
2,4-Dinitrotoluene	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
2,6-Dinitrotoluene	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
2-Methylnaphthalene	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
4,4'-DDD	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
4,4'-DDE	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
4,4'-DDT	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
Acenaphthene	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
Acenaphthylene	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
Acetochlor	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
Alachlor	<0.050		0.050		ug/L		05/29/24 10:30	05/30/24 12:29	1
alpha-BHC	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
alpha-Chlordane	<0.050		0.050		ug/L		05/29/24 10:30	05/30/24 12:29	1
Anthracene	<0.020		0.020		ug/L		05/29/24 10:30	05/30/24 12:29	1
Atrazine	<0.050		0.050		ug/L		05/29/24 10:30	05/30/24 12:29	1
Benz(a)anthracene	<0.050		0.050		ug/L		05/29/24 10:30	05/30/24 12:29	1
Benzo[a]pyrene	<0.020		0.020		ug/L		05/29/24 10:30	05/30/24 12:29	1
Benzo[b]fluoranthene	<0.020		0.020		ug/L		05/29/24 10:30	05/30/24 12:29	1
Benzo[g,h,i]perylene	<0.050		0.050		ug/L		05/29/24 10:30	05/30/24 12:29	1
Benzo[k]fluoranthene	<0.020		0.020		ug/L		05/29/24 10:30	05/30/24 12:29	1
beta-BHC	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59		ug/L		05/29/24 10:30	05/30/24 12:29	1
Bromacil	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
Butachlor	<0.050		0.050		ug/L		05/29/24 10:30	05/30/24 12:29	1
Butylbenzylphthalate	<0.50		0.50		ug/L		05/29/24 10:30	05/30/24 12:29	1
Chlorobenzilate	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
Chloroneb	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
Chlorothalonil (Draconil, Bravo)	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
Chlorpyrifos	<0.050		0.050		ug/L		05/29/24 10:30	05/30/24 12:29	1
Chrysene	<0.020		0.020		ug/L		05/29/24 10:30	05/30/24 12:29	1
delta-BHC	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
Di(2-ethylhexyl)adipate	<0.59		0.59		ug/L		05/29/24 10:30	05/30/24 12:29	1
Dibenz(a,h)anthracene	<0.050		0.050		ug/L		05/29/24 10:30	05/30/24 12:29	1
Diclorvos (DDVP)	<0.050		0.050		ug/L		05/29/24 10:30	05/30/24 12:29	1
Dieldrin	<0.20		0.20		ug/L		05/29/24 10:30	05/30/24 12:29	1
Diethylphthalate	<0.50		0.50		ug/L		05/29/24 10:30	05/30/24 12:29	1
Dimethylphthalate	<0.50		0.50		ug/L		05/29/24 10:30	05/30/24 12:29	1
Di-n-butyl phthalate	<0.99		0.99		ug/L		05/29/24 10:30	05/30/24 12:29	1
Di-n-octyl phthalate	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
Endosulfan I (Alpha)	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
Endosulfan II (Beta)	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
Endosulfan sulfate	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
Endrin	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
Endrin aldehyde	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
EPTC	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1

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

Lab Sample ID: MB 380-92588/21-A
Matrix: Water
Analysis Batch: 92797

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 92588

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
Fluorene	<0.050		0.050		ug/L		05/29/24 10:30	05/30/24 12:29	1
gamma-Chlordane	<0.050		0.050		ug/L		05/29/24 10:30	05/30/24 12:29	1
Heptachlor	<0.040		0.040		ug/L		05/29/24 10:30	05/30/24 12:29	1
Heptachlor epoxide (isomer B)	<0.050		0.050		ug/L		05/29/24 10:30	05/30/24 12:29	1
Hexachlorobenzene	<0.050		0.050		ug/L		05/29/24 10:30	05/30/24 12:29	1
Hexachlorocyclopentadiene	<0.050		0.050		ug/L		05/29/24 10:30	05/30/24 12:29	1
Indeno[1,2,3-cd]pyrene	<0.050		0.050		ug/L		05/29/24 10:30	05/30/24 12:29	1
Isophorone	<0.50		0.50		ug/L		05/29/24 10:30	05/30/24 12:29	1
Lindane	<0.040		0.040		ug/L		05/29/24 10:30	05/30/24 12:29	1
Malathion	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
Methoxychlor	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
Metolachlor	<0.050		0.050		ug/L		05/29/24 10:30	05/30/24 12:29	1
Molinate	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
Naphthalene	<0.30		0.30		ug/L		05/29/24 10:30	05/30/24 12:29	1
Parathion	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
Pendimethalin (Penoxaline)	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
Phenanthrene	<0.040		0.040		ug/L		05/29/24 10:30	05/30/24 12:29	1
Propachlor	<0.050		0.050		ug/L		05/29/24 10:30	05/30/24 12:29	1
Pyrene	<0.050		0.050		ug/L		05/29/24 10:30	05/30/24 12:29	1
Simazine	<0.050		0.050		ug/L		05/29/24 10:30	05/30/24 12:29	1
Terbacil	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
Terbuthylazine	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1
Thiobencarb	<0.20		0.20		ug/L		05/29/24 10:30	05/30/24 12:29	1
Total Permethrin (mixed isomers)	<0.20		0.20		ug/L		05/29/24 10:30	05/30/24 12:29	1
trans-Nonachlor	<0.050		0.050		ug/L		05/29/24 10:30	05/30/24 12:29	1
Trifluralin	<0.099		0.099		ug/L		05/29/24 10:30	05/30/24 12:29	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*			*N/A*	*05/29/24 10:30*	*05/30/24 12:29*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*97*		*70 - 130*	*05/29/24 10:30*	*05/30/24 12:29*	*1*
Perylene-d12	*97*		*70 - 130*	*05/29/24 10:30*	*05/30/24 12:29*	*1*
Triphenylphosphate	*109*		*70 - 130*	*05/29/24 10:30*	*05/30/24 12:29*	*1*

Lab Sample ID: LCS 380-92588/23-A
Matrix: Water
Analysis Batch: 92797

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 92588

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1-Methylnaphthalene			1.98	2.01		ug/L		101	70 - 130		
2,4'-DDD			1.98	2.29		ug/L		115	70 - 130		
2,4'-DDE			1.98	2.09		ug/L		105	70 - 130		
2,4'-DDT			1.98	2.37		ug/L		120	70 - 130		
2,4-Dinitrotoluene			1.98	2.12		ug/L		107	70 - 130		
2,6-Dinitrotoluene			1.98	2.10		ug/L		106	70 - 130		
2-Methylnaphthalene			1.98	2.05		ug/L		103	70 - 130		

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

Lab Sample ID: LCS 380-92588/23-A
Matrix: Water
Analysis Batch: 92797

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 92588

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
4,4'-DDD	1.98	2.29		ug/L		116	70 - 130
4,4'-DDE	1.98	2.24		ug/L		113	70 - 130
4,4'-DDT	1.98	2.14		ug/L		108	70 - 130
Acenaphthene	1.98	1.90		ug/L		96	70 - 130
Acenaphthylene	1.98	2.00		ug/L		101	70 - 130
Acetochlor	1.98	2.11		ug/L		106	70 - 130
Alachlor	1.98	2.11		ug/L		107	70 - 130
alpha-BHC	1.98	1.97		ug/L		99	70 - 130
alpha-Chlordane	1.98	2.16		ug/L		109	70 - 130
Anthracene	1.98	1.60		ug/L		81	70 - 130
Atrazine	1.98	2.34		ug/L		118	70 - 130
Benz(a)anthracene	1.98	2.00		ug/L		101	70 - 130
Benzo[a]pyrene	1.98	1.93		ug/L		97	70 - 130
Benzo[b]fluoranthene	1.98	2.20		ug/L		111	70 - 130
Benzo[g,h,i]perylene	1.98	1.99		ug/L		100	70 - 130
Benzo[k]fluoranthene	1.98	2.18		ug/L		110	70 - 130
beta-BHC	1.98	2.05		ug/L		104	70 - 130
Bis(2-ethylhexyl) phthalate	1.98	2.20		ug/L		111	70 - 130
Bromacil	1.98	2.50		ug/L		126	70 - 130
Butachlor	1.98	2.28		ug/L		115	70 - 130
Butylbenzylphthalate	1.98	2.35		ug/L		119	70 - 130
Chlorobenzilate	1.98	2.06		ug/L		104	70 - 130
Chloroneb	1.98	2.00		ug/L		101	70 - 130
Chlorothalonil (Draconil, Bravo)	1.98	2.28		ug/L		115	70 - 130
Chlorpyrifos	1.98	2.24		ug/L		113	70 - 130
Chrysene	1.98	2.11		ug/L		106	70 - 130
delta-BHC	1.98	1.95		ug/L		98	70 - 130
Di(2-ethylhexyl)adipate	1.98	2.48		ug/L		125	70 - 130
Dibenz(a,h)anthracene	1.98	2.08		ug/L		105	70 - 130
Diclorvos (DDVP)	1.98	2.26		ug/L		114	70 - 130
Dieldrin	1.98	2.00		ug/L		101	70 - 130
Diethylphthalate	1.98	2.12		ug/L		107	70 - 130
Dimethylphthalate	1.98	2.14		ug/L		108	70 - 130
Di-n-butyl phthalate	3.96	4.28		ug/L		108	70 - 130
Di-n-octyl phthalate	1.98	2.09		ug/L		105	70 - 130
Endosulfan I (Alpha)	1.98	1.96		ug/L		99	70 - 130
Endosulfan II (Beta)	1.98	2.07		ug/L		104	70 - 130
Endosulfan sulfate	1.98	2.21		ug/L		112	70 - 130
Endrin	1.98	2.17		ug/L		110	70 - 130
Endrin aldehyde	1.98	1.58		ug/L		80	60 - 130
EPTC	1.98	2.36		ug/L		119	70 - 130
Fluoranthene	1.98	2.17		ug/L		109	70 - 130
Fluorene	1.98	2.11		ug/L		106	70 - 130
gamma-Chlordane	1.98	2.25		ug/L		113	70 - 130
Heptachlor	1.98	2.16		ug/L		109	70 - 130
Heptachlor epoxide (isomer B)	1.98	2.15		ug/L		108	70 - 130
Hexachlorobenzene	1.98	2.03		ug/L		102	70 - 130
Hexachlorocyclopentadiene	1.98	2.00		ug/L		101	70 - 130
Indeno[1,2,3-cd]pyrene	1.98	2.08		ug/L		105	70 - 130

