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ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

RED-HILL
525.2, 533, 537.1

JOB NUMBER

380-93702-1

Eurofins Eaton Analytical Pomona

Job Notes

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

Compliance Statement

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

Authorization



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Definitions/Glossary

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

Job ID: 380-93702-1
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.

GC/MS Semi VOA TICs

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

LCMS

Qualifier	Qualifier Description
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

Case Narrative

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

Job ID: 380-93702-1

Job ID: 380-93702-1

Eurofins Eaton Analytical Pomona

Job Narrative 380-93702-1

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 5/1/2024 9:31 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 0.4°C and 3.2°C.

GC/MS Semi VOA

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

PFAS

Method 533: The following QC issues in 380-88712 OR 380-88876 were observed: IDA's 13C6 PFDA, 13C9 PFNA, 13C7 PFUnA and 13C2 PFDoA recoveries were below QC acceptance criteria (low bias) in LCS for FB sample FB MOANALUA WELLS (380-93702-5). Insufficient volume for re-extraction / re-analysis. Results not acceptable per method. Any detection in associated native sample is not acceptable per method. Data excluded due to this QC failure.

Method 533: The following QC issues in 380-88712 OR 380-88876 were observed: IDA's 13C6 PFDA, 13C9 PFNA, 13C7 PFUnA and 13C2 PFDoA recoveries were below QC acceptance criteria (low bias) in LCS for FB sample FB AIEA GULCH WELLS PUMP 2 (380-93702-6). Insufficient volume for re-extraction / re-analysis. Results not acceptable per method. Any detection in associated native sample is not acceptable per method. Data excluded due to this QC failure.

Method 533: The following QC issues in 380-88712 OR 380-88876 were observed: IDA's 13C6 PFDA, 13C9 PFNA, 13C7 PFUnA and 13C2 PFDoA recoveries were below QC acceptance criteria (low bias) in LCS for FB sample FB AIEA WELLS PUMPS 1&2 (260) P2 (380-93702-7). Insufficient volume for re-extraction / re-analysis. Results not acceptable per method. Any detection in associated native sample is not acceptable per method. Data excluded due to this QC failure.

Method 533: The following QC issues in 380-88712 OR 380-88876 were observed: IDA's 13C6 PFDA, 13C9 PFNA, 13C7 PFUnA and 13C2 PFDoA recoveries were below QC acceptance criteria (low bias) in LCS for FB sample FB HALAWA WELLS UNITS 1 & 2 P1 (380-93702-8). Insufficient volume for re-extraction / re-analysis. Results not acceptable per method. Any detection in associated native sample is not acceptable per method. Associated native sample has detections, therefore both field sample and FRB data excluded due to this QC failure.

Method 533: Promochrom #3 Program POM - EPA 533 hanged at step "ELUTE W1" and needed to be closed and re-opened. The extraction was then resumed from that point and proceeded as normal. MOANALUA WELLS (380-93702-1), AIEA GULCH WELLS PUMP 2 (380-93702-2), AIEA WELLS PUMPS 1&2 (260) P2 (380-93702-3) and HALAWA WELLS UNITS 1 & 2 P1 (380-93702-4)

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: 380-93702-1
SDG: 525.2, 533, 537.1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-93702-1

No Detections.

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-93702-2

No Detections.

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

Lab Sample ID: 380-93702-3

No Detections.

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-93702-4

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)	2.4		2.0	ng/L	1		537.1	Total/NA

Client Sample ID: FB MOANALUA WELLS

Lab Sample ID: 380-93702-5

No Detections.

Client Sample ID: FB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-93702-6

No Detections.

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

Lab Sample ID: 380-93702-7

No Detections.

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

Lab Sample ID: 380-93702-8

No Detections.

This Detection Summary does not include radiochemical test results.

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Client Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-93702-1

Date Collected: 04/29/24 10:15

Matrix: Water

Date Received: 05/01/24 09:31

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		05/02/24 10:15	05/03/24 11:25	1
2,4'-DDD	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
2,4'-DDE	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
2,4'-DDT	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
2,4-Dinitrotoluene	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
2,6-Dinitrotoluene	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
2-Methylnaphthalene	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
4,4'-DDD	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
4,4'-DDE	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
4,4'-DDT	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
Acenaphthene	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
Acenaphthylene	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
Acetochlor	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
Alachlor	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:25	1
alpha-BHC	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
alpha-Chlordane	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:25	1
Anthracene	<0.020		0.020	ug/L		05/02/24 10:15	05/03/24 11:25	1
Atrazine	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:25	1
Benz(a)anthracene	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:25	1
Benzo[a]pyrene	<0.020		0.020	ug/L		05/02/24 10:15	05/03/24 11:25	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		05/02/24 10:15	05/03/24 11:25	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:25	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		05/02/24 10:15	05/03/24 11:25	1
beta-BHC	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		05/02/24 10:15	05/03/24 11:25	1
Bromacil	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
Butachlor	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:25	1
Butylbenzylphthalate	<0.49		0.49	ug/L		05/02/24 10:15	05/03/24 11:25	1
Chlorobenzilate	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
Chloroneb	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
Chlorothalonil (Draconil, Bravo)	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
Chlorpyrifos	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:25	1
Chrysene	<0.020		0.020	ug/L		05/02/24 10:15	05/03/24 11:25	1
delta-BHC	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
Di(2-ethylhexyl)adipate	<0.59		0.59	ug/L		05/02/24 10:15	05/03/24 11:25	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:25	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:25	1
Dieldrin	<0.20		0.20	ug/L		05/02/24 10:15	05/03/24 11:25	1
Diethylphthalate	<0.49		0.49	ug/L		05/02/24 10:15	05/03/24 11:25	1
Dimethylphthalate	<0.49		0.49	ug/L		05/02/24 10:15	05/03/24 11:25	1
Di-n-butyl phthalate	<0.98		0.98	ug/L		05/02/24 10:15	05/03/24 11:25	1
Di-n-octyl phthalate	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
Endosulfan I (Alpha)	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
Endosulfan II (Beta)	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
Endosulfan sulfate	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
Endrin	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
Endrin aldehyde	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
EPTC	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
Fluoranthene	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1

Client Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-93702-1

Date Collected: 04/29/24 10:15

Matrix: Water

Date Received: 05/01/24 09:31

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		05/02/24 10:15	05/03/24 11:25	1
gamma-Chlordane	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:25	1
Heptachlor	<0.039		0.039	ug/L		05/02/24 10:15	05/03/24 11:25	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:25	1
Hexachlorobenzene	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:25	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:25	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:25	1
Isophorone	<0.49		0.49	ug/L		05/02/24 10:15	05/03/24 11:25	1
Lindane	<0.039		0.039	ug/L		05/02/24 10:15	05/03/24 11:25	1
Malathion	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
Methoxychlor	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
Metolachlor	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:25	1
Molinate	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
Naphthalene	<0.29		0.29	ug/L		05/02/24 10:15	05/03/24 11:25	1
Parathion	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
Pendimethalin (Penoxaline)	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
Phenanthrene	<0.039		0.039	ug/L		05/02/24 10:15	05/03/24 11:25	1
Propachlor	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:25	1
Pyrene	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:25	1
Simazine	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:25	1
Terbacil	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
Terbutylazine	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1
Thiobencarb	<0.20		0.20	ug/L		05/02/24 10:15	05/03/24 11:25	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		05/02/24 10:15	05/03/24 11:25	1
trans-Nonachlor	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:25	1
Trifluralin	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:25	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	05/02/24 10:15	05/03/24 11:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	96		70 - 130	05/02/24 10:15	05/03/24 11:25	1
Perylene-d12	97		70 - 130	05/02/24 10:15	05/03/24 11:25	1
Triphenylphosphate	112		70 - 130	05/02/24 10:15	05/03/24 11:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:34	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:34	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:34	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:34	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:34	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:34	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:34	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:34	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:34	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-93702-1

Date Collected: 04/29/24 10:15

Matrix: Water

Date Received: 05/01/24 09:31

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		05/07/24 06:23	05/07/24 17:34	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:34	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:34	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:34	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:34	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:34	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:34	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:34	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:34	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:34	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:34	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:34	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:34	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:34	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:34	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	68		50 - 200			05/07/24 06:23	05/07/24 17:34	1
13C6 PFDA	84		50 - 200			05/07/24 06:23	05/07/24 17:34	1
13C5 PFHxA	76		50 - 200			05/07/24 06:23	05/07/24 17:34	1
13C4 PFHpA	77		50 - 200			05/07/24 06:23	05/07/24 17:34	1
13C8 PFOA	82		50 - 200			05/07/24 06:23	05/07/24 17:34	1
13C9 PFNA	81		50 - 200			05/07/24 06:23	05/07/24 17:34	1
13C7 PFUnA	85		50 - 200			05/07/24 06:23	05/07/24 17:34	1
13C2 PFDoA	84		50 - 200			05/07/24 06:23	05/07/24 17:34	1
13C4 PFBA	80		50 - 200			05/07/24 06:23	05/07/24 17:34	1
13C5 PFPeA	74		50 - 200			05/07/24 06:23	05/07/24 17:34	1
13C3 PFBS	92		50 - 200			05/07/24 06:23	05/07/24 17:34	1
13C3 PFHxS	93		50 - 200			05/07/24 06:23	05/07/24 17:34	1
13C8 PFOS	91		50 - 200			05/07/24 06:23	05/07/24 17:34	1
13C2-4:2-FTS	118		50 - 200			05/07/24 06:23	05/07/24 17:34	1
13C2-6:2-FTS	110		50 - 200			05/07/24 06:23	05/07/24 17:34	1
13C2-8:2-FTS	99		50 - 200			05/07/24 06:23	05/07/24 17:34	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		05/02/24 09:00	05/03/24 04:16	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:16	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:16	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:16	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:16	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-93702-1

Date Collected: 04/29/24 10:15

Matrix: Water

Date Received: 05/01/24 09:31

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		05/02/24 09:00	05/03/24 04:16	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:16	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:16	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:16	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:16	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:16	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:16	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:16	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:16	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:16	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:16	1
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:16	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	114		70 - 130	05/02/24 09:00	05/03/24 04:16	1
13C2 PFHxA	106		70 - 130	05/02/24 09:00	05/03/24 04:16	1
13C2 PFDA	104		70 - 130	05/02/24 09:00	05/03/24 04:16	1
13C3-GenX	97		70 - 130	05/02/24 09:00	05/03/24 04:16	1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-93702-2

Date Collected: 04/29/24 11:03

Matrix: Water

Date Received: 05/01/24 09:31

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		05/02/24 10:15	05/03/24 11:45	1
2,4'-DDD	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
2,4'-DDE	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
2,4'-DDT	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
2,4-Dinitrotoluene	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
2,6-Dinitrotoluene	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
2-Methylnaphthalene	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
4,4'-DDD	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
4,4'-DDE	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
4,4'-DDT	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
Acenaphthene	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
Acenaphthylene	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
Acetochlor	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
Alachlor	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:45	1
alpha-BHC	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
alpha-Chlordane	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:45	1
Anthracene	<0.020		0.020	ug/L		05/02/24 10:15	05/03/24 11:45	1
Atrazine	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:45	1
Benz(a)anthracene	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:45	1
Benzo[a]pyrene	<0.020		0.020	ug/L		05/02/24 10:15	05/03/24 11:45	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		05/02/24 10:15	05/03/24 11:45	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:45	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-93702-2

