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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Mr. Erwin Kawata  
City & County of Honolulu  
630 South Beretania Street  
Public Service Bldg. Room 310  
Honolulu, Hawaii 96843

Generated 1/19/2024 8:20:45 AM

## JOB DESCRIPTION

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

## JOB NUMBER

380-77681-1

# Eurofins Eaton Analytical Pomona

## Job Notes

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

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

## Compliance Statement

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

## Authorization



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# Definitions/Glossary

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

## Qualifiers

### GC/MS Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
^3+	Reporting Limit Check Standard is outside acceptance limits, high biased
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### GC/MS Semi VOA TICs

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

### LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

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

Job ID: 380-77681-1

**Job ID: 380-77681-1**

**Eurofins Eaton Analytical Pomona**

## Job Narrative 380-77681-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 1/9/2024 10:55 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.4°C

### Receipt Exceptions

Ice formation exists in one of the received 533 samples from site MOANALUA WELLS. MOANALUA WELLS (380-77684-1).

### GC/MS Semi VOA

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

### PFAS

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

# Detection Summary

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

**Client Sample ID: MOANALUA WELLS**  
**PWSID Number: HI0000331**

**Lab Sample ID: 380-77681-1**

No Detections.

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-77684-1**

No Detections.

**Client Sample ID: FB: MOANALUA WELLS**

**Lab Sample ID: 380-77684-2**

No Detections.

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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: 380-77681-1  
SDG: 525.2, 533, 537.1

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-77681-1**

Date Collected: 01/05/24 10:30

Matrix: Drinking Water

Date Received: 01/09/24 10:55

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
2,4'-DDD	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
2,4'-DDE	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
2,4'-DDT	<0.096	^3+	0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
2,4-Dinitrotoluene	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
2,6-Dinitrotoluene	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
2-Methylnaphthalene	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
4,4'-DDD	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
4,4'-DDE	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
4,4'-DDT	<0.096	^3+	0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
Acenaphthene	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
Acenaphthylene	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
Acetochlor	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
Alachlor	<0.048		0.048	ug/L		01/11/24 13:50	01/12/24 17:52	1
alpha-BHC	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
alpha-Chlordane	<0.048		0.048	ug/L		01/11/24 13:50	01/12/24 17:52	1
Anthracene	<0.019		0.019	ug/L		01/11/24 13:50	01/12/24 17:52	1
Atrazine	<0.048	*+	0.048	ug/L		01/11/24 13:50	01/12/24 17:52	1
Benz(a)anthracene	<0.048	^3+	0.048	ug/L		01/11/24 13:50	01/12/24 17:52	1
Benzo[a]pyrene	<0.019		0.019	ug/L		01/11/24 13:50	01/12/24 17:52	1
Benzo[b]fluoranthene	<0.019		0.019	ug/L		01/11/24 13:50	01/12/24 17:52	1
Benzo[g,h,i]perylene	<0.048		0.048	ug/L		01/11/24 13:50	01/12/24 17:52	1
Benzo[k]fluoranthene	<0.019	^3+	0.019	ug/L		01/11/24 13:50	01/12/24 17:52	1
beta-BHC	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58	ug/L		01/11/24 13:50	01/12/24 17:52	1
Bromacil	<0.096	^3+	0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
Butachlor	<0.048		0.048	ug/L		01/11/24 13:50	01/12/24 17:52	1
Butylbenzylphthalate	<0.48		0.48	ug/L		01/11/24 13:50	01/12/24 17:52	1
Chlorobenzilate	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
Chloroneb	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
Chlorothalonil (Draconil, Bravo)	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
Chlorpyrifos	<0.048		0.048	ug/L		01/11/24 13:50	01/12/24 17:52	1
Chrysene	<0.019		0.019	ug/L		01/11/24 13:50	01/12/24 17:52	1
delta-BHC	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
Di(2-ethylhexyl)adipate	<0.58		0.58	ug/L		01/11/24 13:50	01/12/24 17:52	1
Dibenz(a,h)anthracene	<0.048		0.048	ug/L		01/11/24 13:50	01/12/24 17:52	1
Diclorvos (DDVP)	<0.048	^3+	0.048	ug/L		01/11/24 13:50	01/12/24 17:52	1
Dieldrin	<0.19		0.19	ug/L		01/11/24 13:50	01/12/24 17:52	1
Diethylphthalate	<0.48		0.48	ug/L		01/11/24 13:50	01/12/24 17:52	1
Dimethylphthalate	<0.48		0.48	ug/L		01/11/24 13:50	01/12/24 17:52	1
Di-n-butyl phthalate	<0.96		0.96	ug/L		01/11/24 13:50	01/12/24 17:52	1
Di-n-octyl phthalate	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
Endosulfan I (Alpha)	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
Endosulfan II (Beta)	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
Endosulfan sulfate	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
Endrin	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
Endrin aldehyde	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
EPTC	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
Fluoranthene	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1