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

Lab Sample ID: LCS 380-92588/23-A
Matrix: Water
Analysis Batch: 92797

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 92588

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Isophorone			1.98	2.16		ug/L		109	70 - 130		
Lindane			1.98	2.03		ug/L		102	70 - 130		
Malathion			1.98	2.28		ug/L		115	70 - 130		
Methoxychlor			1.98	2.19		ug/L		110	70 - 130		
Metolachlor			1.98	2.19		ug/L		111	70 - 130		
Molinate			1.98	2.18		ug/L		110	70 - 130		
Naphthalene			1.98	1.86		ug/L		94	70 - 130		
Parathion			1.98	2.33		ug/L		118	70 - 130		
Pendimethalin (Penoxaline)			1.98	2.17		ug/L		110	70 - 130		
Phenanthrene			1.98	1.92		ug/L		97	70 - 130		
Propachlor			1.98	2.20		ug/L		111	70 - 130		
Pyrene			1.98	2.20		ug/L		111	70 - 130		
Simazine			1.98	2.30		ug/L		116	70 - 130		
Terbacil			1.98	2.19		ug/L		111	70 - 130		
Terbuthylazine			1.98	2.26		ug/L		114	70 - 130		
Thiobencarb			1.98	2.38		ug/L		120	70 - 130		
trans-Nonachlor			1.98	2.21		ug/L		111	70 - 130		
Trifluralin			1.98	2.07		ug/L		104	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Nitro-m-xylene	*95*		*70 - 130*
Perylene-d12	*97*		*70 - 130*
Triphenylphosphate	*113*		*70 - 130*

Lab Sample ID: LCSD 380-92588/24-A
Matrix: Water
Analysis Batch: 92797

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 92588

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene			1.98	1.98		ug/L		100	70 - 130	1	20
2,4'-DDD			1.98	2.19		ug/L		110	70 - 130	5	20
2,4'-DDE			1.98	2.04		ug/L		103	70 - 130	2	20
2,4'-DDT			1.98	2.31		ug/L		116	70 - 130	3	20
2,4-Dinitrotoluene			1.98	2.00		ug/L		101	70 - 130	6	20
2,6-Dinitrotoluene			1.98	1.96		ug/L		99	70 - 130	7	20
2-Methylnaphthalene			1.98	2.02		ug/L		102	70 - 130	1	20
4,4'-DDD			1.98	2.22		ug/L		112	70 - 130	3	20
4,4'-DDE			1.98	2.15		ug/L		108	70 - 130	4	20
4,4'-DDT			1.98	2.06		ug/L		104	70 - 130	4	20
Acenaphthene			1.98	1.88		ug/L		95	70 - 130	1	20
Acenaphthylene			1.98	1.98		ug/L		100	70 - 130	1	20
Acetochlor			1.98	2.11		ug/L		107	70 - 130	0	20
Alachlor			1.98	2.07		ug/L		104	70 - 130	2	20
alpha-BHC			1.98	1.92		ug/L		97	70 - 130	3	20
alpha-Chlordane			1.98	2.09		ug/L		105	70 - 130	3	20
Anthracene			1.98	1.57		ug/L		79	70 - 130	2	20
Atrazine			1.98	2.26		ug/L		114	70 - 130	4	20
Benz(a)anthracene			1.98	1.91		ug/L		96	70 - 130	4	20

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

Lab Sample ID: LCSD 380-92588/24-A
Matrix: Water
Analysis Batch: 92797

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 92588

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzo[a]pyrene			1.98	1.88		ug/L		95	70 - 130	2	20
Benzo[b]fluoranthene			1.98	2.21		ug/L		111	70 - 130	0	20
Benzo[g,h,i]perylene			1.98	2.03		ug/L		103	70 - 130	2	20
Benzo[k]fluoranthene			1.98	2.11		ug/L		107	70 - 130	3	20
beta-BHC			1.98	1.97		ug/L		99	70 - 130	4	20
Bis(2-ethylhexyl) phthalate			1.98	2.21		ug/L		111	70 - 130	0	20
Bromacil			1.98	2.30		ug/L		116	70 - 130	8	20
Butachlor			1.98	2.20		ug/L		111	70 - 130	4	20
Butylbenzylphthalate			1.98	2.30		ug/L		116	70 - 130	2	20
Chlorobenzilate			1.98	1.95		ug/L		98	70 - 130	6	20
Chloroneb			1.98	2.00		ug/L		101	70 - 130	0	20
Chlorothalonil (Draconil, Bravo)			1.98	2.25		ug/L		113	70 - 130	1	20
Chlorpyrifos			1.98	2.16		ug/L		109	70 - 130	3	20
Chrysene			1.98	2.09		ug/L		105	70 - 130	1	20
delta-BHC			1.98	1.97		ug/L		99	70 - 130	1	20
Di(2-ethylhexyl)adipate			1.98	2.45		ug/L		123	70 - 130	1	20
Dibenz(a,h)anthracene			1.98	2.11		ug/L		106	70 - 130	2	20
Diclorvos (DDVP)			1.98	2.18		ug/L		110	70 - 130	3	20
Dieldrin			1.98	1.94		ug/L		98	70 - 130	3	20
Diethylphthalate			1.98	2.06		ug/L		104	70 - 130	3	20
Dimethylphthalate			1.98	2.04		ug/L		103	70 - 130	5	20
Di-n-butyl phthalate			3.96	4.28		ug/L		108	70 - 130	0	20
Di-n-octyl phthalate			1.98	2.11		ug/L		106	70 - 130	1	20
Endosulfan I (Alpha)			1.98	1.91		ug/L		96	70 - 130	3	20
Endosulfan II (Beta)			1.98	2.00		ug/L		101	70 - 130	3	20
Endosulfan sulfate			1.98	2.14		ug/L		108	70 - 130	3	20
Endrin			1.98	2.09		ug/L		105	70 - 130	4	20
Endrin aldehyde			1.98	1.57		ug/L		79	60 - 130	1	20
EPTC			1.98	2.27		ug/L		114	70 - 130	4	20
Fluoranthene			1.98	2.13		ug/L		108	70 - 130	2	20
Fluorene			1.98	2.07		ug/L		105	70 - 130	2	20
gamma-Chlordane			1.98	2.18		ug/L		110	70 - 130	3	20
Heptachlor			1.98	2.13		ug/L		107	70 - 130	2	20
Heptachlor epoxide (isomer B)			1.98	2.10		ug/L		106	70 - 130	2	20
Hexachlorobenzene			1.98	1.93		ug/L		97	70 - 130	5	20
Hexachlorocyclopentadiene			1.98	1.94		ug/L		98	70 - 130	3	20
Indeno[1,2,3-cd]pyrene			1.98	2.07		ug/L		105	70 - 130	0	20
Isophorone			1.98	2.11		ug/L		106	70 - 130	2	20
Lindane			1.98	1.96		ug/L		99	70 - 130	3	20
Malathion			1.98	2.18		ug/L		110	70 - 130	4	20
Methoxychlor			1.98	2.14		ug/L		108	70 - 130	2	20
Metolachlor			1.98	2.12		ug/L		107	70 - 130	3	20
Molinate			1.98	2.14		ug/L		108	70 - 130	2	20
Naphthalene			1.98	1.84		ug/L		93	70 - 130	1	20
Parathion			1.98	2.22		ug/L		112	70 - 130	5	20
Pendimethalin (Penoxaline)			1.98	2.11		ug/L		107	70 - 130	3	20
Phenanthrene			1.98	1.92		ug/L		97	70 - 130	0	20
Propachlor			1.98	2.11		ug/L		107	70 - 130	4	20
Pyrene			1.98	2.14		ug/L		108	70 - 130	3	20

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

Lab Sample ID: LCSD 380-92588/24-A
Matrix: Water
Analysis Batch: 92797

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 92588

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Simazine			1.98	2.17		ug/L		109	70 - 130	6	20
Terbacil			1.98	2.17		ug/L		109	70 - 130	1	20
Terbuthylazine			1.98	2.17		ug/L		109	70 - 130	4	20
Thiobencarb			1.98	2.40		ug/L		121	70 - 130	1	20
trans-Nonachlor			1.98	2.14		ug/L		108	70 - 130	3	20
Trifluralin			1.98	1.96		ug/L		99	70 - 130	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Nitro-m-xylene	*94*		*70 - 130*
Perylene-d12	*97*		*70 - 130*
Triphenylphosphate	*111*		*70 - 130*