Date Collected: 04/29/24 11:03

Matrix: Water

Date Received: 05/01/24 09:31

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	<0.020		0.020	ug/L		05/02/24 10:15	05/03/24 11:45	1
beta-BHC	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		05/02/24 10:15	05/03/24 11:45	1
Bromacil	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
Butachlor	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:45	1
Butylbenzylphthalate	<0.49		0.49	ug/L		05/02/24 10:15	05/03/24 11:45	1
Chlorobenzilate	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
Chloroneb	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
Chlorothalonil (Draconil, Bravo)	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
Chlorpyrifos	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:45	1
Chrysene	<0.020		0.020	ug/L		05/02/24 10:15	05/03/24 11:45	1
delta-BHC	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
Di(2-ethylhexyl)adipate	<0.59		0.59	ug/L		05/02/24 10:15	05/03/24 11:45	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:45	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:45	1
Dieldrin	<0.20		0.20	ug/L		05/02/24 10:15	05/03/24 11:45	1
Diethylphthalate	<0.49		0.49	ug/L		05/02/24 10:15	05/03/24 11:45	1
Dimethylphthalate	<0.49		0.49	ug/L		05/02/24 10:15	05/03/24 11:45	1
Di-n-butyl phthalate	<0.98		0.98	ug/L		05/02/24 10:15	05/03/24 11:45	1
Di-n-octyl phthalate	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
Endosulfan I (Alpha)	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
Endosulfan II (Beta)	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
Endosulfan sulfate	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
Endrin	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
Endrin aldehyde	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
EPTC	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
Fluoranthene	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
Fluorene	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:45	1
gamma-Chlordane	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:45	1
Heptachlor	<0.039		0.039	ug/L		05/02/24 10:15	05/03/24 11:45	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:45	1
Hexachlorobenzene	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:45	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:45	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:45	1
Isophorone	<0.49		0.49	ug/L		05/02/24 10:15	05/03/24 11:45	1
Lindane	<0.039		0.039	ug/L		05/02/24 10:15	05/03/24 11:45	1
Malathion	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
Methoxychlor	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
Metolachlor	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:45	1
Molinate	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
Naphthalene	<0.29		0.29	ug/L		05/02/24 10:15	05/03/24 11:45	1
Parathion	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
Pendimethalin (Penoxaline)	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
Phenanthrene	<0.039		0.039	ug/L		05/02/24 10:15	05/03/24 11:45	1
Propachlor	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:45	1
Pyrene	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:45	1
Simazine	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:45	1
Terbacil	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1
Terbutylazine	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-93702-2

Date Collected: 04/29/24 11:03

Matrix: Water

Date Received: 05/01/24 09:31

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Thiobencarb	<0.20		0.20	ug/L		05/02/24 10:15	05/03/24 11:45	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		05/02/24 10:15	05/03/24 11:45	1
trans-Nonachlor	<0.049		0.049	ug/L		05/02/24 10:15	05/03/24 11:45	1
Trifluralin	<0.098		0.098	ug/L		05/02/24 10:15	05/03/24 11:45	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	05/02/24 10:15	05/03/24 11:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	98		70 - 130	05/02/24 10:15	05/03/24 11:45	1
Perylene-d12	94		70 - 130	05/02/24 10:15	05/03/24 11:45	1
Triphenylphosphate	116		70 - 130	05/02/24 10:15	05/03/24 11:45	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:45	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-93702-2

Date Collected: 04/29/24 11:03

Matrix: Water

Date Received: 05/01/24 09:31

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	74		50 - 200	05/07/24 06:23	05/07/24 17:45	1
13C6 PFDA	85		50 - 200	05/07/24 06:23	05/07/24 17:45	1
13C5 PFHxA	81		50 - 200	05/07/24 06:23	05/07/24 17:45	1
13C4 PFHpA	84		50 - 200	05/07/24 06:23	05/07/24 17:45	1
13C8 PFOA	86		50 - 200	05/07/24 06:23	05/07/24 17:45	1
13C9 PFNA	83		50 - 200	05/07/24 06:23	05/07/24 17:45	1
13C7 PFUnA	87		50 - 200	05/07/24 06:23	05/07/24 17:45	1
13C2 PFDoA	88		50 - 200	05/07/24 06:23	05/07/24 17:45	1
13C4 PFBA	88		50 - 200	05/07/24 06:23	05/07/24 17:45	1
13C5 PFPeA	83		50 - 200	05/07/24 06:23	05/07/24 17:45	1
13C3 PFBS	95		50 - 200	05/07/24 06:23	05/07/24 17:45	1
13C3 PFHxS	100		50 - 200	05/07/24 06:23	05/07/24 17:45	1
13C8 PFOS	95		50 - 200	05/07/24 06:23	05/07/24 17:45	1
13C2-4:2-FTS	126		50 - 200	05/07/24 06:23	05/07/24 17:45	1
13C2-6:2-FTS	114		50 - 200	05/07/24 06:23	05/07/24 17:45	1
13C2-8:2-FTS	101		50 - 200	05/07/24 06:23	05/07/24 17:45	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		05/02/24 09:00	05/03/24 04:27	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:27	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:27	1
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:27	1
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:27	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:27	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:27	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:27	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:27	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:27	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:27	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:27	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:27	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:27	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:27	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:27	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:27	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	111		70 - 130	05/02/24 09:00	05/03/24 04:27	1
13C2 PFHxA	103		70 - 130	05/02/24 09:00	05/03/24 04:27	1
13C2 PFDA	103		70 - 130	05/02/24 09:00	05/03/24 04:27	1
13C3-GenX	94		70 - 130	05/02/24 09:00	05/03/24 04:27	1

Client Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-93702-3

Date Collected: 04/29/24 11:25

Matrix: Water

Date Received: 05/01/24 09:31

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
2,4'-DDD	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
2,4'-DDE	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
2,4'-DDT	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
2,4-Dinitrotoluene	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
2,6-Dinitrotoluene	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
2-Methylnaphthalene	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
4,4'-DDD	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
4,4'-DDE	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
4,4'-DDT	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
Acenaphthene	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
Acenaphthylene	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
Acetochlor	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
Alachlor	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 10:45	1
alpha-BHC	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
alpha-Chlordane	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 10:45	1
Anthracene	<0.019	F1	0.019	ug/L		05/02/24 10:15	05/03/24 10:45	1
Atrazine	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 10:45	1
Benz(a)anthracene	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 10:45	1
Benzo[a]pyrene	<0.019		0.019	ug/L		05/02/24 10:15	05/03/24 10:45	1
Benzo[b]fluoranthene	<0.019		0.019	ug/L		05/02/24 10:15	05/03/24 10:45	1
Benzo[g,h,i]perylene	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 10:45	1
Benzo[k]fluoranthene	<0.019		0.019	ug/L		05/02/24 10:15	05/03/24 10:45	1
beta-BHC	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58	ug/L		05/02/24 10:15	05/03/24 10:45	1
Bromacil	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
Butachlor	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 10:45	1
Butylbenzylphthalate	<0.48		0.48	ug/L		05/02/24 10:15	05/03/24 10:45	1
Chlorobenzilate	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
Chloroneb	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
Chlorothalonil (Draconil, Bravo)	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
Chlorpyrifos	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 10:45	1
Chrysene	<0.019		0.019	ug/L		05/02/24 10:15	05/03/24 10:45	1
delta-BHC	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
Di(2-ethylhexyl)adipate	<0.58		0.58	ug/L		05/02/24 10:15	05/03/24 10:45	1
Dibenz(a,h)anthracene	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 10:45	1
Diclorvos (DDVP)	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 10:45	1
Dieldrin	<0.19		0.19	ug/L		05/02/24 10:15	05/03/24 10:45	1
Diethylphthalate	<0.48		0.48	ug/L		05/02/24 10:15	05/03/24 10:45	1
Dimethylphthalate	<0.48		0.48	ug/L		05/02/24 10:15	05/03/24 10:45	1
Di-n-butyl phthalate	<0.96		0.96	ug/L		05/02/24 10:15	05/03/24 10:45	1
Di-n-octyl phthalate	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
Endosulfan I (Alpha)	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
Endosulfan II (Beta)	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
Endosulfan sulfate	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
Endrin	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
Endrin aldehyde	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
EPTC	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
Fluoranthene	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-93702-3

Date Collected: 04/29/24 11:25

Matrix: Water

Date Received: 05/01/24 09:31

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 10:45	1
gamma-Chlordane	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 10:45	1
Heptachlor	<0.039		0.039	ug/L		05/02/24 10:15	05/03/24 10:45	1
Heptachlor epoxide (isomer B)	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 10:45	1
Hexachlorobenzene	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 10:45	1
Hexachlorocyclopentadiene	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 10:45	1
Indeno[1,2,3-cd]pyrene	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 10:45	1
Isophorone	<0.48		0.48	ug/L		05/02/24 10:15	05/03/24 10:45	1
Lindane	<0.039		0.039	ug/L		05/02/24 10:15	05/03/24 10:45	1
Malathion	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
Methoxychlor	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
Metolachlor	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 10:45	1
Molinate	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
Naphthalene	<0.29		0.29	ug/L		05/02/24 10:15	05/03/24 10:45	1
Parathion	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
Pendimethalin (Penoxaline)	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
Phenanthrene	<0.039		0.039	ug/L		05/02/24 10:15	05/03/24 10:45	1
Propachlor	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 10:45	1
Pyrene	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 10:45	1
Simazine	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 10:45	1
Terbacil	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
Terbutylazine	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1
Thiobencarb	<0.19		0.19	ug/L		05/02/24 10:15	05/03/24 10:45	1
Total Permethrin (mixed isomers)	<0.19		0.19	ug/L		05/02/24 10:15	05/03/24 10:45	1
trans-Nonachlor	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 10:45	1
Trifluralin	<0.096		0.096	ug/L		05/02/24 10:15	05/03/24 10:45	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	05/02/24 10:15	05/03/24 10:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	97		70 - 130	05/02/24 10:15	05/03/24 10:45	1
Perylene-d12	94		70 - 130	05/02/24 10:15	05/03/24 10:45	1
Triphenylphosphate	99		70 - 130	05/02/24 10:15	05/03/24 10:45	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:56	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:56	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:56	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:56	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:56	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:56	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:56	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:56	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:56	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-93702-3

Date Collected: 04/29/24 11:25

Matrix: Water

Date Received: 05/01/24 09:31

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		05/07/24 06:23	05/07/24 17:56	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:56	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:56	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:56	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:56	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:56	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:56	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:56	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:56	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:56	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:56	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:56	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:56	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:56	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		05/07/24 06:23	05/07/24 17:56	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	72		50 - 200			05/07/24 06:23	05/07/24 17:56	1
13C6 PFDA	85		50 - 200			05/07/24 06:23	05/07/24 17:56	1
13C5 PFHxA	81		50 - 200			05/07/24 06:23	05/07/24 17:56	1
13C4 PFHpA	81		50 - 200			05/07/24 06:23	05/07/24 17:56	1
13C8 PFOA	87		50 - 200			05/07/24 06:23	05/07/24 17:56	1
13C9 PFNA	81		50 - 200			05/07/24 06:23	05/07/24 17:56	1
13C7 PFUnA	86		50 - 200			05/07/24 06:23	05/07/24 17:56	1
13C2 PFDoA	87		50 - 200			05/07/24 06:23	05/07/24 17:56	1
13C4 PFBA	82		50 - 200			05/07/24 06:23	05/07/24 17:56	1
13C5 PFPeA	79		50 - 200			05/07/24 06:23	05/07/24 17:56	1
13C3 PFBS	89		50 - 200			05/07/24 06:23	05/07/24 17:56	1
13C3 PFHxS	94		50 - 200			05/07/24 06:23	05/07/24 17:56	1
13C8 PFOS	89		50 - 200			05/07/24 06:23	05/07/24 17:56	1
13C2-4:2-FTS	119		50 - 200			05/07/24 06:23	05/07/24 17:56	1
13C2-6:2-FTS	111		50 - 200			05/07/24 06:23	05/07/24 17:56	1
13C2-8:2-FTS	96		50 - 200			05/07/24 06:23	05/07/24 17:56	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		05/02/24 09:00	05/03/24 04:38	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:38	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:38	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:38	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:38	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-93702-3

Date Collected: 04/29/24 11:25

Matrix: Water

Date Received: 05/01/24 09:31

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		05/02/24 09:00	05/03/24 04:38	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:38	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:38	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:38	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:38	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:38	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:38	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:38	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:38	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:38	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:38	1
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	112		70 - 130			05/02/24 09:00	05/03/24 04:38	1
13C2 PFHxA	105		70 - 130			05/02/24 09:00	05/03/24 04:38	1
13C2 PFDA	105		70 - 130			05/02/24 09:00	05/03/24 04:38	1
13C3-GenX	99		70 - 130			05/02/24 09:00	05/03/24 04:38	1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-93702-4