Lab Sample ID: MRL 380-92588/22-A
Matrix: Water
Analysis Batch: 92797

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 92588

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
1-Methylnaphthalene			0.0992	0.114		ug/L		115	50 - 150		
2,4'-DDD			0.0992	0.115		ug/L		116	50 - 150		
2,4'-DDE			0.0992	0.105		ug/L		105	50 - 150		
2,4'-DDT			0.0992	0.109		ug/L		110	50 - 150		
2,4-Dinitrotoluene			0.0992	0.106		ug/L		107	50 - 150		
2,6-Dinitrotoluene			0.0992	0.113		ug/L		114	50 - 150		
2-Methylnaphthalene			0.0992	0.111		ug/L		111	50 - 150		
4,4'-DDD			0.0992	0.113		ug/L		113	50 - 150		
4,4'-DDE			0.0992	0.100		ug/L		101	50 - 150		
4,4'-DDT			0.0992	0.124		ug/L		125	50 - 150		
Acenaphthene			0.0992	0.0935	J	ug/L		94	50 - 150		
Acenaphthylene			0.0992	0.101		ug/L		101	50 - 150		
Acetochlor			0.0496	0.0529	J	ug/L		107	50 - 150		
Alachlor			0.0496	0.0499	J	ug/L		101	50 - 150		
alpha-BHC			0.0992	0.106		ug/L		107	50 - 150		
alpha-Chlordane			0.0248	<0.029		ug/L		108	50 - 150		
Anthracene			0.0198	0.0199	J	ug/L		100	50 - 150		
Atrazine			0.0496	0.0503		ug/L		101	50 - 150		
Benz(a)anthracene			0.0496	0.0546		ug/L		110	50 - 150		
Benzo[a]pyrene			0.0198	0.0200		ug/L		101	50 - 150		
Benzo[b]fluoranthene			0.0198	0.0226		ug/L		114	50 - 150		
Benzo[g,h,i]perylene			0.0496	0.0520		ug/L		105	50 - 150		
Benzo[k]fluoranthene			0.0198	0.0212		ug/L		107	50 - 150		
beta-BHC			0.0992	0.115		ug/L		116	50 - 150		
Bis(2-ethylhexyl) phthalate			0.595	0.676		ug/L		114	50 - 150		
Bromacil			0.0992	0.116		ug/L		117	50 - 150		
Butachlor			0.0496	0.0558		ug/L		112	50 - 150		
Butylbenzylphthalate			0.149	0.159	J	ug/L		107	50 - 150		
Chlorobenzilate			0.0992	0.0707	J	ug/L		71	50 - 150		
Chloroneb			0.0992	0.0949	J	ug/L		96	50 - 150		
Chlorothalonil (Draconil, Bravo)			0.0992	0.130		ug/L		131	50 - 150		

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

Lab Sample ID: MRL 380-92588/22-A
Matrix: Water
Analysis Batch: 92797

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 92588

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chlorpyrifos	0.0496	0.0529		ug/L		107	50 - 150
Chrysene	0.0198	0.0189	J	ug/L		95	50 - 150
delta-BHC	0.0992	0.122		ug/L		123	50 - 150
Di(2-ethylhexyl)adipate	0.298	0.355	J	ug/L		119	50 - 150
Dibenz(a,h)anthracene	0.0496	0.0502		ug/L		101	50 - 150
Diclorvos (DDVP)	0.0496	0.0619		ug/L		125	50 - 150
Dieldrin	0.0992	0.102	J	ug/L		103	50 - 150
Diethylphthalate	0.149	0.157	J	ug/L		106	50 - 150
Dimethylphthalate	0.298	0.303	J	ug/L		102	50 - 150
Di-n-butyl phthalate	0.298	0.356	J	ug/L		120	49 - 243
Di-n-octyl phthalate	0.0992	0.110		ug/L		111	50 - 150
Endosulfan I (Alpha)	0.0992	0.0924	J	ug/L		93	50 - 150
Endosulfan II (Beta)	0.0992	0.122		ug/L		123	50 - 150
Endosulfan sulfate	0.0992	0.103		ug/L		104	50 - 150
Endrin	0.0992	0.112		ug/L		113	50 - 150
Endrin aldehyde	0.0992	0.100		ug/L		101	50 - 150
EPTC	0.0992	0.117		ug/L		118	50 - 150
Fluoranthene	0.0496	0.0540	J	ug/L		109	50 - 150
Fluorene	0.0496	0.0520		ug/L		105	50 - 150
gamma-Chlordane	0.0248	0.0264	J	ug/L		107	50 - 150
Heptachlor	0.0397	0.0479		ug/L		121	50 - 150
Heptachlor epoxide (isomer B)	0.0496	0.0576		ug/L		116	50 - 150
Hexachlorobenzene	0.0496	0.0496	J	ug/L		100	50 - 150
Hexachlorocyclopentadiene	0.0496	0.0582		ug/L		117	50 - 150
Indeno[1,2,3-cd]pyrene	0.0496	0.0510		ug/L		103	50 - 150
Isophorone	0.0992	0.121	J	ug/L		122	50 - 150
Lindane	0.0397	0.0408		ug/L		103	50 - 150
Malathion	0.0992	0.108		ug/L		108	50 - 150
Methoxychlor	0.0992	0.116		ug/L		117	50 - 150
Metolachlor	0.0496	0.0578		ug/L		117	50 - 150
Molinate	0.0992	0.124		ug/L		125	50 - 150
Naphthalene	0.0992	0.104	J	ug/L		104	50 - 150
Parathion	0.0992	0.125		ug/L		126	50 - 150
Pendimethalin (Penoxaline)	0.0992	0.100		ug/L		101	50 - 150
Phenanthrene	0.0198	0.0212	J	ug/L		107	50 - 150
Propachlor	0.0496	0.0499	J	ug/L		101	50 - 150
Pyrene	0.0496	0.0517		ug/L		104	50 - 150
Simazine	0.0496	0.0486	J	ug/L		98	50 - 150
Terbacil	0.0992	0.101		ug/L		102	50 - 150
Terbuthylazine	0.0992	0.109		ug/L		110	50 - 150
Thiobencarb	0.0992	0.125	J	ug/L		126	50 - 150
trans-Nonachlor	0.0248	0.0279	J	ug/L		112	50 - 150
Trifluralin	0.0992	0.115		ug/L		116	50 - 150

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
2-Nitro-m-xylene	*96*		*70 - 130*
Perylene-d12	*98*		*70 - 130*
Triphenylphosphate	*108*		*70 - 130*

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

Lab Sample ID: 380-96902-1 MS
Matrix: Water
Analysis Batch: 92797

Client Sample ID: MOANALUA WELLS
Prep Type: Total/NA
Prep Batch: 92588

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	<0.097		1.97	2.07		ug/L		105	70 - 130
2,4'-DDD	<0.097		1.97	2.29		ug/L		116	70 - 130
2,4'-DDE	<0.097		1.97	2.08		ug/L		106	70 - 130
2,4'-DDT	<0.097		1.97	2.32		ug/L		118	70 - 130
2,4-Dinitrotoluene	<0.097		1.97	2.11		ug/L		107	70 - 130
2,6-Dinitrotoluene	<0.097		1.97	2.11		ug/L		107	70 - 130
2-Methylnaphthalene	<0.097		1.97	2.08		ug/L		106	70 - 130
4,4'-DDD	<0.097		1.97	2.27		ug/L		116	70 - 130
4,4'-DDE	<0.097		1.97	2.18		ug/L		111	70 - 130
4,4'-DDT	<0.097		1.97	2.09		ug/L		106	70 - 130
Acenaphthene	<0.097		1.97	1.91		ug/L		97	70 - 130
Acenaphthylene	<0.097		1.97	2.02		ug/L		103	70 - 130
Acetochlor	<0.097		1.97	2.17		ug/L		110	70 - 130
Alachlor	<0.049		1.97	2.15		ug/L		109	70 - 130
alpha-BHC	<0.097		1.97	2.02		ug/L		102	70 - 130
alpha-Chlordane	<0.049		1.97	2.23		ug/L		113	70 - 130
Anthracene	<0.019	F1	1.97	1.04	F1	ug/L		53	70 - 130
Atrazine	<0.049		1.97	2.34		ug/L		119	70 - 130
Benz(a)anthracene	<0.049		1.97	1.94		ug/L		98	70 - 130
Benzo[a]pyrene	<0.019		1.97	1.73		ug/L		88	70 - 130
Benzo[b]fluoranthene	<0.019		1.97	2.14		ug/L		108	70 - 130
Benzo[g,h,i]perylene	<0.049		1.97	2.04		ug/L		103	70 - 130
Benzo[k]fluoranthene	<0.019		1.97	2.08		ug/L		106	70 - 130
beta-BHC	<0.097		1.97	2.04		ug/L		104	70 - 130
Bis(2-ethylhexyl) phthalate	<0.58		1.97	1.99		ug/L		101	70 - 130
Bromacil	<0.097		1.97	2.48		ug/L		126	70 - 130
Butachlor	<0.049		1.97	2.28		ug/L		116	70 - 130
Butylbenzylphthalate	<0.49		1.97	2.39		ug/L		121	70 - 130
Chlorobenzilate	<0.097		1.97	1.98		ug/L		100	70 - 130
Chloroneb	<0.097		1.97	2.09		ug/L		106	70 - 130
Chlorothalonil (Draconil, Bravo)	<0.097		1.97	2.34		ug/L		119	70 - 130
Chlorpyrifos	<0.049		1.97	2.27		ug/L		115	70 - 130
Chrysene	<0.019		1.97	2.06		ug/L		105	70 - 130
delta-BHC	<0.097		1.97	1.97		ug/L		100	70 - 130
Di(2-ethylhexyl)adipate	<0.58		1.97	2.35		ug/L		119	70 - 130
Dibenz(a,h)anthracene	<0.049		1.97	1.95		ug/L		99	70 - 130
Diclorvos (DDVP)	<0.049		1.97	2.30		ug/L		117	70 - 130
Dieldrin	<0.19		1.97	2.08		ug/L		105	70 - 130
Diethylphthalate	<0.49		1.97	2.13		ug/L		108	70 - 130
Dimethylphthalate	<0.49		1.97	2.14		ug/L		109	70 - 130
Di-n-butyl phthalate	<0.97		3.94	4.34		ug/L		110	70 - 130
Di-n-octyl phthalate	<0.097		1.97	1.87		ug/L		95	70 - 130
Endosulfan I (Alpha)	<0.097		1.97	1.99		ug/L		101	70 - 130
Endosulfan II (Beta)	<0.097		1.97	2.08		ug/L		106	70 - 130
Endosulfan sulfate	<0.097		1.97	2.25		ug/L		114	70 - 130
Endrin	<0.097		1.97	2.19		ug/L		111	70 - 130
Endrin aldehyde	<0.097		1.97	1.82		ug/L		92	60 - 130
EPTC	<0.097		1.97	2.35		ug/L		119	70 - 130