Date Collected: 04/29/24 10:37

Matrix: Water

Date Received: 05/01/24 09:31

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		05/02/24 10:15	05/03/24 11:05	1
2,4'-DDD	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
2,4'-DDE	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
2,4'-DDT	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
2,4-Dinitrotoluene	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
2,6-Dinitrotoluene	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
2-Methylnaphthalene	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
4,4'-DDD	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
4,4'-DDE	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
4,4'-DDT	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
Acenaphthene	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
Acenaphthylene	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
Acetochlor	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
Alachlor	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 11:05	1
alpha-BHC	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
alpha-Chlordane	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 11:05	1
Anthracene	<0.019		0.019	ug/L		05/02/24 10:15	05/03/24 11:05	1
Atrazine	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 11:05	1
Benz(a)anthracene	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 11:05	1
Benzo[a]pyrene	<0.019		0.019	ug/L		05/02/24 10:15	05/03/24 11:05	1
Benzo[b]fluoranthene	<0.019		0.019	ug/L		05/02/24 10:15	05/03/24 11:05	1
Benzo[g,h,i]perylene	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 11:05	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-93702-4

Date Collected: 04/29/24 10:37

Matrix: Water

Date Received: 05/01/24 09:31

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		05/02/24 10:15	05/03/24 11:05	1
beta-BHC	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58	ug/L		05/02/24 10:15	05/03/24 11:05	1
Bromacil	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
Butachlor	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 11:05	1
Butylbenzylphthalate	<0.48		0.48	ug/L		05/02/24 10:15	05/03/24 11:05	1
Chlorobenzilate	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
Chloroneb	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
Chlorothalonil (Draconil, Bravo)	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
Chlorpyrifos	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 11:05	1
Chrysene	<0.019		0.019	ug/L		05/02/24 10:15	05/03/24 11:05	1
delta-BHC	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
Di(2-ethylhexyl)adipate	<0.58		0.58	ug/L		05/02/24 10:15	05/03/24 11:05	1
Dibenz(a,h)anthracene	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 11:05	1
Diclorvos (DDVP)	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 11:05	1
Dieldrin	<0.19		0.19	ug/L		05/02/24 10:15	05/03/24 11:05	1
Diethylphthalate	<0.48		0.48	ug/L		05/02/24 10:15	05/03/24 11:05	1
Dimethylphthalate	<0.48		0.48	ug/L		05/02/24 10:15	05/03/24 11:05	1
Di-n-butyl phthalate	<0.97		0.97	ug/L		05/02/24 10:15	05/03/24 11:05	1
Di-n-octyl phthalate	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
Endosulfan I (Alpha)	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
Endosulfan II (Beta)	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
Endosulfan sulfate	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
Endrin	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
Endrin aldehyde	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
EPTC	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
Fluoranthene	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
Fluorene	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 11:05	1
gamma-Chlordane	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 11:05	1
Heptachlor	<0.039		0.039	ug/L		05/02/24 10:15	05/03/24 11:05	1
Heptachlor epoxide (isomer B)	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 11:05	1
Hexachlorobenzene	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 11:05	1
Hexachlorocyclopentadiene	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 11:05	1
Indeno[1,2,3-cd]pyrene	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 11:05	1
Isophorone	<0.48		0.48	ug/L		05/02/24 10:15	05/03/24 11:05	1
Lindane	<0.039		0.039	ug/L		05/02/24 10:15	05/03/24 11:05	1
Malathion	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
Methoxychlor	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
Metolachlor	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 11:05	1
Molinate	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
Naphthalene	<0.29		0.29	ug/L		05/02/24 10:15	05/03/24 11:05	1
Parathion	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
Pendimethalin (Penoxaline)	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
Phenanthrene	<0.039		0.039	ug/L		05/02/24 10:15	05/03/24 11:05	1
Propachlor	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 11:05	1
Pyrene	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 11:05	1
Simazine	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 11:05	1
Terbacil	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1
Terbutylazine	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1

Client Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-93702-4

Date Collected: 04/29/24 10:37

Matrix: Water

Date Received: 05/01/24 09:31

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		05/02/24 10:15	05/03/24 11:05	1
Total Permethrin (mixed isomers)	<0.19		0.19	ug/L		05/02/24 10:15	05/03/24 11:05	1
trans-Nonachlor	<0.048		0.048	ug/L		05/02/24 10:15	05/03/24 11:05	1
Trifluralin	<0.097		0.097	ug/L		05/02/24 10:15	05/03/24 11:05	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	05/02/24 10:15	05/03/24 11:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	98		70 - 130	05/02/24 10:15	05/03/24 11:05	1
Perylene-d12	104		70 - 130	05/02/24 10:15	05/03/24 11:05	1
Triphenylphosphate	116		70 - 130	05/02/24 10:15	05/03/24 11:05	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		05/02/24 09:00	05/03/24 04:49	1
Perfluorooctanesulfonic acid (PFOS)	2.1		2.0	ng/L		05/02/24 09:00	05/03/24 04:49	1
Perfluoroundecanoic acid (PFUnA)	2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:49	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:49	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:49	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:49	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:49	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:49	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:49	1
Perfluorohexanesulfonic acid (PFHxS)	2.4		2.0	ng/L		05/02/24 09:00	05/03/24 04:49	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:49	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:49	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:49	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:49	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:49	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:49	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	106		70 - 130	05/02/24 09:00	05/03/24 04:49	1
13C2 PFHxA	105		70 - 130	05/02/24 09:00	05/03/24 04:49	1
13C2 PFDA	100		70 - 130	05/02/24 09:00	05/03/24 04:49	1
13C3-GenX	96		70 - 130	05/02/24 09:00	05/03/24 04:49	1

Client Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

Client Sample ID: FB MOANALUA WELLS

Lab Sample ID: 380-93702-5

Date Collected: 04/29/24 10:15

Matrix: Water

Date Received: 05/01/24 09:31

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		05/02/24 09:00	05/03/24 04:59	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:59	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:59	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:59	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:59	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:59	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:59	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:59	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:59	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:59	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:59	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:59	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:59	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:59	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:59	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:59	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:59	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 04:59	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	112		70 - 130			05/02/24 09:00	05/03/24 04:59	1
13C2 PFHxA	104		70 - 130			05/02/24 09:00	05/03/24 04:59	1
13C2 PFDA	106		70 - 130			05/02/24 09:00	05/03/24 04:59	1
13C3-GenX	98		70 - 130			05/02/24 09:00	05/03/24 04:59	1

Client Sample ID: FB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-93702-6

Date Collected: 04/29/24 11:03

Matrix: Water

Date Received: 05/01/24 09:31

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		05/02/24 09:00	05/03/24 05:10	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:10	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:10	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:10	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:10	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:10	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:10	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:10	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:10	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:10	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:10	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:10	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

Client Sample ID: FB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-93702-6

Date Collected: 04/29/24 11:03

Matrix: Water

Date Received: 05/01/24 09:31

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:10	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:10	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:10	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:10	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	112		70 - 130			05/02/24 09:00	05/03/24 05:10	1
13C2 PFHxA	103		70 - 130			05/02/24 09:00	05/03/24 05:10	1
13C2 PFDA	105		70 - 130			05/02/24 09:00	05/03/24 05:10	1
13C3-GenX	95		70 - 130			05/02/24 09:00	05/03/24 05:10	1

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

Lab Sample ID: 380-93702-7

Date Collected: 04/29/24 11:25

Matrix: Water

Date Received: 05/01/24 09:31

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		05/02/24 09:00	05/03/24 05:21	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:21	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:21	1
N-methylperfluorooctanesulfonamidoac etic acid (NMeFOSAA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:21	1
N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:21	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:21	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:21	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:21	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:21	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:21	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:21	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:21	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:21	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:21	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:21	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:21	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	119		70 - 130			05/02/24 09:00	05/03/24 05:21	1
13C2 PFHxA	105		70 - 130			05/02/24 09:00	05/03/24 05:21	1
13C2 PFDA	103		70 - 130			05/02/24 09:00	05/03/24 05:21	1
13C3-GenX	97		70 - 130			05/02/24 09:00	05/03/24 05:21	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-93702-8

Date Collected: 04/29/24 10:37

Matrix: Water

Date Received: 05/01/24 09:31

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		05/02/24 09:00	05/03/24 05:32	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:32	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:32	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:32	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:32	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:32	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:32	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:32	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:32	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:32	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:32	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:32	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:32	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:32	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/02/24 09:00	05/03/24 05:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	115		70 - 130			05/02/24 09:00	05/03/24 05:32	1
13C2 PFHxA	103		70 - 130			05/02/24 09:00	05/03/24 05:32	1
13C2 PFDA	104		70 - 130			05/02/24 09:00	05/03/24 05:32	1
13C3-GenX	98		70 - 130			05/02/24 09:00	05/03/24 05:32	1

Action Limit Summary

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-93702-1

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	RL	Method	Prep Type
				Limit			
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

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-93702-2

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	RL	Method	Prep Type
				Limit			
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

Eurofins Eaton Analytical Pomona

Action Limit Summary

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

Client Sample ID: AIEA GULCH WELLS PUMP 2 (Continued)

Lab Sample ID: 380-93702-2

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	RL	Method	Prep Type
				Limit			
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: 380-93702-3

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	RL	Method	Prep Type
				Limit			
Alachlor	<0.048		ug/L	2	0.048	525.2	Total/NA
Atrazine	<0.048		ug/L	3	0.048	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	<0.096		ug/L	2	0.096	525.2	Total/NA
Heptachlor	<0.039		ug/L	0.4	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.048		ug/L	0.2	0.048	525.2	Total/NA
Hexachlorobenzene	<0.048		ug/L	1	0.048	525.2	Total/NA
Hexachlorocyclopentadiene	<0.048		ug/L	50	0.048	525.2	Total/NA
Lindane	<0.039		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	<0.096		ug/L	40	0.096	525.2	Total/NA
Simazine	<0.048		ug/L	4	0.048	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: 380-93702-1
SDG: 525.2, 533, 537.1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-93702-4

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	RL	Method	Prep Type
				Limit			
Alachlor	<0.048		ug/L	2	0.048	525.2	Total/NA
Atrazine	<0.048		ug/L	3	0.048	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)	<0.048		ug/L	0.2	0.048	525.2	Total/NA
Hexachlorobenzene	<0.048		ug/L	1	0.048	525.2	Total/NA
Hexachlorocyclopentadiene	<0.048		ug/L	50	0.048	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	<0.048		ug/L	4	0.048	525.2	Total/NA
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)	2.4		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: 380-93702-5

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	RL	Method	Prep Type
				Limit			
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: 380-93702-6

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	RL	Method	Prep Type
				Limit			
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

Eurofins Eaton Analytical Pomona

Action Limit Summary

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-93702-7

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	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: 380-93702-8

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: 380-93702-1
SDG: 525.2, 533, 537.1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	PRY (70-130)	TPP (70-130)
380-93702-1	MOANALUA WELLS	96	97	112
380-93702-2	AIEA GULCH WELLS PUMP 2	98	94	116
380-93702-3	AIEA WELLS PUMPS 1&2 (260) P2	97	94	99
380-93702-3 MS	AIEA WELLS PUMPS 1&2 (260) P2	99	95	105
380-93702-4	HALAWA WELLS UNITS 1 & 2 P1	98	104	116
380-93702-4 DU	HALAWA WELLS UNITS 1 & 2 P1	100	98	110
LCS 380-88677/23-A	Lab Control Sample	98	100	110
MB 380-88677/21-A	Method Blank	100	102	106
MRL 380-88677/22-A	Lab Control Sample	97	96	95

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

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-93702-1	MOANALUA WELLS	114	106	104	97
380-93702-2	AIEA GULCH WELLS PUMP 2	111	103	103	94
380-93702-3	AIEA WELLS PUMPS 1&2 (260) P2	112	105	105	99
380-93702-4	HALAWA WELLS UNITS 1 & 2 P1	106	105	100	96
380-93702-5	FB MOANALUA WELLS	112	104	106	98
380-93702-6	FB AIEA GULCH WELLS PUMP 2	112	103	105	95
380-93702-7	FB AIEA WELLS PUMPS 1&2 (260) P2	119	105	103	97
380-93702-8	FB HALAWA WELLS UNITS 1 & 2 P1	115	103	104	98
380-93705-C-1-A MS	Matrix Spike	108	103	105	99
380-93705-D-1-A MSD	Matrix Spike Duplicate	113	112	108	104
LCS 380-88673/23-A	Lab Control Sample	112	107	108	101
MBL 380-88673/21-A	Method Blank	118	100	111	97
MRL 380-88673/22-A	Lab Control Sample	114	100	106	92

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: 380-93702-1
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)
380-93702-1	MOANALUA WELLS	68	84	76	77	82	81	85	84
380-93702-2	AIEA GULCH WELLS PUMP 2	74	85	81	84	86	83	87	88
380-93702-3	AIEA WELLS PUMPS 1&2 (260) P2	72	85	81	81	87	81	86	87
590-24575-H-2-A MS	Matrix Spike	93	101	102	101	103	97	100	99
590-24575-I-2-A MSD	Matrix Spike Duplicate	94	97	99	100	99	94	99	100
LCS 380-89278/22-A	Lab Control Sample	93	97	99	97	101	95	101	102
MBL 380-89278/20-A	Method Blank	98	103	107	106	106	99	106	118
MRL 380-89278/21-A	Lab Control Sample	86	94	98	98	102	93	98	100

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)
380-93702-1	MOANALUA WELLS	80	74	92	93	91	118	110	99
380-93702-2	AIEA GULCH WELLS PUMP 2	88	83	95	100	95	126	114	101
380-93702-3	AIEA WELLS PUMPS 1&2 (260) P2	82	79	89	94	89	119	111	96
590-24575-H-2-A MS	Matrix Spike	98	96	93	97	94	119	110	108
590-24575-I-2-A MSD	Matrix Spike Duplicate	99	97	97	100	95	124	110	108
LCS 380-89278/22-A	Lab Control Sample	99	99	105	103	100	128	122	111
MBL 380-89278/20-A	Method Blank	102	97	104	104	98	132	123	115
MRL 380-89278/21-A	Lab Control Sample	101	97	99	98	95	122	118	113

Surrogate Legend

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

QC Sample Results

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

Job ID: 380-93702-1
 SDG: 525.2, 533, 537.1

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

Lab Sample ID: MB 380-88677/21-A
Matrix: Water
Analysis Batch: 88825

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 88677

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
2,4'-DDD	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
2,4'-DDE	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
2,4'-DDT	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
2,4-Dinitrotoluene	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
2,6-Dinitrotoluene	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
2-Methylnaphthalene	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
4,4'-DDD	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
4,4'-DDE	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
4,4'-DDT	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
Acenaphthene	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
Acenaphthylene	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
Acetochlor	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
Alachlor	<0.050		0.050	ug/L		05/02/24 09:15	05/03/24 10:26	1
alpha-BHC	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
alpha-Chlordane	<0.050		0.050	ug/L		05/02/24 09:15	05/03/24 10:26	1
Anthracene	<0.020		0.020	ug/L		05/02/24 09:15	05/03/24 10:26	1
Atrazine	<0.050		0.050	ug/L		05/02/24 09:15	05/03/24 10:26	1
Benz(a)anthracene	<0.050		0.050	ug/L		05/02/24 09:15	05/03/24 10:26	1
Benzo[a]pyrene	<0.020		0.020	ug/L		05/02/24 09:15	05/03/24 10:26	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		05/02/24 09:15	05/03/24 10:26	1
Benzo[g,h,i]perylene	<0.050		0.050	ug/L		05/02/24 09:15	05/03/24 10:26	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		05/02/24 09:15	05/03/24 10:26	1
beta-BHC	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
Bis(2-ethylhexyl) phthalate	<0.60		0.60	ug/L		05/02/24 09:15	05/03/24 10:26	1
Bromacil	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
Butachlor	<0.050		0.050	ug/L		05/02/24 09:15	05/03/24 10:26	1
Butylbenzylphthalate	<0.50		0.50	ug/L		05/02/24 09:15	05/03/24 10:26	1
Chlorobenzilate	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
Chloroneb	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
Chlorothalonil (Draconil, Bravo)	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
Chlorpyrifos	<0.050		0.050	ug/L		05/02/24 09:15	05/03/24 10:26	1
Chrysene	<0.020		0.020	ug/L		05/02/24 09:15	05/03/24 10:26	1
delta-BHC	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
Di(2-ethylhexyl)adipate	<0.60		0.60	ug/L		05/02/24 09:15	05/03/24 10:26	1
Dibenz(a,h)anthracene	<0.050		0.050	ug/L		05/02/24 09:15	05/03/24 10:26	1
Diclorvos (DDVP)	<0.050		0.050	ug/L		05/02/24 09:15	05/03/24 10:26	1
Dieldrin	<0.20		0.20	ug/L		05/02/24 09:15	05/03/24 10:26	1
Diethylphthalate	<0.50		0.50	ug/L		05/02/24 09:15	05/03/24 10:26	1
Dimethylphthalate	<0.50		0.50	ug/L		05/02/24 09:15	05/03/24 10:26	1
Di-n-butyl phthalate	<0.99		0.99	ug/L		05/02/24 09:15	05/03/24 10:26	1
Di-n-octyl phthalate	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
Endosulfan I (Alpha)	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
Endosulfan II (Beta)	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
Endosulfan sulfate	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
Endrin	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
Endrin aldehyde	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
EPTC	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1

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QC Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: MB 380-88677/21-A
Matrix: Water
Analysis Batch: 88825

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 88677

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
Fluorene	<0.050		0.050	ug/L		05/02/24 09:15	05/03/24 10:26	1
gamma-Chlordane	<0.050		0.050	ug/L		05/02/24 09:15	05/03/24 10:26	1
Heptachlor	<0.040		0.040	ug/L		05/02/24 09:15	05/03/24 10:26	1
Heptachlor epoxide (isomer B)	<0.050		0.050	ug/L		05/02/24 09:15	05/03/24 10:26	1
Hexachlorobenzene	<0.050		0.050	ug/L		05/02/24 09:15	05/03/24 10:26	1
Hexachlorocyclopentadiene	<0.050		0.050	ug/L		05/02/24 09:15	05/03/24 10:26	1
Indeno[1,2,3-cd]pyrene	<0.050		0.050	ug/L		05/02/24 09:15	05/03/24 10:26	1
Isophorone	<0.50		0.50	ug/L		05/02/24 09:15	05/03/24 10:26	1
Lindane	<0.040		0.040	ug/L		05/02/24 09:15	05/03/24 10:26	1
Malathion	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
Methoxychlor	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
Metolachlor	<0.050		0.050	ug/L		05/02/24 09:15	05/03/24 10:26	1
Molinate	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
Naphthalene	<0.30		0.30	ug/L		05/02/24 09:15	05/03/24 10:26	1
Parathion	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
Pendimethalin (Penoxaline)	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
Phenanthrene	<0.040		0.040	ug/L		05/02/24 09:15	05/03/24 10:26	1
Propachlor	<0.050		0.050	ug/L		05/02/24 09:15	05/03/24 10:26	1
Pyrene	<0.050		0.050	ug/L		05/02/24 09:15	05/03/24 10:26	1
Simazine	<0.050		0.050	ug/L		05/02/24 09:15	05/03/24 10:26	1
Terbacil	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
Terbutylazine	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1
Thiobencarb	<0.20		0.20	ug/L		05/02/24 09:15	05/03/24 10:26	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		05/02/24 09:15	05/03/24 10:26	1
trans-Nonachlor	<0.050		0.050	ug/L		05/02/24 09:15	05/03/24 10:26	1
Trifluralin	<0.099		0.099	ug/L		05/02/24 09:15	05/03/24 10:26	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Decane	1.64	T J N	ug/L		2.47	124-18-5	05/02/24 09:15	05/03/24 10:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	100		70 - 130	05/02/24 09:15	05/03/24 10:26	1
Perylene-d12	102		70 - 130	05/02/24 09:15	05/03/24 10:26	1
Triphenylphosphate	106		70 - 130	05/02/24 09:15	05/03/24 10:26	1

Lab Sample ID: LCS 380-88677/23-A
Matrix: Water
Analysis Batch: 88825

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 88677

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1-Methylnaphthalene	1.97	2.02		ug/L		103	70 - 130
2,4'-DDD	1.97	2.23		ug/L		113	70 - 130
2,4'-DDE	1.97	2.17		ug/L		110	70 - 130
2,4'-DDT	1.97	2.38		ug/L		121	70 - 130
2,4-Dinitrotoluene	1.97	2.00		ug/L		102	70 - 130
2,6-Dinitrotoluene	1.97	1.99		ug/L		101	70 - 130
2-Methylnaphthalene	1.97	2.09		ug/L		106	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: LCS 380-88677/23-A
Matrix: Water
Analysis Batch: 88825

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 88677

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
4,4'-DDD	1.97	2.27		ug/L		115	70 - 130
4,4'-DDE	1.97	2.17		ug/L		111	70 - 130
4,4'-DDT	1.97	2.14		ug/L		109	70 - 130
Acenaphthene	1.97	1.94		ug/L		99	70 - 130
Acenaphthylene	1.97	2.08		ug/L		106	70 - 130
Acetochlor	1.97	2.17		ug/L		110	70 - 130
Alachlor	1.97	2.18		ug/L		111	70 - 130
alpha-BHC	1.97	2.06		ug/L		105	70 - 130
alpha-Chlordane	1.97	2.15		ug/L		109	70 - 130
Anthracene	1.97	1.74		ug/L		88	70 - 130
Atrazine	1.97	2.39		ug/L		122	70 - 130
Benz(a)anthracene	1.97	1.97		ug/L		100	70 - 130
Benzo[a]pyrene	1.97	1.97		ug/L		100	70 - 130
Benzo[b]fluoranthene	1.97	2.10		ug/L		107	70 - 130
Benzo[g,h,i]perylene	1.97	2.26		ug/L		115	70 - 130
Benzo[k]fluoranthene	1.97	2.23		ug/L		114	70 - 130
beta-BHC	1.97	2.09		ug/L		106	70 - 130
Bis(2-ethylhexyl) phthalate	1.97	2.07		ug/L		105	70 - 130
Bromacil	1.97	2.42		ug/L		123	70 - 130
Butachlor	1.97	2.37		ug/L		121	70 - 130
Butylbenzylphthalate	1.97	2.35		ug/L		119	70 - 130
Chlorobenzilate	1.97	2.30		ug/L		117	70 - 130
Chloroneb	1.97	2.19		ug/L		111	70 - 130
Chlorothalonil (Draconil, Bravo)	1.97	2.41		ug/L		122	70 - 130
Chlorpyrifos	1.97	2.32		ug/L		118	70 - 130
Chrysene	1.97	2.09		ug/L		106	70 - 130
delta-BHC	1.97	2.17		ug/L		110	70 - 130
Di(2-ethylhexyl)adipate	1.97	2.49		ug/L		127	70 - 130
Dibenz(a,h)anthracene	1.97	2.28		ug/L		116	70 - 130
Diclorvos (DDVP)	1.97	2.32		ug/L		118	70 - 130
Dieldrin	1.97	2.09		ug/L		106	70 - 130
Diethylphthalate	1.97	2.19		ug/L		111	70 - 130
Dimethylphthalate	1.97	2.19		ug/L		112	70 - 130
Di-n-butyl phthalate	3.93	4.61		ug/L		117	70 - 130
Di-n-octyl phthalate	1.97	1.80		ug/L		92	70 - 130
Endosulfan I (Alpha)	1.97	2.13		ug/L		108	70 - 130
Endosulfan II (Beta)	1.97	2.19		ug/L		111	70 - 130
Endosulfan sulfate	1.97	2.29		ug/L		116	70 - 130
Endrin	1.97	2.26		ug/L		115	70 - 130
Endrin aldehyde	1.97	1.98		ug/L		101	60 - 130
EPTC	1.97	2.42		ug/L		123	70 - 130
Fluoranthene	1.97	2.21		ug/L		113	70 - 130
Fluorene	1.97	2.11		ug/L		107	70 - 130
gamma-Chlordane	1.97	2.25		ug/L		114	70 - 130
Heptachlor	1.97	2.19		ug/L		112	70 - 130
Heptachlor epoxide (isomer B)	1.97	2.20		ug/L		112	70 - 130
Hexachlorobenzene	1.97	1.99		ug/L		101	70 - 130
Hexachlorocyclopentadiene	1.97	2.07		ug/L		105	70 - 130
Indeno[1,2,3-cd]pyrene	1.97	2.23		ug/L		114	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: LCS 380-88677/23-A
Matrix: Water
Analysis Batch: 88825