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

Lab Sample ID: 380-96902-1 MS
Matrix: Water
Analysis Batch: 92797

Client Sample ID: MOANALUA WELLS
Prep Type: Total/NA
Prep Batch: 92588

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoranthene	<0.097		1.97	2.21		ug/L		112	70 - 130
Fluorene	<0.049		1.97	2.13		ug/L		108	70 - 130
gamma-Chlordane	<0.049		1.97	2.25		ug/L		115	70 - 130
Heptachlor	<0.039		1.97	2.18		ug/L		111	70 - 130
Heptachlor epoxide (isomer B)	<0.049		1.97	2.25		ug/L		114	70 - 130
Hexachlorobenzene	<0.049		1.97	2.06		ug/L		105	70 - 130
Hexachlorocyclopentadiene	<0.049		1.97	2.11		ug/L		107	70 - 130
Indeno[1,2,3-cd]pyrene	<0.049		1.97	2.00		ug/L		102	70 - 130
Isophorone	<0.49		1.97	2.20		ug/L		112	70 - 130
Lindane	<0.039		1.97	2.07		ug/L		105	70 - 130
Malathion	<0.097		1.97	2.28		ug/L		116	70 - 130
Methoxychlor	<0.097		1.97	2.14		ug/L		109	70 - 130
Metolachlor	<0.049		1.97	2.23		ug/L		113	70 - 130
Molinate	<0.097		1.97	2.17		ug/L		110	70 - 130
Naphthalene	<0.29		1.97	1.90		ug/L		97	70 - 130
Parathion	<0.097		1.97	2.32		ug/L		118	70 - 130
Pendimethalin (Penoxaline)	<0.097		1.97	2.17		ug/L		110	70 - 130
Phenanthrene	<0.039		1.97	1.99		ug/L		101	70 - 130
Propachlor	<0.049		1.97	2.20		ug/L		112	70 - 130
Pyrene	<0.049		1.97	2.21		ug/L		112	70 - 130
Simazine	<0.049		1.97	2.28		ug/L		116	70 - 130
Terbacil	<0.097		1.97	2.24		ug/L		114	70 - 130
Terbuthylazine	<0.097		1.97	2.25		ug/L		114	70 - 130
Thiobencarb	<0.19		1.97	2.43		ug/L		123	70 - 130
trans-Nonachlor	<0.049		1.97	2.22		ug/L		113	70 - 130
Trifluralin	<0.097		1.97	2.07		ug/L		105	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Nitro-m-xylene	*97*		*70 - 130*
Perylene-d12	*96*		*70 - 130*
Triphenylphosphate	*114*		*70 - 130*

Lab Sample ID: 380-96902-2 DU
Matrix: Water
Analysis Batch: 92797

Client Sample ID: AIEA GULCH WELLS PUMP 2
Prep Type: Total/NA
Prep Batch: 92588

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
1-Methylnaphthalene	<0.097		<0.097		ug/L		NC	20
2,4'-DDD	<0.097		<0.097		ug/L		NC	20
2,4'-DDE	<0.097		<0.097		ug/L		NC	20
2,4'-DDT	<0.097		<0.097		ug/L		NC	20
2,4-Dinitrotoluene	<0.097		<0.097		ug/L		NC	20
2,6-Dinitrotoluene	<0.097		<0.097		ug/L		NC	20
2-Methylnaphthalene	<0.097		<0.097		ug/L		NC	20
4,4'-DDD	<0.097		<0.097		ug/L		NC	20
4,4'-DDE	<0.097		<0.097		ug/L		NC	20
4,4'-DDT	<0.097		<0.097		ug/L		NC	20
Acenaphthene	<0.097		<0.097		ug/L		NC	20

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

Lab Sample ID: 380-96902-2 DU
Matrix: Water
Analysis Batch: 92797

Client Sample ID: AIEA GULCH WELLS PUMP 2
Prep Type: Total/NA
Prep Batch: 92588

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Acenaphthylene	<0.097		<0.097		ug/L		NC	20
Acetochlor	<0.097		<0.097		ug/L		NC	20
Alachlor	<0.049		<0.049		ug/L		NC	20
alpha-BHC	<0.097		<0.097		ug/L		NC	20
alpha-Chlordane	<0.049		<0.049		ug/L		NC	20
Anthracene	<0.019		<0.019		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	<0.019		<0.019		ug/L		NC	20
Benzo[b]fluoranthene	<0.019		<0.019		ug/L		NC	20
Benzo[g,h,i]perylene	<0.049		<0.049		ug/L		NC	20
Benzo[k]fluoranthene	<0.019		<0.019		ug/L		NC	20
beta-BHC	<0.097		<0.097		ug/L		NC	20
Bis(2-ethylhexyl) phthalate	<0.58		<0.58		ug/L		NC	20
Bromacil	<0.097		<0.097		ug/L		NC	20
Butachlor	<0.049		<0.049		ug/L		NC	20
Butylbenzylphthalate	<0.49		<0.49		ug/L		NC	20
Chlorobenzilate	<0.097		<0.097		ug/L		NC	20
Chloroneb	<0.097		<0.097		ug/L		NC	20
Chlorothalonil (Draconil, Bravo)	<0.097		<0.097		ug/L		NC	20
Chlorpyrifos	<0.049		<0.049		ug/L		NC	20
Chrysene	<0.019		<0.019		ug/L		NC	20
delta-BHC	<0.097		<0.097		ug/L		NC	20
Di(2-ethylhexyl)adipate	<0.58		<0.58		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	<0.19		<0.19		ug/L		NC	20
Diethylphthalate	<0.49		<0.49		ug/L		NC	20
Dimethylphthalate	<0.49		<0.49		ug/L		NC	20
Di-n-butyl phthalate	<0.97		<0.97		ug/L		NC	20
Di-n-octyl phthalate	<0.097		<0.097		ug/L		NC	20
Endosulfan I (Alpha)	<0.097		<0.097		ug/L		NC	20
Endosulfan II (Beta)	<0.097		<0.097		ug/L		NC	20
Endosulfan sulfate	<0.097		<0.097		ug/L		NC	20
Endrin	<0.097		<0.097		ug/L		NC	20
Endrin aldehyde	<0.097		<0.097		ug/L		NC	20
EPTC	<0.097		<0.097		ug/L		NC	20
Fluoranthene	<0.097		<0.097		ug/L		NC	20
Fluorene	<0.049		<0.049		ug/L		NC	20
gamma-Chlordane	<0.049		<0.049		ug/L		NC	20
Heptachlor	<0.039		<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	<0.097		<0.097		ug/L		NC	20
Methoxychlor	<0.097		<0.097		ug/L		NC	20

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

Lab Sample ID: 380-96902-2 DU
Matrix: Water
Analysis Batch: 92797

Client Sample ID: AIEA GULCH WELLS PUMP 2
Prep Type: Total/NA
Prep Batch: 92588

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Metolachlor	<0.049			<0.049		ug/L				NC	20
Molinate	<0.097			<0.097		ug/L				NC	20
Naphthalene	<0.29			<0.29		ug/L				NC	20
Parathion	<0.097			<0.097		ug/L				NC	20
Pendimethalin (Penoxaline)	<0.097			<0.097		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	<0.097			<0.097		ug/L				NC	20
Terbuthylazine	<0.097			<0.097		ug/L				NC	20
Thiobencarb	<0.19			<0.19		ug/L				NC	20
Total Permethrin (mixed isomers)	<0.19			<0.19		ug/L				NC	20
trans-Nonachlor	<0.049			<0.049		ug/L				NC	20
Trifluralin	<0.097			<0.097		ug/L				NC	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
2-Nitro-m-xylene	*101*		*70 - 130*
Perylene-d12	*95*		*70 - 130*
Triphenylphosphate	*113*		*70 - 130*