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 88677

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Isophorone	1.97	2.16		ug/L		110	70 - 130
Lindane	1.97	2.14		ug/L		109	70 - 130
Malathion	1.97	2.38		ug/L		121	70 - 130
Methoxychlor	1.97	2.11		ug/L		107	70 - 130
Metolachlor	1.97	2.30		ug/L		117	70 - 130
Molinate	1.97	2.19		ug/L		111	70 - 130
Naphthalene	1.97	1.91		ug/L		97	70 - 130
Parathion	1.97	2.28		ug/L		116	70 - 130
Pendimethalin (Penoxaline)	1.97	2.16		ug/L		110	70 - 130
Phenanthrene	1.97	1.97		ug/L		100	70 - 130
Propachlor	1.97	2.23		ug/L		114	70 - 130
Pyrene	1.97	2.19		ug/L		112	70 - 130
Simazine	1.97	2.34		ug/L		119	70 - 130
Terbacil	1.97	2.12		ug/L		108	70 - 130
Terbutylazine	1.97	2.35		ug/L		120	70 - 130
Thiobencarb	1.97	2.41		ug/L		123	70 - 130
trans-Nonachlor	1.97	2.19		ug/L		111	70 - 130
Trifluralin	1.97	2.05		ug/L		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	98		70 - 130
Perylene-d12	100		70 - 130
Triphenylphosphate	110		70 - 130

Lab Sample ID: MRL 380-88677/22-A
Matrix: Water
Analysis Batch: 88825

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 88677

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.0993	0.112		ug/L		113	50 - 150
2,4'-DDD	0.0993	0.110		ug/L		111	50 - 150
2,4'-DDE	0.0993	0.103		ug/L		104	50 - 150
2,4'-DDT	0.0993	0.0923	J	ug/L		93	50 - 150
2,4-Dinitrotoluene	0.0993	0.0915	J	ug/L		92	50 - 150
2,6-Dinitrotoluene	0.0993	0.101		ug/L		102	50 - 150
2-Methylnaphthalene	0.0993	0.108		ug/L		109	50 - 150
4,4'-DDD	0.0993	0.0971	J	ug/L		98	50 - 150
4,4'-DDE	0.0993	0.0927	J	ug/L		93	50 - 150
4,4'-DDT	0.0993	0.113		ug/L		114	50 - 150
Acenaphthene	0.0993	0.0924	J	ug/L		93	50 - 150
Acenaphthylene	0.0993	0.0865	J	ug/L		87	50 - 150
Acetochlor	0.0496	0.0556	J	ug/L		112	50 - 150
Alachlor	0.0496	0.0507		ug/L		102	50 - 150
alpha-BHC	0.0993	0.106		ug/L		106	50 - 150
alpha-Chlordane	0.0248	<0.029		ug/L		102	50 - 150
Anthracene	0.0199	0.0204		ug/L		103	50 - 150
Atrazine	0.0496	<0.048		ug/L		96	50 - 150
Benz(a)anthracene	0.0496	0.0463	J	ug/L		93	50 - 150

QC Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: MRL 380-88677/22-A
Matrix: Water
Analysis Batch: 88825

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 88677

Analyte	Spike Added	MRL	MRL	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Benzo[a]pyrene	0.0199	0.0176	J	ug/L		89	50 - 150
Benzo[b]fluoranthene	0.0199	0.0192	J	ug/L		97	50 - 150
Benzo[g,h,i]perylene	0.0496	0.0430	J	ug/L		87	50 - 150
Benzo[k]fluoranthene	0.0199	0.0180	J	ug/L		91	50 - 150
beta-BHC	0.0993	0.0964	J	ug/L		97	50 - 150
Bis(2-ethylhexyl) phthalate	0.596	0.658		ug/L		111	50 - 150
Bromacil	0.0993	0.102		ug/L		103	50 - 150
Butachlor	0.0496	0.0490	J	ug/L		99	50 - 150
Butylbenzylphthalate	0.149	0.161	J	ug/L		108	50 - 150
Chlorobenzilate	0.0993	0.0889	J	ug/L		90	50 - 150
Chloroneb	0.0993	0.105		ug/L		106	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0993	0.123		ug/L		124	50 - 150
Chlorpyrifos	0.0496	0.0550		ug/L		111	50 - 150
Chrysene	0.0199	0.0225		ug/L		114	50 - 150
delta-BHC	0.0993	0.111		ug/L		112	50 - 150
Di(2-ethylhexyl)adipate	0.298	0.331	J	ug/L		111	50 - 150
Dibenz(a,h)anthracene	0.0496	0.0392	J	ug/L		79	50 - 150
Diclorvos (DDVP)	0.0496	0.0625		ug/L		126	50 - 150
Dieldrin	0.0993	0.104	J	ug/L		105	50 - 150
Diethylphthalate	0.149	0.154	J	ug/L		103	50 - 150
Dimethylphthalate	0.298	0.299	J	ug/L		100	50 - 150
Di-n-butyl phthalate	0.298	0.359	J	ug/L		120	49 - 243
Di-n-octyl phthalate	0.0993	0.0954	J	ug/L		96	50 - 150
Endosulfan I (Alpha)	0.0993	0.0942	J	ug/L		95	50 - 150
Endosulfan II (Beta)	0.0993	0.113		ug/L		114	50 - 150
Endosulfan sulfate	0.0993	0.100		ug/L		101	50 - 150
Endrin	0.0993	0.0961	J	ug/L		97	50 - 150
Endrin aldehyde	0.0993	0.0908	J	ug/L		91	50 - 150
EPTC	0.0993	0.111		ug/L		112	50 - 150
Fluoranthene	0.0496	0.0499	J	ug/L		101	50 - 150
Fluorene	0.0496	0.0503		ug/L		101	50 - 150
gamma-Chlordane	0.0248	0.0226	J	ug/L		91	50 - 150
Heptachlor	0.0397	0.0507		ug/L		128	50 - 150
Heptachlor epoxide (isomer B)	0.0496	0.0541		ug/L		109	50 - 150
Hexachlorobenzene	0.0496	0.0484	J	ug/L		98	50 - 150
Hexachlorocyclopentadiene	0.0496	0.0545		ug/L		110	50 - 150
Indeno[1,2,3-cd]pyrene	0.0496	0.0436	J	ug/L		88	50 - 150
Isophorone	0.0993	0.115	J	ug/L		116	50 - 150
Lindane	0.0397	0.0487		ug/L		123	50 - 150
Malathion	0.0993	0.0856	J	ug/L		86	50 - 150
Methoxychlor	0.0993	0.104		ug/L		105	50 - 150
Metolachlor	0.0496	0.0566		ug/L		114	50 - 150
Molinate	0.0993	0.118		ug/L		118	50 - 150
Naphthalene	0.0993	0.106	J	ug/L		107	50 - 150
Parathion	0.0993	0.0932	J	ug/L		94	50 - 150
Pendimethalin (Penoxaline)	0.0993	0.0845	J	ug/L		85	50 - 150
Phenanthrene	0.0199	0.0205	J	ug/L		103	50 - 150
Propachlor	0.0496	0.0506		ug/L		102	50 - 150
Pyrene	0.0496	0.0473	J	ug/L		95	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: MRL 380-88677/22-A
Matrix: Water
Analysis Batch: 88825

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 88677

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Simazine	0.0496	0.0538		ug/L		108	50 - 150
Terbacil	0.0993	0.0990		ug/L		100	50 - 150
Terbutylazine	0.0993	0.100		ug/L		101	50 - 150
Thiobencarb	0.0993	0.115	J	ug/L		116	50 - 150
trans-Nonachlor	0.0248	<0.026		ug/L		100	50 - 150
Trifluralin	0.0993	0.104		ug/L		104	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	97		70 - 130
Perylene-d12	96		70 - 130
Triphenylphosphate	95		70 - 130

Lab Sample ID: 380-93702-3 MS
Matrix: Water
Analysis Batch: 88825

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2
Prep Type: Total/NA
Prep Batch: 88677

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	<0.096		1.93	1.97		ug/L		102	70 - 130
2,4'-DDD	<0.096		1.93	2.16		ug/L		112	70 - 130
2,4'-DDE	<0.096		1.93	1.98		ug/L		103	70 - 130
2,4'-DDT	<0.096		1.93	2.13		ug/L		111	70 - 130
2,4-Dinitrotoluene	<0.096		1.93	1.91		ug/L		99	70 - 130
2,6-Dinitrotoluene	<0.096		1.93	1.91		ug/L		99	70 - 130
2-Methylnaphthalene	<0.096		1.93	1.96		ug/L		102	70 - 130
4,4'-DDD	<0.096		1.93	2.09		ug/L		109	70 - 130
4,4'-DDE	<0.096		1.93	1.97		ug/L		102	70 - 130
4,4'-DDT	<0.096		1.93	1.88		ug/L		98	70 - 130
Acenaphthene	<0.096		1.93	1.86		ug/L		97	70 - 130
Acenaphthylene	<0.096		1.93	1.94		ug/L		101	70 - 130
Acetochlor	<0.096		1.93	2.05		ug/L		107	70 - 130
Alachlor	<0.048		1.93	2.06		ug/L		107	70 - 130
alpha-BHC	<0.096		1.93	2.01		ug/L		104	70 - 130
alpha-Chlordane	<0.048		1.93	2.01		ug/L		104	70 - 130
Anthracene	<0.019	F1	1.93	0.697	F1	ug/L		36	70 - 130
Atrazine	<0.048		1.93	2.24		ug/L		116	70 - 130
Benz(a)anthracene	<0.048		1.93	1.59		ug/L		83	70 - 130
Benzo[a]pyrene	<0.019		1.93	1.39		ug/L		72	70 - 130
Benzo[b]fluoranthene	<0.019		1.93	2.04		ug/L		106	70 - 130
Benzo[g,h,i]perylene	<0.048		1.93	2.12		ug/L		110	70 - 130
Benzo[k]fluoranthene	<0.019		1.93	2.07		ug/L		107	70 - 130
beta-BHC	<0.096		1.93	1.95		ug/L		101	70 - 130
Bis(2-ethylhexyl) phthalate	<0.58		1.93	1.95		ug/L		101	70 - 130
Bromacil	<0.096		1.93	2.29		ug/L		119	70 - 130
Butachlor	<0.048		1.93	2.25		ug/L		117	70 - 130
Butylbenzylphthalate	<0.48		1.93	2.28		ug/L		119	70 - 130
Chlorobenzilate	<0.096		1.93	2.18		ug/L		113	70 - 130
Chloroneb	<0.096		1.93	2.12		ug/L		110	70 - 130
Chlorothalonil (Draconil, Bravo)	<0.096		1.93	2.24		ug/L		116	70 - 130

QC Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-93702-3 MS
Matrix: Water
Analysis Batch: 88825

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2
Prep Type: Total/NA
Prep Batch: 88677

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				Limits
Chlorpyrifos	<0.048		1.93	2.13		ug/L		110	70 - 130
Chrysene	<0.019		1.93	2.00		ug/L		104	70 - 130
delta-BHC	<0.096		1.93	1.93		ug/L		100	70 - 130
Di(2-ethylhexyl)adipate	<0.58		1.93	2.28		ug/L		118	70 - 130
Dibenz(a,h)anthracene	<0.048		1.93	2.10		ug/L		109	70 - 130
Diclorvos (DDVP)	<0.048		1.93	2.18		ug/L		113	70 - 130
Dieldrin	<0.19		1.93	1.97		ug/L		102	70 - 130
Diethylphthalate	<0.48		1.93	2.10		ug/L		109	70 - 130
Dimethylphthalate	<0.48		1.93	2.13		ug/L		111	70 - 130
Di-n-butyl phthalate	<0.96		3.85	4.24		ug/L		108	70 - 130
Di-n-octyl phthalate	<0.096		1.93	1.64		ug/L		85	70 - 130
Endosulfan I (Alpha)	<0.096		1.93	1.93		ug/L		100	70 - 130
Endosulfan II (Beta)	<0.096		1.93	2.09		ug/L		109	70 - 130
Endosulfan sulfate	<0.096		1.93	2.11		ug/L		109	70 - 130
Endrin	<0.096		1.93	2.11		ug/L		110	70 - 130
Endrin aldehyde	<0.096		1.93	1.87		ug/L		97	60 - 130
EPTC	<0.096		1.93	2.36		ug/L		122	70 - 130
Fluoranthene	<0.096		1.93	2.07		ug/L		107	70 - 130
Fluorene	<0.048		1.93	2.05		ug/L		107	70 - 130
gamma-Chlordane	<0.048		1.93	2.04		ug/L		106	70 - 130
Heptachlor	<0.039		1.93	2.12		ug/L		110	70 - 130
Heptachlor epoxide (isomer B)	<0.048		1.93	2.00		ug/L		104	70 - 130
Hexachlorobenzene	<0.048		1.93	1.93		ug/L		100	70 - 130
Hexachlorocyclopentadiene	<0.048		1.93	1.95		ug/L		101	70 - 130
Indeno[1,2,3-cd]pyrene	<0.048		1.93	2.01		ug/L		105	70 - 130
Isophorone	<0.48		1.93	2.06		ug/L		107	70 - 130
Lindane	<0.039		1.93	2.02		ug/L		105	70 - 130
Malathion	<0.096		1.93	2.25		ug/L		117	70 - 130
Methoxychlor	<0.096		1.93	2.08		ug/L		108	70 - 130
Metolachlor	<0.048		1.93	2.19		ug/L		114	70 - 130
Molinate	<0.096		1.93	2.12		ug/L		110	70 - 130
Naphthalene	<0.29		1.93	1.84		ug/L		96	70 - 130
Parathion	<0.096		1.93	2.20		ug/L		114	70 - 130
Pendimethalin (Penoxaline)	<0.096		1.93	1.98		ug/L		103	70 - 130
Phenanthrene	<0.039		1.93	1.93		ug/L		100	70 - 130
Propachlor	<0.048		1.93	2.17		ug/L		113	70 - 130
Pyrene	<0.048		1.93	2.03		ug/L		105	70 - 130
Simazine	<0.048		1.93	2.22		ug/L		115	70 - 130
Terbacil	<0.096		1.93	2.01		ug/L		104	70 - 130
Terbutylazine	<0.096		1.93	2.19		ug/L		114	70 - 130
Thiobencarb	<0.19		1.93	2.31		ug/L		120	70 - 130
trans-Nonachlor	<0.048		1.93	2.03		ug/L		105	70 - 130
Trifluralin	<0.096		1.93	1.99		ug/L		103	70 - 130