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

Lab Sample ID: MBL 380-91953/22-A
Matrix: Water
Analysis Batch: 92149

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 91953

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		05/23/24 10:26	05/24/24 13:17	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		05/23/24 10:26	05/24/24 13:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		05/23/24 10:26	05/24/24 13:17	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0		ng/L		05/23/24 10:26	05/24/24 13:17	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		05/23/24 10:26	05/24/24 13:17	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		05/23/24 10:26	05/24/24 13:17	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		05/23/24 10:26	05/24/24 13:17	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		05/23/24 10:26	05/24/24 13:17	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		05/23/24 10:26	05/24/24 13:17	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		05/23/24 10:26	05/24/24 13:17	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		05/23/24 10:26	05/24/24 13:17	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		05/23/24 10:26	05/24/24 13:17	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		05/23/24 10:26	05/24/24 13:17	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		05/23/24 10:26	05/24/24 13:17	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0		ng/L		05/23/24 10:26	05/24/24 13:17	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0		ng/L		05/23/24 10:26	05/24/24 13:17	1

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

Lab Sample ID: MBL 380-91953/22-A
Matrix: Water
Analysis Batch: 92149

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 91953

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0		ng/L		05/23/24 10:26	05/24/24 13:17	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0		ng/L		05/23/24 10:26	05/24/24 13:17	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0		ng/L		05/23/24 10:26	05/24/24 13:17	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0		ng/L		05/23/24 10:26	05/24/24 13:17	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0		ng/L		05/23/24 10:26	05/24/24 13:17	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0		ng/L		05/23/24 10:26	05/24/24 13:17	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0		ng/L		05/23/24 10:26	05/24/24 13:17	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0		ng/L		05/23/24 10:26	05/24/24 13:17	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0		ng/L		05/23/24 10:26	05/24/24 13:17	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*88*		*50 - 200*	*05/23/24 10:26*	*05/24/24 13:17*	*1*
13C6 PFDA	*97*		*50 - 200*	*05/23/24 10:26*	*05/24/24 13:17*	*1*
13C5 PFHxA	*95*		*50 - 200*	*05/23/24 10:26*	*05/24/24 13:17*	*1*
13C4 PFHpA	*101*		*50 - 200*	*05/23/24 10:26*	*05/24/24 13:17*	*1*
13C8 PFOA	*102*		*50 - 200*	*05/23/24 10:26*	*05/24/24 13:17*	*1*
13C9 PFNA	*102*		*50 - 200*	*05/23/24 10:26*	*05/24/24 13:17*	*1*
13C7 PFUnA	*88*		*50 - 200*	*05/23/24 10:26*	*05/24/24 13:17*	*1*
13C2 PFDoA	*89*		*50 - 200*	*05/23/24 10:26*	*05/24/24 13:17*	*1*
13C4 PFBA	*96*		*50 - 200*	*05/23/24 10:26*	*05/24/24 13:17*	*1*
13C5 PFPeA	*103*		*50 - 200*	*05/23/24 10:26*	*05/24/24 13:17*	*1*
13C3 PFBS	*102*		*50 - 200*	*05/23/24 10:26*	*05/24/24 13:17*	*1*
13C3 PFHxS	*104*		*50 - 200*	*05/23/24 10:26*	*05/24/24 13:17*	*1*
13C8 PFOS	*99*		*50 - 200*	*05/23/24 10:26*	*05/24/24 13:17*	*1*
13C2-4:2-FTS	*115*		*50 - 200*	*05/23/24 10:26*	*05/24/24 13:17*	*1*
13C2-6:2-FTS	*99*		*50 - 200*	*05/23/24 10:26*	*05/24/24 13:17*	*1*
13C2-8:2-FTS	*86*		*50 - 200*	*05/23/24 10:26*	*05/24/24 13:17*	*1*

Lab Sample ID: LCS 380-91953/24-A
Matrix: Water
Analysis Batch: 92149

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 91953

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			120	86.8		ng/L		72	70 - 130		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			120	94.2		ng/L		78	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			120	110		ng/L		91	70 - 130		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			120	112		ng/L		93	70 - 130		

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

Lab Sample ID: LCS 380-91953/24-A
Matrix: Water
Analysis Batch: 92149

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 91953

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanesulfonic acid (PFBS)	120	101		ng/L		84	70 - 130
Perfluorodecanoic acid (PFDA)	120	113		ng/L		94	70 - 130
Perfluorododecanoic acid (PFDoA)	120	103		ng/L		86	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	111		ng/L		92	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	110		ng/L		91	70 - 130
Perfluorohexanoic acid (PFHxA)	120	110		ng/L		92	70 - 130
Perfluorononanoic acid (PFNA)	120	109		ng/L		91	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	107		ng/L		89	70 - 130
Perfluorooctanoic acid (PFOA)	120	107		ng/L		89	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	107		ng/L		89	70 - 130
Perfluorobutanoic acid (PFBA)	120	105		ng/L		87	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	115		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	111		ng/L		92	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	112		ng/L		93	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	86.5		ng/L		72	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	120	93.1		ng/L		77	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	107		ng/L		89	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	105		ng/L		87	70 - 130
Perfluoropentanoic acid (PFPeA)	120	108		ng/L		90	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	108		ng/L		90	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	120	110		ng/L		91	70 - 130

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*95*		*50 - 200*
13C6 PFDA	*104*		*50 - 200*
13C5 PFHxA	*98*		*50 - 200*
13C4 PFHpA	*101*		*50 - 200*
13C8 PFOA	*106*		*50 - 200*
13C9 PFNA	*107*		*50 - 200*
13C7 PFUnA	*96*		*50 - 200*
13C2 PFDoA	*97*		*50 - 200*
13C4 PFBA	*102*		*50 - 200*
13C5 PFPeA	*104*		*50 - 200*
13C3 PFBS	*109*		*50 - 200*
13C3 PFHxS	*106*		*50 - 200*
13C8 PFOS	*106*		*50 - 200*
13C2-4:2-FTS	*114*		*50 - 200*
13C2-6:2-FTS	*105*		*50 - 200*

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

Lab Sample ID: LCS 380-91953/24-A
Matrix: Water
Analysis Batch: 92149

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 91953

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C2-8:2-FTS	93		50 - 200

Lab Sample ID: MRL 380-91953/23-A
Matrix: Water
Analysis Batch: 92149

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 91953

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.61	J	ng/L		80	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	1.74	J	ng/L		86	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.07	J	ng/L		103	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	2.00	J	ng/L		99	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.07	J	ng/L		103	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.14	J	ng/L		107	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.12	J	ng/L		105	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.21	J	ng/L		110	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.09	J	ng/L		104	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.09	J	ng/L		104	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.11	J	ng/L		105	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.15	J	ng/L		107	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.06	J	ng/L		102	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.04	J	ng/L		101	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	1.95	J	ng/L		97	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.06	J	ng/L		102	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.17	J	ng/L		108	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.59	J	ng/L		129	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	1.93	J	ng/L		96	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.01	1.84	J	ng/L		91	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	2.01	J	ng/L		100	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.93	J	ng/L		96	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	2.14	J	ng/L		106	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	1.99	J	ng/L		99	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	1.98	J	ng/L		99	50 - 150

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

Isotope Dilution	MRL %Recovery	MRL Qualifier	Limits
13C3 HFPO-DA	89		50 - 200
13C6 PFDA	98		50 - 200
13C5 PFHxA	96		50 - 200
13C4 PFHpA	104		50 - 200
13C8 PFOA	103		50 - 200
13C9 PFNA	101		50 - 200
13C7 PFUnA	91		50 - 200
13C2 PFDoA	89		50 - 200
13C4 PFBA	102		50 - 200
13C5 PFPeA	101		50 - 200
13C3 PFBS	103		50 - 200
13C3 PFHxS	103		50 - 200
13C8 PFOS	101		50 - 200
13C2-4:2-FTS	118		50 - 200
13C2-6:2-FTS	100		50 - 200
13C2-8:2-FTS	87		50 - 200

Lab Sample ID: 380-96888-D-1-B MS
Matrix: Water
Analysis Batch: 92149

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 91953

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		121	87.3		ng/L		72	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	95.4		ng/L		79	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	108		ng/L		89	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		121	109		ng/L		90	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		121	110		ng/L		91	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		121	116		ng/L		96	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		121	109		ng/L		90	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		121	109		ng/L		90	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		121	108		ng/L		89	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		121	110		ng/L		90	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		121	110		ng/L		91	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		121	110		ng/L		90	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		121	109		ng/L		89	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		121	113		ng/L		93	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		121	107		ng/L		89	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	111		ng/L		92	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	114		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	115		ng/L		95	70 - 130