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	99		70 - 130
Perylene-d12	95		70 - 130
Triphenylphosphate	105		70 - 130

QC Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-93702-4 DU
Matrix: Water
Analysis Batch: 88825

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
Prep Type: Total/NA
Prep Batch: 88677

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
1-Methylnaphthalene	<0.097		<0.096		ug/L		NC	20
2,4'-DDD	<0.097		<0.096		ug/L		NC	20
2,4'-DDE	<0.097		<0.096		ug/L		NC	20
2,4'-DDT	<0.097		<0.096		ug/L		NC	20
2,4-Dinitrotoluene	<0.097		<0.096		ug/L		NC	20
2,6-Dinitrotoluene	<0.097		<0.096		ug/L		NC	20
2-Methylnaphthalene	<0.097		<0.096		ug/L		NC	20
4,4'-DDD	<0.097		<0.096		ug/L		NC	20
4,4'-DDE	<0.097		<0.096		ug/L		NC	20
4,4'-DDT	<0.097		<0.096		ug/L		NC	20
Acenaphthene	<0.097		<0.096		ug/L		NC	20
Acenaphthylene	<0.097		<0.096		ug/L		NC	20
Acetochlor	<0.097		<0.096		ug/L		NC	20
Alachlor	<0.048		<0.048		ug/L		NC	20
alpha-BHC	<0.097		<0.096		ug/L		NC	20
alpha-Chlordane	<0.048		<0.048		ug/L		NC	20
Anthracene	<0.019		<0.019		ug/L		NC	20
Atrazine	<0.048		<0.048		ug/L		NC	20
Benz(a)anthracene	<0.048		<0.048		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	<0.048		<0.048		ug/L		NC	20
Benzo[k]fluoranthene	<0.019		<0.019		ug/L		NC	20
beta-BHC	<0.097		<0.096		ug/L		NC	20
Bis(2-ethylhexyl) phthalate	<0.58		<0.58		ug/L		NC	20
Bromacil	<0.097		<0.096		ug/L		NC	20
Butachlor	<0.048		<0.048		ug/L		NC	20
Butylbenzylphthalate	<0.48		<0.48		ug/L		NC	20
Chlorobenzilate	<0.097		<0.096		ug/L		NC	20
Chloroneb	<0.097		<0.096		ug/L		NC	20
Chlorothalonil (Draconil, Bravo)	<0.097		<0.096		ug/L		NC	20
Chlorpyrifos	<0.048		<0.048		ug/L		NC	20
Chrysene	<0.019		<0.019		ug/L		NC	20
delta-BHC	<0.097		<0.096		ug/L		NC	20
Di(2-ethylhexyl)adipate	<0.58		<0.58		ug/L		NC	20
Dibenz(a,h)anthracene	<0.048		<0.048		ug/L		NC	20
Diclorvos (DDVP)	<0.048		<0.048		ug/L		NC	20
Dieldrin	<0.19		<0.19		ug/L		NC	20
Diethylphthalate	<0.48		<0.48		ug/L		NC	20
Dimethylphthalate	<0.48		<0.48		ug/L		NC	20
Di-n-butyl phthalate	<0.97		<0.96		ug/L		NC	20
Di-n-octyl phthalate	<0.097		<0.096		ug/L		NC	20
Endosulfan I (Alpha)	<0.097		<0.096		ug/L		NC	20
Endosulfan II (Beta)	<0.097		<0.096		ug/L		NC	20
Endosulfan sulfate	<0.097		<0.096		ug/L		NC	20
Endrin	<0.097		<0.096		ug/L		NC	20
Endrin aldehyde	<0.097		<0.096		ug/L		NC	20
EPTC	<0.097		<0.096		ug/L		NC	20

QC Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-93702-4 DU
Matrix: Water
Analysis Batch: 88825

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
Prep Type: Total/NA
Prep Batch: 88677

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Fluoranthene	<0.097		<0.096		ug/L		NC	20
Fluorene	<0.048		<0.048		ug/L		NC	20
gamma-Chlordane	<0.048		<0.048		ug/L		NC	20
Heptachlor	<0.039		<0.039		ug/L		NC	20
Heptachlor epoxide (isomer B)	<0.048		<0.048		ug/L		NC	20
Hexachlorobenzene	<0.048		<0.048		ug/L		NC	20
Hexachlorocyclopentadiene	<0.048		<0.048		ug/L		NC	20
Indeno[1,2,3-cd]pyrene	<0.048		<0.048		ug/L		NC	20
Isophorone	<0.48		<0.48		ug/L		NC	20
Lindane	<0.039		<0.039		ug/L		NC	20
Malathion	<0.097		<0.096		ug/L		NC	20
Methoxychlor	<0.097		<0.096		ug/L		NC	20
Metolachlor	<0.048		<0.048		ug/L		NC	20
Molinate	<0.097		<0.096		ug/L		NC	20
Naphthalene	<0.29		<0.29		ug/L		NC	20
Parathion	<0.097		<0.096		ug/L		NC	20
Pendimethalin (Penoxaline)	<0.097		<0.096		ug/L		NC	20
Phenanthrene	<0.039		<0.039		ug/L		NC	20
Propachlor	<0.048		<0.048		ug/L		NC	20
Pyrene	<0.048		<0.048		ug/L		NC	20
Simazine	<0.048		<0.048		ug/L		NC	20
Terbacil	<0.097		<0.096		ug/L		NC	20
Terbutylazine	<0.097		<0.096		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	<0.048		<0.048		ug/L		NC	20
Trifluralin	<0.097		<0.096		ug/L		NC	20
		DU	DU					
Surrogate	%Recovery	Qualifier	Limits					
2-Nitro-m-xylene	100		70 - 130					
Perylene-d12	98		70 - 130					
Triphenylphosphate	110		70 - 130					

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

Lab Sample ID: MBL 380-89278/20-A
Matrix: Water
Analysis Batch: 89382

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 89278

Analyte	MBL	MBL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: MBL 380-89278/20-A
Matrix: Water
Analysis Batch: 89382

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 89278

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		05/07/24 06:23	05/07/24 15:58	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	98		50 - 200	05/07/24 06:23	05/07/24 15:58	1
13C6 PFDA	103		50 - 200	05/07/24 06:23	05/07/24 15:58	1
13C5 PFHxA	107		50 - 200	05/07/24 06:23	05/07/24 15:58	1
13C4 PFHpA	106		50 - 200	05/07/24 06:23	05/07/24 15:58	1
13C8 PFOA	106		50 - 200	05/07/24 06:23	05/07/24 15:58	1
13C9 PFNA	99		50 - 200	05/07/24 06:23	05/07/24 15:58	1
13C7 PFUnA	106		50 - 200	05/07/24 06:23	05/07/24 15:58	1
13C2 PFDoA	118		50 - 200	05/07/24 06:23	05/07/24 15:58	1
13C4 PFBA	102		50 - 200	05/07/24 06:23	05/07/24 15:58	1
13C5 PFPeA	97		50 - 200	05/07/24 06:23	05/07/24 15:58	1
13C3 PFBS	104		50 - 200	05/07/24 06:23	05/07/24 15:58	1
13C3 PFHxS	104		50 - 200	05/07/24 06:23	05/07/24 15:58	1
13C8 PFOS	98		50 - 200	05/07/24 06:23	05/07/24 15:58	1
13C2-4:2-FTS	132		50 - 200	05/07/24 06:23	05/07/24 15:58	1
13C2-6:2-FTS	123		50 - 200	05/07/24 06:23	05/07/24 15:58	1
13C2-8:2-FTS	115		50 - 200	05/07/24 06:23	05/07/24 15:58	1

QC Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: LCS 380-89278/22-A
Matrix: Water
Analysis Batch: 89382

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 89278

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.4	52.7		ng/L		87	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.4	60.5		ng/L		100	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.4	59.1		ng/L		98	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.4	58.1		ng/L		96	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.4	56.7		ng/L		94	70 - 130
Perfluorodecanoic acid (PFDA)	60.4	59.5		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	60.4	59.7		ng/L		99	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.4	61.9		ng/L		103	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.4	56.0		ng/L		93	70 - 130
Perfluorohexanoic acid (PFHxA)	60.4	58.4		ng/L		97	70 - 130
Perfluorononanoic acid (PFNA)	60.4	60.2		ng/L		100	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.4	60.0		ng/L		99	70 - 130
Perfluorooctanoic acid (PFOA)	60.4	58.4		ng/L		97	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.4	58.2		ng/L		96	70 - 130
Perfluorobutanoic acid (PFBA)	60.4	61.1		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.4	62.2		ng/L		103	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.4	58.8		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.4	62.6		ng/L		104	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.4	56.9		ng/L		94	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	60.4	57.4		ng/L		95	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.4	60.4		ng/L		100	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.4	59.2		ng/L		98	70 - 130
Perfluoropentanoic acid (PFPeA)	60.4	60.2		ng/L		100	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.4	60.9		ng/L		101	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	60.4	58.5		ng/L		97	70 - 130

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	93		50 - 200
13C6 PFDA	97		50 - 200
13C5 PFHxA	99		50 - 200
13C4 PFHpA	97		50 - 200
13C8 PFOA	101		50 - 200
13C9 PFNA	95		50 - 200

QC Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: LCS 380-89278/22-A
Matrix: Water
Analysis Batch: 89382

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 89278

Isotope Dilution	LCS		Limits
	%Recovery	Qualifier	
13C7 PFUnA	101		50 - 200
13C2 PFDoA	102		50 - 200
13C4 PFBA	99		50 - 200
13C5 PFPeA	99		50 - 200
13C3 PFBS	105		50 - 200
13C3 PFHxS	103		50 - 200
13C8 PFOS	100		50 - 200
13C2-4:2-FTS	128		50 - 200
13C2-6:2-FTS	122		50 - 200
13C2-8:2-FTS	111		50 - 200

Lab Sample ID: MRL 380-89278/21-A
Matrix: Water
Analysis Batch: 89382

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 89278

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec
							Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.69	J	ng/L		84	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	1.99	J	ng/L		99	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	1.92	J	ng/L		95	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	1.94	J	ng/L		97	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	1.83	J	ng/L		91	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.10	J	ng/L		104	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	1.95	J	ng/L		97	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.03	J	ng/L		101	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	1.78	J	ng/L		88	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	1.95	J	ng/L		97	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.03	J	ng/L		101	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.03	J	ng/L		101	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	1.93	J	ng/L		96	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.02	J	ng/L		100	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	2.08	J	ng/L		103	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.01	J	ng/L		100	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.16	J	ng/L		108	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.17	J	ng/L		108	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	2.02	J	ng/L		100	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.01	1.95	J	ng/L		97	50 - 150