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

Lab Sample ID: 380-96888-D-1-B MS
Matrix: Water
Analysis Batch: 92149

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 91953

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0	F1	121	90.4		ng/L		75	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		121	96.0		ng/L		79	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	114		ng/L		94	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	106		ng/L		87	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		121	107		ng/L		88	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	107		ng/L		88	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	107		ng/L		88	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C3 HFPO-DA	*88*		*50 - 200*
13C6 PFDA	*99*		*50 - 200*
13C5 PFHxA	*89*		*50 - 200*
13C4 PFHpA	*95*		*50 - 200*
13C8 PFOA	*99*		*50 - 200*
13C9 PFNA	*102*		*50 - 200*
13C7 PFUnA	*93*		*50 - 200*
13C2 PFDoA	*94*		*50 - 200*
13C4 PFBA	*92*		*50 - 200*
13C5 PFPeA	*105*		*50 - 200*
13C3 PFBS	*108*		*50 - 200*
13C3 PFHxS	*112*		*50 - 200*
13C8 PFOS	*108*		*50 - 200*
13C2-4:2-FTS	*116*		*50 - 200*
13C2-6:2-FTS	*105*		*50 - 200*
13C2-8:2-FTS	*98*		*50 - 200*

Lab Sample ID: 380-96888-D-1-C MSD
Matrix: Water
Analysis Batch: 92149

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 91953

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		121	94.3		ng/L		78	70 - 130	8	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	106		ng/L		87	70 - 130	10	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	117		ng/L		97	70 - 130	8	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		121	111		ng/L		92	70 - 130	3	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		121	120		ng/L		99	70 - 130	8	30
Perfluorodecanoic acid (PFDA)	<2.0		121	122		ng/L		101	70 - 130	5	30
Perfluorododecanoic acid (PFDoA)	<2.0		121	116		ng/L		96	70 - 130	6	30

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

Lab Sample ID: 380-96888-D-1-C MSD
Matrix: Water
Analysis Batch: 92149

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 91953

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoroheptanoic acid (PFHpA)	<2.0		121	120		ng/L		98	70 - 130	9	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		121	114		ng/L		94	70 - 130	6	30
Perfluorohexanoic acid (PFHxA)	<2.0		121	118		ng/L		97	70 - 130	8	30
Perfluorononanoic acid (PFNA)	<2.0		121	117		ng/L		97	70 - 130	6	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		121	119		ng/L		98	70 - 130	8	30
Perfluorooctanoic acid (PFOA)	<2.0		121	116		ng/L		95	70 - 130	6	30
Perfluoroundecanoic acid (PFUnA)	<2.0		121	124		ng/L		102	70 - 130	9	30
Perfluorobutanoic acid (PFBA)	<2.0		121	117		ng/L		96	70 - 130	8	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	119		ng/L		99	70 - 130	7	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	117		ng/L		97	70 - 130	3	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	125		ng/L		104	70 - 130	9	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0	F1	121	83.8	F1	ng/L		69	70 - 130	8	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		121	110		ng/L		91	70 - 130	13	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	121		ng/L		100	70 - 130	6	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	118		ng/L		97	70 - 130	11	30
Perfluoropentanoic acid (PFPeA)	<2.0		121	117		ng/L		96	70 - 130	9	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	117		ng/L		96	70 - 130	9	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	112		ng/L		93	70 - 130	5	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C3 HFPO-DA	*81*		*50 - 200*
13C6 PFDA	*92*		*50 - 200*
13C5 PFHxA	*80*		*50 - 200*
13C4 PFHpA	*83*		*50 - 200*
13C8 PFOA	*87*		*50 - 200*
13C9 PFNA	*91*		*50 - 200*
13C7 PFUnA	*83*		*50 - 200*
13C2 PFDoA	*89*		*50 - 200*
13C4 PFBA	*84*		*50 - 200*
13C5 PFPeA	*93*		*50 - 200*
13C3 PFBS	*99*		*50 - 200*
13C3 PFHxS	*106*		*50 - 200*
13C8 PFOS	*100*		*50 - 200*
13C2-4:2-FTS	*112*		*50 - 200*
13C2-6:2-FTS	*102*		*50 - 200*
13C2-8:2-FTS	*94*		*50 - 200*

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

Lab Sample ID: MBL 380-91928/21-A
Matrix: Water
Analysis Batch: 92224

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 91928

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0		ng/L		05/23/24 10:15	05/24/24 18:28	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		05/23/24 10:15	05/24/24 18:28	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		05/23/24 10:15	05/24/24 18:28	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0		ng/L		05/23/24 10:15	05/24/24 18:28	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0		ng/L		05/23/24 10:15	05/24/24 18:28	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		05/23/24 10:15	05/24/24 18:28	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		05/23/24 10:15	05/24/24 18:28	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		05/23/24 10:15	05/24/24 18:28	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		05/23/24 10:15	05/24/24 18:28	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		05/23/24 10:15	05/24/24 18:28	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		05/23/24 10:15	05/24/24 18:28	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		05/23/24 10:15	05/24/24 18:28	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		05/23/24 10:15	05/24/24 18:28	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0		ng/L		05/23/24 10:15	05/24/24 18:28	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0		ng/L		05/23/24 10:15	05/24/24 18:28	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		05/23/24 10:15	05/24/24 18:28	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0		ng/L		05/23/24 10:15	05/24/24 18:28	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		05/23/24 10:15	05/24/24 18:28	1

Surrogate	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*103*		*70 - 130*	*05/23/24 10:15*	*05/24/24 18:28*	*1*
13C2 PFHxA	*107*		*70 - 130*	*05/23/24 10:15*	*05/24/24 18:28*	*1*
13C2 PFDA	*100*		*70 - 130*	*05/23/24 10:15*	*05/24/24 18:28*	*1*
13C3-GenX	*97*		*70 - 130*	*05/23/24 10:15*	*05/24/24 18:28*	*1*

Lab Sample ID: LCS 380-91928/23-A
Matrix: Water
Analysis Batch: 92224

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 91928

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			50.1	47.1		ng/L		94	70 - 130		
Perfluorooctanesulfonic acid (PFOS)			50.1	51.8		ng/L		103	70 - 130		
Perfluoroundecanoic acid (PFUnA)			50.1	46.8		ng/L		93	70 - 130		
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			50.1	50.1		ng/L		100	70 - 130		
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			50.1	48.5		ng/L		97	70 - 130		
Perfluorohexanoic acid (PFHxA)			50.1	50.8		ng/L		101	70 - 130		
Perfluorododecanoic acid (PFDoA)			50.1	50.3		ng/L		100	70 - 130		
Perfluorooctanoic acid (PFOA)			50.1	52.1		ng/L		104	70 - 130		
Perfluorodecanoic acid (PFDA)			50.1	50.1		ng/L		100	70 - 130		

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

Lab Sample ID: LCS 380-91928/23-A
Matrix: Water
Analysis Batch: 92224

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 91928

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanesulfonic acid (PFHxS)	50.1	51.7		ng/L		103	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.1	48.7		ng/L		97	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.1	50.5		ng/L		101	70 - 130
Perfluorononanoic acid (PFNA)	50.1	52.4		ng/L		105	70 - 130
Perfluorotetradecanoic acid (PFTA)	50.1	47.3		ng/L		94	70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.1	47.2		ng/L		94	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	50.1	54.7		ng/L		109	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.1	49.3		ng/L		98	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.1	52.7		ng/L		105	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
d5-NEtFOSAA	*103*		*70 - 130*
13C2 PFHxA	*104*		*70 - 130*
13C2 PFDA	*104*		*70 - 130*
13C3-GenX	*101*		*70 - 130*

Lab Sample ID: MRL 380-91928/22-A
Matrix: Water
Analysis Batch: 92224

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 91928

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	1.84	J	ng/L		91	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.03	J	ng/L		101	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	1.86	J	ng/L		92	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.01	1.93	J	ng/L		96	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.01	1.85	J	ng/L		92	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	1.95	J	ng/L		97	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.02	J	ng/L		101	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.01	J	ng/L		100	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	1.97	J	ng/L		98	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	1.99	J	ng/L		99	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	1.74	J	ng/L		87	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.16	J	ng/L		108	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.09	J	ng/L		104	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.01	1.96	J	ng/L		98	50 - 150

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

Lab Sample ID: MRL 380-91928/22-A
Matrix: Water
Analysis Batch: 92224

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 91928

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorotridecanoic acid (PFTrDA)	2.01	1.88	J	ng/L		94	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	2.06	J	ng/L		103	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.90	J	ng/L		95	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.10	J	ng/L		105	50 - 150

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
d5-NEtFOSAA	*94*		*70 - 130*
13C2 PFHxA	*100*		*70 - 130*
13C2 PFDA	*97*		*70 - 130*
13C3-GenX	*87*		*70 - 130*

Lab Sample ID: 380-96888-A-1-B MS
Matrix: Water
Analysis Batch: 92224

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 91928

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.4	44.3		ng/L		88	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		50.4	49.6		ng/L		98	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		50.4	45.2		ng/L		90	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.4	47.5		ng/L		94	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.4	46.3		ng/L		92	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		50.4	48.7		ng/L		95	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		50.4	47.8		ng/L		95	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		50.4	49.3		ng/L		96	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		50.4	48.8		ng/L		97	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		50.4	51.0		ng/L		101	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		50.4	50.2		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		50.4	49.2		ng/L		97	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		50.4	50.1		ng/L		99	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		50.4	45.1		ng/L		89	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.4	46.0		ng/L		91	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.4	54.4		ng/L		108	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.4	47.1		ng/L		93	70 - 130

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

Lab Sample ID: 380-96888-A-1-B MS
Matrix: Water
Analysis Batch: 92224

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 91928

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.4	47.6		ng/L		94	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
d5-NEtFOSAA	*97*		*70 - 130*
13C2 PFHxA	*103*		*70 - 130*
13C2 PFDA	*100*		*70 - 130*
13C3-GenX	*94*		*70 - 130*

Lab Sample ID: 380-96888-A-1-C MSD
Matrix: Water
Analysis Batch: 92224

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 91928

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.3	47.8		ng/L		95	70 - 130	8	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		50.3	50.8		ng/L		101	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		50.3	46.4		ng/L		92	70 - 130	3	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.3	47.7		ng/L		95	70 - 130	0	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.3	47.0		ng/L		94	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	<2.0		50.3	50.0		ng/L		98	70 - 130	3	30
Perfluorododecanoic acid (PFDoA)	<2.0		50.3	49.2		ng/L		98	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	<2.0		50.3	51.6		ng/L		101	70 - 130	5	30
Perfluorodecanoic acid (PFDA)	<2.0		50.3	50.2		ng/L		100	70 - 130	3	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		50.3	51.8		ng/L		102	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		50.3	50.3		ng/L		100	70 - 130	0	30
Perfluoroheptanoic acid (PFHpA)	<2.0		50.3	50.6		ng/L		100	70 - 130	3	30
Perfluorononanoic acid (PFNA)	<2.0		50.3	50.9		ng/L		101	70 - 130	2	30
Perfluorotetradecanoic acid (PFTA)	<2.0		50.3	46.1		ng/L		92	70 - 130	2	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.3	48.1		ng/L		96	70 - 130	5	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.3	52.6		ng/L		105	70 - 130	3	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.3	46.5		ng/L		92	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.3	51.0		ng/L		101	70 - 130	7	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
d5-NEtFOSAA	*100*		*70 - 130*
13C2 PFHxA	*104*		*70 - 130*
13C2 PFDA	*103*		*70 - 130*

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

Lab Sample ID: 380-96888-A-1-C MSD
Matrix: Water
Analysis Batch: 92224

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 91928

Surrogate	MSD %Recovery	MSD Qualifier	Limits
13C3-GenX	100		70 - 130

GC/MS Semi VOA

Prep Batch: 92588

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-96902-1	MOANALUA WELLS	Total/NA	Water	525.2	
380-96902-2	AIEA GULCH WELLS PUMP 2	Total/NA	Water	525.2	
380-96902-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	525.2	
MB 380-92588/21-A	Method Blank	Total/NA	Water	525.2	
LCS 380-92588/23-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-92588/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-92588/22-A	Lab Control Sample	Total/NA	Water	525.2	
380-96902-1 MS	MOANALUA WELLS	Total/NA	Water	525.2	
380-96902-2 DU	AIEA GULCH WELLS PUMP 2	Total/NA	Water	525.2	

Analysis Batch: 92797

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-96902-1	MOANALUA WELLS	Total/NA	Water	525.2	92588
380-96902-2	AIEA GULCH WELLS PUMP 2	Total/NA	Water	525.2	92588
380-96902-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	525.2	92588
MB 380-92588/21-A	Method Blank	Total/NA	Water	525.2	92588
LCS 380-92588/23-A	Lab Control Sample	Total/NA	Water	525.2	92588
LCSD 380-92588/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	92588
MRL 380-92588/22-A	Lab Control Sample	Total/NA	Water	525.2	92588
380-96902-1 MS	MOANALUA WELLS	Total/NA	Water	525.2	92588
380-96902-2 DU	AIEA GULCH WELLS PUMP 2	Total/NA	Water	525.2	92588

LCMS

Prep Batch: 91928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-96902-1	MOANALUA WELLS	Total/NA	Water	537.1 DW	
380-96902-2	AIEA GULCH WELLS PUMP 2	Total/NA	Water	537.1 DW	
380-96902-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	537.1 DW	
380-96902-4	HALAWA WELLS UNITS 1&2 P1	Total/NA	Water	537.1 DW	
380-96902-5	FB: MOANALUA WELLS	Total/NA	Water	537.1 DW	
380-96902-6	FB: AIEA GULCH WELLS PUMP 2	Total/NA	Water	537.1 DW	
380-96902-7	FB: AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	537.1 DW	
380-96902-8	FB: HALAWA WELLS UNITS 1&2 P1	Total/NA	Water	537.1 DW	
MBL 380-91928/21-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-91928/23-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-91928/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-96888-A-1-B MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-96888-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Prep Batch: 91953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-96902-1	MOANALUA WELLS	Total/NA	Water	533	
380-96902-2	AIEA GULCH WELLS PUMP 2	Total/NA	Water	533	
380-96902-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	533	
380-96902-5	FB: MOANALUA WELLS	Total/NA	Water	533	
380-96902-6	FB: AIEA GULCH WELLS PUMP 2	Total/NA	Water	533	
380-96902-7	FB: AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	533	
MBL 380-91953/22-A	Method Blank	Total/NA	Water	533	
LCS 380-91953/24-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-91953/23-A	Lab Control Sample	Total/NA	Water	533	

LCMS (Continued)

Prep Batch: 91953 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-96888-D-1-B MS	Matrix Spike	Total/NA	Water	533	
380-96888-D-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 92149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-96902-1	MOANALUA WELLS	Total/NA	Water	533	91953
380-96902-2	AIEA GULCH WELLS PUMP 2	Total/NA	Water	533	91953
380-96902-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	533	91953
380-96902-5	FB: MOANALUA WELLS	Total/NA	Water	533	91953
380-96902-6	FB: AIEA GULCH WELLS PUMP 2	Total/NA	Water	533	91953
380-96902-7	FB: AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	533	91953
MBL 380-91953/22-A	Method Blank	Total/NA	Water	533	91953
LCS 380-91953/24-A	Lab Control Sample	Total/NA	Water	533	91953
MRL 380-91953/23-A	Lab Control Sample	Total/NA	Water	533	91953
380-96888-D-1-B MS	Matrix Spike	Total/NA	Water	533	91953
380-96888-D-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	533	91953

Analysis Batch: 92224

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-96902-1	MOANALUA WELLS	Total/NA	Water	537.1	91928
380-96902-2	AIEA GULCH WELLS PUMP 2	Total/NA	Water	537.1	91928
380-96902-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	537.1	91928
380-96902-4	HALAWA WELLS UNITS 1&2 P1	Total/NA	Water	537.1	91928
380-96902-5	FB: MOANALUA WELLS	Total/NA	Water	537.1	91928
380-96902-6	FB: AIEA GULCH WELLS PUMP 2	Total/NA	Water	537.1	91928
380-96902-7	FB: AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	537.1	91928
380-96902-8	FB: HALAWA WELLS UNITS 1&2 P1	Total/NA	Water	537.1	91928
MBL 380-91928/21-A	Method Blank	Total/NA	Water	537.1	91928
LCS 380-91928/23-A	Lab Control Sample	Total/NA	Water	537.1	91928
MRL 380-91928/22-A	Lab Control Sample	Total/NA	Water	537.1	91928
380-96888-A-1-B MS	Matrix Spike	Total/NA	Water	537.1	91928
380-96888-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	91928

Lab Chronicle

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

Job ID: 380-96902-1
SDG: 525.2, 533, 537.1

Client Sample ID: MOANALUA WELLS
Lab Sample ID: 380-96902-1
Date Collected: 05/20/24 10:09
Matrix: Water
Date Received: 05/22/24 10:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			92588	OTM3	EA POM	05/29/24 09:15
Total/NA	Analysis	525.2		1	92797	UPAC	EA POM	05/30/24 13:09
Total/NA	Prep	533			91953	A5GB	EA POM	05/23/24 10:26
Total/NA	Analysis	533		1	92149	Y5FM	EA POM	05/24/24 15:50
Total/NA	Prep	537.1 DW			91928	SL5Q	EA POM	05/23/24 10:15
Total/NA	Analysis	537.1		1	92224	R6YA	EA POM	05/24/24 20:16

Client Sample ID: AIEA GULCH WELLS PUMP 2
Lab Sample ID: 380-96902-2
Date Collected: 05/20/24 11:01
Matrix: Water
Date Received: 05/22/24 10:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			92588	OTM3	EA POM	05/29/24 09:15
Total/NA	Analysis	525.2		1	92797	UPAC	EA POM	05/30/24 13:29
Total/NA	Prep	533			91953	A5GB	EA POM	05/23/24 10:26
Total/NA	Analysis	533		1	92149	Y5FM	EA POM	05/24/24 16:00
Total/NA	Prep	537.1 DW			91928	SL5Q	EA POM	05/23/24 10:15
Total/NA	Analysis	537.1		1	92224	R6YA	EA POM	05/24/24 20:25

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2
Lab Sample ID: 380-96902-3
Date Collected: 05/20/24 11:27
Matrix: Water
Date Received: 05/22/24 10:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			92588	OTM3	EA POM	05/29/24 09:15
Total/NA	Analysis	525.2		1	92797	UPAC	EA POM	05/30/24 13:49
Total/NA	Prep	533			91953	A5GB	EA POM	05/23/24 10:26
Total/NA	Analysis	533		1	92149	Y5FM	EA POM	05/24/24 16:10
Total/NA	Prep	537.1 DW			91928	SL5Q	EA POM	05/23/24 10:15
Total/NA	Analysis	537.1		1	92224	R6YA	EA POM	05/24/24 20:35