QC Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: MRL 380-89278/21-A
Matrix: Water
Analysis Batch: 89382

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 89278

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	1.86	J	ng/L		93	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.91	J	ng/L		95	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	2.01	J	ng/L		100	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	2.03	J	ng/L		101	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	1.96	J	ng/L		97	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	86		50 - 200
13C6 PFDA	94		50 - 200
13C5 PFHxA	98		50 - 200
13C4 PFHpA	98		50 - 200
13C8 PFOA	102		50 - 200
13C9 PFNA	93		50 - 200
13C7 PFUnA	98		50 - 200
13C2 PFDoA	100		50 - 200
13C4 PFBA	101		50 - 200
13C5 PFPeA	97		50 - 200
13C3 PFBS	99		50 - 200
13C3 PFHxS	98		50 - 200
13C8 PFOS	95		50 - 200
13C2-4:2-FTS	122		50 - 200
13C2-6:2-FTS	118		50 - 200
13C2-8:2-FTS	113		50 - 200

Lab Sample ID: 590-24575-H-2-A MS
Matrix: Water
Analysis Batch: 89382

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 89278

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.7	53.9		ng/L		89	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.7	60.1		ng/L		99	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.7	59.0		ng/L		97	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.7	60.4		ng/L		100	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.7	62.4		ng/L		103	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.7	62.6		ng/L		103	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.7	62.5		ng/L		103	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.7	61.8		ng/L		102	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.7	59.1		ng/L		97	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.7	60.3		ng/L		99	70 - 130

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QC Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 590-24575-H-2-A MS
Matrix: Water
Analysis Batch: 89382

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 89278

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanoic acid (PFNA)	<2.0		60.7	61.7		ng/L		102	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.7	61.7		ng/L		102	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.7	60.7		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.7	61.3		ng/L		101	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.7	62.4		ng/L		103	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.7	66.1		ng/L		109	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.7	60.0		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.7	62.6		ng/L		103	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.7	56.6		ng/L		93	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.7	63.7		ng/L		105	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.7	61.8		ng/L		102	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.7	62.7		ng/L		103	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.7	62.7		ng/L		103	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.7	62.7		ng/L		103	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.7	60.4		ng/L		99	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3 HFPO-DA	93		50 - 200
13C6 PFDA	101		50 - 200
13C5 PFHxA	102		50 - 200
13C4 PFHpA	101		50 - 200
13C8 PFOA	103		50 - 200
13C9 PFNA	97		50 - 200
13C7 PFUnA	100		50 - 200
13C2 PFDoA	99		50 - 200
13C4 PFBA	98		50 - 200
13C5 PFPeA	96		50 - 200
13C3 PFBS	93		50 - 200
13C3 PFHxS	97		50 - 200
13C8 PFOS	94		50 - 200
13C2-4:2-FTS	119		50 - 200
13C2-6:2-FTS	110		50 - 200
13C2-8:2-FTS	108		50 - 200

QC Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 590-24575-I-2-A MSD

Matrix: Water

Analysis Batch: 89382

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 89278

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.2	52.8		ng/L		88	70 - 130	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	58.7		ng/L		98	70 - 130	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	54.4		ng/L		90	70 - 130	8	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.2	55.5		ng/L		92	70 - 130	9	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.2	58.2		ng/L		97	70 - 130	7	30
Perfluorodecanoic acid (PFDA)	<2.0		60.2	60.5		ng/L		100	70 - 130	3	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	58.9		ng/L		98	70 - 130	6	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	58.8		ng/L		98	70 - 130	5	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	57.2		ng/L		95	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	59.9		ng/L		99	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		60.2	60.2		ng/L		100	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.2	59.0		ng/L		98	70 - 130	4	30
Perfluorooctanoic acid (PFOA)	<2.0		60.2	60.1		ng/L		100	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	59.0		ng/L		98	70 - 130	4	30
Perfluorobutanoic acid (PFBA)	<2.0		60.2	61.0		ng/L		101	70 - 130	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	64.7		ng/L		107	70 - 130	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	60.2		ng/L		100	70 - 130	0	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	63.1		ng/L		105	70 - 130	1	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	55.4		ng/L		92	70 - 130	2	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.2	61.9		ng/L		103	70 - 130	3	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	56.9		ng/L		94	70 - 130	8	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	59.8		ng/L		99	70 - 130	5	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	60.2		ng/L		100	70 - 130	4	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	61.5		ng/L		102	70 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	56.9		ng/L		95	70 - 130	6	30

Isotope Dilution	MSD	MSD	Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	94		50 - 200
13C6 PFDA	97		50 - 200
13C5 PFHxA	99		50 - 200
13C4 PFHpA	100		50 - 200
13C8 PFOA	99		50 - 200
13C9 PFNA	94		50 - 200

QC Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 590-24575-I-2-A MSD
Matrix: Water
Analysis Batch: 89382

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 89278

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C7 PFUnA	99		50 - 200
13C2 PFDoA	100		50 - 200
13C4 PFBA	99		50 - 200
13C5 PFPeA	97		50 - 200
13C3 PFBS	97		50 - 200
13C3 PFHxS	100		50 - 200
13C8 PFOS	95		50 - 200
13C2-4:2-FTS	124		50 - 200
13C2-6:2-FTS	110		50 - 200
13C2-8:2-FTS	108		50 - 200

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

Lab Sample ID: MBL 380-88673/21-A
Matrix: Water
Analysis Batch: 88754

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 88673

Analyte	MBL MBL		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		05/02/24 09:00	05/03/24 03:11	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		05/02/24 09:00	05/03/24 03:11	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		05/02/24 09:00	05/03/24 03:11	1
N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		05/02/24 09:00	05/03/24 03:11	1
N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		05/02/24 09:00	05/03/24 03:11	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		05/02/24 09:00	05/03/24 03:11	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		05/02/24 09:00	05/03/24 03:11	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		05/02/24 09:00	05/03/24 03:11	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		05/02/24 09:00	05/03/24 03:11	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		05/02/24 09:00	05/03/24 03:11	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		05/02/24 09:00	05/03/24 03:11	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		05/02/24 09:00	05/03/24 03:11	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		05/02/24 09:00	05/03/24 03:11	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		05/02/24 09:00	05/03/24 03:11	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		05/02/24 09:00	05/03/24 03:11	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		05/02/24 09:00	05/03/24 03:11	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		05/02/24 09:00	05/03/24 03:11	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		05/02/24 09:00	05/03/24 03:11	1

Surrogate	MBL MBL		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
d5-NEtFOSAA	118		70 - 130	05/02/24 09:00	05/03/24 03:11	1
13C2 PFHxA	100		70 - 130	05/02/24 09:00	05/03/24 03:11	1
13C2 PFDA	111		70 - 130	05/02/24 09:00	05/03/24 03:11	1
13C3-GenX	97		70 - 130	05/02/24 09:00	05/03/24 03:11	1

QC Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: LCS 380-88673/23-A
Matrix: Water
Analysis Batch: 88754

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 88673

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	25.0	25.4		ng/L		102	70 - 130
Perfluorooctanesulfonic acid (PFOS)	25.0	25.8		ng/L		103	70 - 130
Perfluoroundecanoic acid (PFUnA)	25.0	27.7		ng/L		111	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.0	26.9		ng/L		108	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.0	27.8		ng/L		111	70 - 130
Perfluorohexanoic acid (PFHxA)	25.0	25.6		ng/L		102	70 - 130
Perfluorododecanoic acid (PFDoA)	25.0	27.4		ng/L		109	70 - 130
Perfluorooctanoic acid (PFOA)	25.0	27.7		ng/L		111	70 - 130
Perfluorodecanoic acid (PFDA)	25.0	26.7		ng/L		107	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	25.0	26.5		ng/L		106	70 - 130
Perfluorobutanesulfonic acid (PFBS)	25.0	23.2		ng/L		93	70 - 130
Perfluoroheptanoic acid (PFHpA)	25.0	28.2		ng/L		113	70 - 130
Perfluorononanoic acid (PFNA)	25.0	27.6		ng/L		110	70 - 130
Perfluorotetradecanoic acid (PFTA)	25.0	30.3		ng/L		121	70 - 130
Perfluorotridecanoic acid (PFTrDA)	25.0	26.8		ng/L		107	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	25.0	24.6		ng/L		98	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	25.0	23.3		ng/L		93	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	25.0	27.6		ng/L		111	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	112		70 - 130
13C2 PFHxA	107		70 - 130
13C2 PFDA	108		70 - 130
13C3-GenX	101		70 - 130

Lab Sample ID: MRL 380-88673/22-A
Matrix: Water
Analysis Batch: 88754

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 88673

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	1.95	J	ng/L		97	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.17	J	ng/L		108	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.26	J	ng/L		113	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.32	J	ng/L		116	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: MRL 380-88673/22-A
Matrix: Water
Analysis Batch: 88754

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 88673

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA)	2.00	2.43	J	ng/L		121	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.19	J	ng/L		109	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.24	J	ng/L		112	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.39	J	ng/L		119	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.30	J	ng/L		115	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.23	J	ng/L		111	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	1.80	J	ng/L		90	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.40	J	ng/L		120	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.32	J	ng/L		116	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.75	J	ng/L		137	50 - 150
Perfluorotridecanoic acid (PFTTrDA)	2.00	2.20	J	ng/L		110	50 - 150
9-Chlorohexadecafluoro-3-oxan onane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.10	J	ng/L		105	50 - 150
11-Chloroeicosafuoro-3-oxaund ecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.90	J	ng/L		95	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.36	J	ng/L		118	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	114		70 - 130
13C2 PFHxA	100		70 - 130
13C2 PFDA	106		70 - 130
13C3-GenX	92		70 - 130

Lab Sample ID: 380-93705-C-1-A MS
Matrix: Water
Analysis Batch: 88754

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 88673

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.2	23.8		ng/L		94	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.2	25.8		ng/L		102	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.2	27.1		ng/L		108	70 - 130
N-methylperfluorooctanesulfona midoacetic acid (NMeFOSAA)	<2.0		25.2	27.0		ng/L		107	70 - 130
N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA)	<2.0		25.2	27.6		ng/L		110	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		25.2	25.6		ng/L		102	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		25.2	26.3		ng/L		105	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		25.2	26.6		ng/L		106	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		25.2	26.9		ng/L		107	70 - 130

QC Association Summary

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

GC/MS Semi VOA

Prep Batch: 88677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-93702-1	MOANALUA WELLS	Total/NA	Water	525.2	
380-93702-2	AIEA GULCH WELLS PUMP 2	Total/NA	Water	525.2	
380-93702-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	525.2	
380-93702-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	525.2	
MB 380-88677/21-A	Method Blank	Total/NA	Water	525.2	
LCS 380-88677/23-A	Lab Control Sample	Total/NA	Water	525.2	
MRL 380-88677/22-A	Lab Control Sample	Total/NA	Water	525.2	
380-93702-3 MS	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	525.2	
380-93702-4 DU	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	525.2	

Analysis Batch: 88825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-93702-1	MOANALUA WELLS	Total/NA	Water	525.2	88677
380-93702-2	AIEA GULCH WELLS PUMP 2	Total/NA	Water	525.2	88677
380-93702-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	525.2	88677
380-93702-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	525.2	88677
MB 380-88677/21-A	Method Blank	Total/NA	Water	525.2	88677
LCS 380-88677/23-A	Lab Control Sample	Total/NA	Water	525.2	88677
MRL 380-88677/22-A	Lab Control Sample	Total/NA	Water	525.2	88677
380-93702-3 MS	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	525.2	88677
380-93702-4 DU	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	525.2	88677

LCMS

Prep Batch: 88673

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-93702-1	MOANALUA WELLS	Total/NA	Water	537.1 DW	
380-93702-2	AIEA GULCH WELLS PUMP 2	Total/NA	Water	537.1 DW	
380-93702-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	537.1 DW	
380-93702-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	537.1 DW	
380-93702-5	FB MOANALUA WELLS	Total/NA	Water	537.1 DW	
380-93702-6	FB AIEA GULCH WELLS PUMP 2	Total/NA	Water	537.1 DW	
380-93702-7	FB AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	537.1 DW	
380-93702-8	FB HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	537.1 DW	
MBL 380-88673/21-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-88673/23-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-88673/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-93705-C-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-93705-D-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 88754