Client Sample ID: HALAWA WELLS UNITS 1&2 P1
Lab Sample ID: 380-96902-4
Date Collected: 05/20/24 10:35
Matrix: Water
Date Received: 05/22/24 10:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537.1 DW			91928	SL5Q	EA POM	05/23/24 10:15
Total/NA	Analysis	537.1		1	92224	R6YA	EA POM	05/24/24 20:45

Client Sample ID: FB: MOANALUA WELLS
Lab Sample ID: 380-96902-5
Date Collected: 05/20/24 10:09
Matrix: Water
Date Received: 05/22/24 10:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			91953	A5GB	EA POM	05/23/24 10:26
Total/NA	Analysis	533		1	92149	Y5FM	EA POM	05/24/24 16:29

Lab Chronicle

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

Job ID: 380-96902-1
SDG: 525.2, 533, 537.1

Client Sample ID: FB: MOANALUA WELLS
Lab Sample ID: 380-96902-5
Date Collected: 05/20/24 10:09
Matrix: Water
Date Received: 05/22/24 10:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537.1 DW			91928	SL5Q	EA POM	05/23/24 10:15
Total/NA	Analysis	537.1		1	92224	R6YA	EA POM	05/24/24 21:06

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2
Lab Sample ID: 380-96902-6
Date Collected: 05/20/24 11:01
Matrix: Water
Date Received: 05/22/24 10:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			91953	A5GB	EA POM	05/23/24 10:26
Total/NA	Analysis	533		1	92149	Y5FM	EA POM	05/24/24 16:38
Total/NA	Prep	537.1 DW			91928	SL5Q	EA POM	05/23/24 10:15
Total/NA	Analysis	537.1		1	92224	R6YA	EA POM	05/24/24 21:17

Client Sample ID: FB: AIEA WELLS PUMPS 1&2 (260) P2
Lab Sample ID: 380-96902-7
Date Collected: 05/20/24 11:27
Matrix: Water
Date Received: 05/22/24 10:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			91953	A5GB	EA POM	05/23/24 10:26
Total/NA	Analysis	533		1	92149	Y5FM	EA POM	05/24/24 16:48
Total/NA	Prep	537.1 DW			91928	SL5Q	EA POM	05/23/24 10:15
Total/NA	Analysis	537.1		1	92224	R6YA	EA POM	05/24/24 21:26

Client Sample ID: FB: HALAWA WELLS UNITS 1&2 P1
Lab Sample ID: 380-96902-8
Date Collected: 05/20/24 10:35
Matrix: Water
Date Received: 05/22/24 10:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537.1 DW			91928	SL5Q	EA POM	05/23/24 10:15
Total/NA	Analysis	537.1		1	92224	R6YA	EA POM	05/24/24 21:36

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: 380-96902-1
SDG: 525.2, 533, 537.1

Laboratory: Eurofins Eaton Analytical Pomona

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

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	01-31-25

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	Water	1-Methylnaphthalene
525.2	525.2	Water	2,4'-DDD
525.2	525.2	Water	2,4'-DDE
525.2	525.2	Water	2,4'-DDT
525.2	525.2	Water	2,4-Dinitrotoluene
525.2	525.2	Water	2,6-Dinitrotoluene
525.2	525.2	Water	2-Methylnaphthalene
525.2	525.2	Water	4,4'-DDD
525.2	525.2	Water	4,4'-DDE
525 2	525 2	Water	4,4' DDT
525.2	525.2	Water	Acetochlor
525.2	525.2	Water	alpha-BHC
525.2	525.2	Water	alpha-Chlordane
525.2	525.2	Water	beta-BHC
525.2	525.2	Water	Chlorobenzilate
525.2	525.2	Water	Chloroneb
525.2	525.2	Water	Chlorothalonil (Draconil, Bravo)
525.2	525.2	Water	Chlorpyrifos
525.2	525.2	Water	delta-BHC
525.2	525.2	Water	Diclorvos (DDVP)
525.2	525.2	Water	Endosulfan I (Alpha)
525.2	525.2	Water	Endosulfan II (Beta)
525.2	525.2	Water	Endosulfan sulfate
525.2	525.2	Water	Endrin aldehyde
525.2	525.2	Water	EPTC
525.2	525.2	Water	gamma-Chlordane
525.2	525.2	Water	Isophorone
525.2	525.2	Water	Malathion
525.2	525.2	Water	Parathion
525.2	525.2	Water	Pendimethalin (Penoxaline)
525.2	525.2	Water	Terbacil
525.2	525.2	Water	Terbuthylazine
525.2	525.2	Water	Total Permethrin (mixed isomers)
525.2	525.2	Water	trans-Nonachlor

Method Summary

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

Job ID: 380-96902-1
SDG: 525.2, 533, 537.1

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

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

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

Sample Summary

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

Job ID: 380-96902-1
SDG: 525.2, 533, 537.1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-96902-1	MOANALUA WELLS	Water	05/20/24 10:09	05/22/24 10:34
380-96902-2	AIEA GULCH WELLS PUMP 2	Water	05/20/24 11:01	05/22/24 10:34
380-96902-3	AIEA WELLS PUMPS 1&2 (260) P2	Water	05/20/24 11:27	05/22/24 10:34
380-96902-4	HALAWA WELLS UNITS 1&2 P1	Water	05/20/24 10:35	05/22/24 10:34
380-96902-5	FB: MOANALUA WELLS	Water	05/20/24 10:09	05/22/24 10:34
380-96902-6	FB: AIEA GULCH WELLS PUMP 2	Water	05/20/24 11:01	05/22/24 10:34
380-96902-7	FB: AIEA WELLS PUMPS 1&2 (260) P2	Water	05/20/24 11:27	05/22/24 10:34
380-96902-8	FB: HALAWA WELLS UNITS 1&2 P1	Water	05/20/24 10:35	05/22/24 10:34

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

Chain of Custody Record

eurofins

Client Information	Sampler: 02184	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-27941-2757 2
Client Contact: Dr Ron Fenstermacher	Phone: 808-748-5840	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin:	Page: Page 2 of 2
Company: City & County of Honolulu	PWSID:			Job #:
Address: 630 South Beretania Street, Chemistry Lab	Due Date Requested:			
City: Honolulu	TAT Requested (days):			
State, Zip: HI, 96843	Compliance Project: Δ No			
Phone: 808-748-5091 (tel)	PO #: C20525101 exp 05312023			
Email: rfenstemacher@hbws.org	WO #:			
Project Name: RED-HILL/HBWS sites Event Desc. RUSH Weekly Red Hill	Project #: 38001111			
Site:	SSOW#:			

Analysis Requested

Preservation Codes: A HCL; B NaOH; C Zn Acetate; D Nitric Acid; E NaHSO4; F MeOH; G Amchlor; H Ascorbic Acid; I Ice; J DI Water; K EDTA; L EDA; M Hexane; N None; O AsNaO2; P Na2O4S; Q Na2SO3; R Na2S2O3; S H2SO4; T TSP Dodecahydrate; U Acetone; V MCAA; W pH 4-5; Y Trizma; Z other (specify); Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	8015B_GRO_LL - (MOD) GRO	8015B_DRO_LL_CS - HNL Ranges C10-C24/C24-C36/C8 C18	525.2_PREC - (MOD) 525plus PLUS TICs	537.1_DW_PREC - 537.1 Full List	533 - All Analytes	Total Number of containers	Special Instructions/Note
			Preservation Code				R	A	Q	QA	Y	I		
MOANALUA WELLS	20-May-2024	1009	G	Water							3	3		chlorinated
AIEA GULCH WELLS PUMP2	20-May-2024	1101	G	Water							3	3		chlorinated
AIEA WELLS PUMPS 1&2 (260) P2	20-May-2024	1127	G	Water							3	3		
HALAWA WELLS UNITS 1&2 P1	20-May-2024	1035	G	Water							3	3		
FB MOANALUA WELLS	20-May-2024	1009		Water							1	1		
FB AIEA GULCH WELLS PUMP2	20-May-2024	1101		Water							1	1		
FB AIEA WELLS PUMPS 1&2 (260)	20-May-2024	1127		Water							1	1		
FB HALAWA WELLS UNITS 1&2	20-May-2024	1035		Water							1	1		

380-96902 COC

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I II III IV Other (specify)

Special Instructions/QC Requirements: ① 7764 9156 5938

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment: FED EX ② 7764 9156 5949

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[redacted]	21 May 2024 1400	HBWS	G. RETINER	05/22/2024 10:34	EEAP

Custody Seals Intact: Δ Yes Δ No | Custody Seal No:

Cooler Temperature(s) °C and Other Remarks: 751A ① 1.4°-0.1°-1.3° / ② 0.8°-0.1°-0.7° GEL FROZEN

Ver 01/16/2019

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6/10/2024

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-96902-1
SDG Number: 525.2, 533, 537.1

Login Number: 96902
List Number: 1
Creator: Elyas, Matthew

List Source: Eurofins Eaton Analytical Pomona

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