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-93702-1	MOANALUA WELLS	Total/NA	Water	537.1	88673
380-93702-2	AIEA GULCH WELLS PUMP 2	Total/NA	Water	537.1	88673
380-93702-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	537.1	88673
380-93702-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	537.1	88673
380-93702-5	FB MOANALUA WELLS	Total/NA	Water	537.1	88673
380-93702-6	FB AIEA GULCH WELLS PUMP 2	Total/NA	Water	537.1	88673
380-93702-7	FB AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	537.1	88673
380-93702-8	FB HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	537.1	88673
MBL 380-88673/21-A	Method Blank	Total/NA	Water	537.1	88673

QC Association Summary

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

Job ID: 380-93702-1
 SDG: 525.2, 533, 537.1

LCMS (Continued)

Analysis Batch: 88754 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 380-88673/23-A	Lab Control Sample	Total/NA	Water	537.1	88673
MRL 380-88673/22-A	Lab Control Sample	Total/NA	Water	537.1	88673
380-93705-C-1-A MS	Matrix Spike	Total/NA	Water	537.1	88673
380-93705-D-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	88673

Prep Batch: 89278

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-93702-1	MOANALUA WELLS	Total/NA	Water	533	
380-93702-2	AIEA GULCH WELLS PUMP 2	Total/NA	Water	533	
380-93702-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	533	
MBL 380-89278/20-A	Method Blank	Total/NA	Water	533	
LCS 380-89278/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-89278/21-A	Lab Control Sample	Total/NA	Water	533	
590-24575-H-2-A MS	Matrix Spike	Total/NA	Water	533	
590-24575-I-2-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 89382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-93702-1	MOANALUA WELLS	Total/NA	Water	533	89278
380-93702-2	AIEA GULCH WELLS PUMP 2	Total/NA	Water	533	89278
380-93702-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	533	89278
MBL 380-89278/20-A	Method Blank	Total/NA	Water	533	89278
LCS 380-89278/22-A	Lab Control Sample	Total/NA	Water	533	89278
MRL 380-89278/21-A	Lab Control Sample	Total/NA	Water	533	89278
590-24575-H-2-A MS	Matrix Spike	Total/NA	Water	533	89278
590-24575-I-2-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	89278



Lab Chronicle

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

Job ID: 380-93702-1
 SDG: 525.2, 533, 537.1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-93702-1

Date Collected: 04/29/24 10:15

Matrix: Water

Date Received: 05/01/24 09:31

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			88677	KRD3	EA POM	05/02/24 10:15
Total/NA	Analysis	525.2		1	88825	Q8LA	EA POM	05/03/24 11:25
Total/NA	Prep	533			89278	XTD8	EA POM	05/07/24 06:23
Total/NA	Analysis	533		1	89382	Y5FM	EA POM	05/07/24 17:34
Total/NA	Prep	537.1 DW			88673	A5GB	EA POM	05/02/24 09:00
Total/NA	Analysis	537.1		1	88754	Y5FM	EA POM	05/03/24 04:16

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-93702-2

Date Collected: 04/29/24 11:03

Matrix: Water

Date Received: 05/01/24 09:31

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			88677	KRD3	EA POM	05/02/24 10:15
Total/NA	Analysis	525.2		1	88825	Q8LA	EA POM	05/03/24 11:45
Total/NA	Prep	533			89278	XTD8	EA POM	05/07/24 06:23
Total/NA	Analysis	533		1	89382	Y5FM	EA POM	05/07/24 17:45
Total/NA	Prep	537.1 DW			88673	A5GB	EA POM	05/02/24 09:00
Total/NA	Analysis	537.1		1	88754	Y5FM	EA POM	05/03/24 04:27

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

Lab Sample ID: 380-93702-3

Date Collected: 04/29/24 11:25

Matrix: Water

Date Received: 05/01/24 09:31

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			88677	KRD3	EA POM	05/02/24 10:15
Total/NA	Analysis	525.2		1	88825	Q8LA	EA POM	05/03/24 10:45
Total/NA	Prep	533			89278	XTD8	EA POM	05/07/24 06:23
Total/NA	Analysis	533		1	89382	Y5FM	EA POM	05/07/24 17:56
Total/NA	Prep	537.1 DW			88673	A5GB	EA POM	05/02/24 09:00
Total/NA	Analysis	537.1		1	88754	Y5FM	EA POM	05/03/24 04:38

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-93702-4

Date Collected: 04/29/24 10:37

Matrix: Water

Date Received: 05/01/24 09:31

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			88677	KRD3	EA POM	05/02/24 10:15
Total/NA	Analysis	525.2		1	88825	Q8LA	EA POM	05/03/24 11:05
Total/NA	Prep	537.1 DW			88673	A5GB	EA POM	05/02/24 09:00
Total/NA	Analysis	537.1		1	88754	Y5FM	EA POM	05/03/24 04:49

Lab Chronicle

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

Job ID: 380-93702-1
SDG: 525.2, 533, 537.1

Client Sample ID: FB MOANALUA WELLS

Lab Sample ID: 380-93702-5

Date Collected: 04/29/24 10:15

Matrix: Water

Date Received: 05/01/24 09:31

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537.1 DW			88673	A5GB	EA POM	05/02/24 09:00
Total/NA	Analysis	537.1		1	88754	Y5FM	EA POM	05/03/24 04:59

Client Sample ID: FB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-93702-6

Date Collected: 04/29/24 11:03

Matrix: Water

Date Received: 05/01/24 09:31

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537.1 DW			88673	A5GB	EA POM	05/02/24 09:00
Total/NA	Analysis	537.1		1	88754	Y5FM	EA POM	05/03/24 05:10

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

Lab Sample ID: 380-93702-7

Date Collected: 04/29/24 11:25

Matrix: Water

Date Received: 05/01/24 09:31

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537.1 DW			88673	A5GB	EA POM	05/02/24 09:00
Total/NA	Analysis	537.1		1	88754	Y5FM	EA POM	05/03/24 05:21

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

Lab Sample ID: 380-93702-8

Date Collected: 04/29/24 10:37

Matrix: Water

Date Received: 05/01/24 09:31

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537.1 DW			88673	A5GB	EA POM	05/02/24 09:00
Total/NA	Analysis	537.1		1	88754	Y5FM	EA POM	05/03/24 05:32

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: 380-93702-1
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	02-12-24 *

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

Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	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	Acenaphthene
525.2	525.2	Water	Acenaphthylene
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	Anthracene
525.2	525.2	Water	Benz(a)anthracene
525.2	525.2	Water	Benzo[b]fluoranthene
525.2	525.2	Water	Benzo[g,h,i]perylene
525.2	525.2	Water	Benzo[k]fluoranthene
525.2	525.2	Water	beta-BHC
525.2	525.2	Water	Bromacil
525.2	525.2	Water	Butylbenzylphthalate
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	Chrysene
525.2	525.2	Water	delta-BHC
525.2	525.2	Water	Dibenz(a,h)anthracene
525.2	525.2	Water	Diclorvos (DDVP)
525.2	525.2	Water	Diethylphthalate
525.2	525.2	Water	Dimethylphthalate
525.2	525.2	Water	Di-n-butyl phthalate
525.2	525.2	Water	Di n octyl phthalate
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	Fluoranthene
525.2	525.2	Water	Fluorene
525.2	525.2	Water	gamma-Chlordane
525.2	525.2	Water	Indeno[1,2,3-cd]pyrene
525.2	525.2	Water	Isophorone

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

Accreditation/Certification Summary

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

Job ID: 380-93702-1
 SDG: 525.2, 533, 537.1

Laboratory: Eurofins Eaton Analytical Pomona (Continued)

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

Authority	Program	Identification Number	Expiration Date
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	Water	Malathion
525.2	525.2	Water	Molinate
525.2	525.2	Water	Naphthalene
525.2	525.2	Water	Parathion
525.2	525.2	Water	Pendimethalin (Penoxaline)
525.2	525.2	Water	Phenanthrene
525.2	525.2	Water	Pyrene
525.2	525.2	Water	Terbacil
525.2	525.2	Water	Terbutylazine
525.2	525.2	Water	Thiobencarb
525.2	525.2	Water	Total Permethrin (mixed isomers)
525.2	525.2	Water	trans-Nonachlor
525.2	525.2	Water	Trifluralin
533	533	Water	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)
533	533	Water	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)
533	533	Water	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)
533	533	Water	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)
533	533	Water	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
533	533	Water	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)
533	533	Water	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)
533	533	Water	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)
533	533	Water	Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)
533	533	Water	Perfluoro-3-methoxypropanoic acid (PFMPA)
533	533	Water	Perfluoro-4-methoxybutanoic acid (PFMBA)
533	533	Water	Perfluorobutanoic acid (PFBA)
533	533	Water	Perfluoroheptanesulfonic acid (PFHpS)
533	533	Water	Perfluoropentanesulfonic acid (PFPeS)
533	533	Water	Perfluoropentanoic acid (PFPeA)
537.1	537.1 DW	Water	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)
537.1	537.1 DW	Water	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
537.1	537.1 DW	Water	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)
537.1	537.1 DW	Water	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)

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

Method Summary

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

Job ID: 380-93702-1
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: 380-93702-1
SDG: 525.2, 533, 537.1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-93702-1	MOANALUA WELLS	Water	04/29/24 10:15	05/01/24 09:31
380-93702-2	AIEA GULCH WELLS PUMP 2	Water	04/29/24 11:03	05/01/24 09:31
380-93702-3	AIEA WELLS PUMPS 1&2 (260) P2	Water	04/29/24 11:25	05/01/24 09:31
380-93702-4	HALAWA WELLS UNITS 1 & 2 P1	Water	04/29/24 10:37	05/01/24 09:31
380-93702-5	FB MOANALUA WELLS	Water	04/29/24 10:15	05/01/24 09:31
380-93702-6	FB AIEA GULCH WELLS PUMP 2	Water	04/29/24 11:03	05/01/24 09:31
380-93702-7	FB AIEA WELLS PUMPS 1&2 (260) P2	Water	04/29/24 11:25	05/01/24 09:31
380-93702-8	FB HALAWA WELLS UNITS 1 & 2 P1	Water	04/29/24 10:37	05/01/24 09:31

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


Chain of Custody Record



Client Information		Lab PM Arada Rachelle		COC No 380-27941-2757 2	
Client Contact: Dr. Ron Fenstermacher		E-Mail Rachelle.Arada@del.euromisus.com		Page 1 of 1	
Company City & County of Honolulu		PWSID		Job #	
Address 630 South Beretania Street, Chemistry Lab Honolulu		Due Date Requested		Carrier Tracking No(s)	
City Honolulu		TAT Requested (days)		State of Origin	
State/Zip HI, 96843		Compliance Project Δ No			
Phone 808-748-5091 (tel)		PO # C20525101 exp 05312023			
Email rfenstermacher@hbws.org		WO #			
Project Name RED-HILL/HBWS sites Event Desc. RUSH Weekly Red Hill		Project # 38001111			
Site		SSOW#			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastebottle, A=air)	Preservation Code	Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUBCONTRACT - 625 PAH Physits 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:
						Y	N	Y	N								
MOANALUA WELLS	29-Apr-2024	1015	G	Water													chlorinated
AIEA GULCH WELLS PUMP2	29-Apr-2024	1103	G	Water													chlorinated
AIEA WELLS PUMPS 1&2 (260)P2	29-Apr-2024	1125	GT	Water													
HALAWA WELLS UNITS 1&2 P1	29-Apr-2024	1037	G	Water													
FB MOANALUA WELLS	29-Apr-2024	1015		Water													
FB AIEA GULCH WELLS PUMP2	29-Apr-2024	1103		Water													
FB AIEA WELLS PUMPS 1&2 (260)	29-Apr-2024	1125		Water													
FB HALAWA WELLS UNITS 1&2	29-Apr-2024	1037		Water													

380-93702 COC



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

Special Instructions/OC Requirements
 ① 7761 7950 1000
 ② 7761 7950 1011

Received by M. G. PETERNER	Date/Time 05/01/2024 09:31	Company EEAP
Received by	Date/Time	Company
Received by	Date/Time	Company

Cooler Temperature(s) °C and Other Remarks
 (77A) ① 0.5°-0.1°-0.4° / ② 3.3°-0.1°-3.2° **GEL-FROZEN**



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-93702-1
SDG Number: 525.2, 533, 537.1

Login Number: 93702
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	