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# Client Sample Results

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-77681-1**

Date Collected: 01/05/24 10:30

Matrix: Drinking Water

Date Received: 01/09/24 10:55

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	<0.048		0.048	ug/L		01/11/24 13:50	01/12/24 17:52	1
gamma-Chlordane	<0.048		0.048	ug/L		01/11/24 13:50	01/12/24 17:52	1
Heptachlor	<0.039		0.039	ug/L		01/11/24 13:50	01/12/24 17:52	1
Heptachlor epoxide (isomer B)	<0.048		0.048	ug/L		01/11/24 13:50	01/12/24 17:52	1
Hexachlorobenzene	<0.048		0.048	ug/L		01/11/24 13:50	01/12/24 17:52	1
Hexachlorocyclopentadiene	<0.048		0.048	ug/L		01/11/24 13:50	01/12/24 17:52	1
Indeno[1,2,3-cd]pyrene	<0.048	^3+	0.048	ug/L		01/11/24 13:50	01/12/24 17:52	1
Isophorone	<0.48		0.48	ug/L		01/11/24 13:50	01/12/24 17:52	1
Lindane	<0.039		0.039	ug/L		01/11/24 13:50	01/12/24 17:52	1
Malathion	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
Methoxychlor	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
Metolachlor	<0.048		0.048	ug/L		01/11/24 13:50	01/12/24 17:52	1
Molinate	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
Naphthalene	<0.29		0.29	ug/L		01/11/24 13:50	01/12/24 17:52	1
Parathion	<0.096	^3+	0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
Pendimethalin (Penoxaline)	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
Phenanthrene	<0.039		0.039	ug/L		01/11/24 13:50	01/12/24 17:52	1
Propachlor	<0.048		0.048	ug/L		01/11/24 13:50	01/12/24 17:52	1
Pyrene	<0.048		0.048	ug/L		01/11/24 13:50	01/12/24 17:52	1
Simazine	<0.048		0.048	ug/L		01/11/24 13:50	01/12/24 17:52	1
Terbacil	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
Terbutylazine	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1
Thiobencarb	<0.19		0.19	ug/L		01/11/24 13:50	01/12/24 17:52	1
Total Permethrin (mixed isomers)	<0.19		0.19	ug/L		01/11/24 13:50	01/12/24 17:52	1
trans-Nonachlor	<0.048	^3+	0.048	ug/L		01/11/24 13:50	01/12/24 17:52	1
Trifluralin	<0.096		0.096	ug/L		01/11/24 13:50	01/12/24 17:52	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	01/11/24 13:50	01/12/24 17:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	98		70 - 130	01/11/24 13:50	01/12/24 17:52	1
Perylene-d12	100		70 - 130	01/11/24 13:50	01/12/24 17:52	1
Triphenylphosphate	115		70 - 130	01/11/24 13:50	01/12/24 17:52	1

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-77684-1**

Date Collected: 01/05/24 10:30

Matrix: Water

Date Received: 01/09/24 10:55

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1

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# Client Sample Results

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-77684-1**

Date Collected: 01/05/24 10:30

Matrix: Water

Date Received: 01/09/24 10:55

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:42	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	101		50 - 200	01/10/24 10:35	01/11/24 18:42	1
13C6 PFDA	101		50 - 200	01/10/24 10:35	01/11/24 18:42	1
13C5 PFHxA	107		50 - 200	01/10/24 10:35	01/11/24 18:42	1
13C4 PFHpA	101		50 - 200	01/10/24 10:35	01/11/24 18:42	1
13C8 PFOA	105		50 - 200	01/10/24 10:35	01/11/24 18:42	1
13C9 PFNA	105		50 - 200	01/10/24 10:35	01/11/24 18:42	1
13C7 PFUnA	101		50 - 200	01/10/24 10:35	01/11/24 18:42	1
13C2 PFDoA	110		50 - 200	01/10/24 10:35	01/11/24 18:42	1
13C4 PFBA	106		50 - 200	01/10/24 10:35	01/11/24 18:42	1
13C5 PFPeA	105		50 - 200	01/10/24 10:35	01/11/24 18:42	1
13C3 PFBS	106		50 - 200	01/10/24 10:35	01/11/24 18:42	1
13C3 PFHxS	104		50 - 200	01/10/24 10:35	01/11/24 18:42	1
13C8 PFOS	103		50 - 200	01/10/24 10:35	01/11/24 18:42	1
13C2-4:2-FTS	124		50 - 200	01/10/24 10:35	01/11/24 18:42	1
13C2-6:2-FTS	112		50 - 200	01/10/24 10:35	01/11/24 18:42	1
13C2-8:2-FTS	103		50 - 200	01/10/24 10:35	01/11/24 18:42	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		01/10/24 11:11	01/12/24 10:56	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		01/10/24 11:11	01/12/24 10:56	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		01/10/24 11:11	01/12/24 10:56	1

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# Client Sample Results

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-77684-1**

Date Collected: 01/05/24 10:30

Matrix: Water

Date Received: 01/09/24 10:55

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		01/10/24 11:11	01/12/24 10:56	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		01/10/24 11:11	01/12/24 10:56	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		01/10/24 11:11	01/12/24 10:56	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		01/10/24 11:11	01/12/24 10:56	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		01/10/24 11:11	01/12/24 10:56	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		01/10/24 11:11	01/12/24 10:56	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		01/10/24 11:11	01/12/24 10:56	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		01/10/24 11:11	01/12/24 10:56	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		01/10/24 11:11	01/12/24 10:56	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		01/10/24 11:11	01/12/24 10:56	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		01/10/24 11:11	01/12/24 10:56	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		01/10/24 11:11	01/12/24 10:56	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		01/10/24 11:11	01/12/24 10:56	1
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		01/10/24 11:11	01/12/24 10:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		01/10/24 11:11	01/12/24 10:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	109		70 - 130	01/10/24 11:11	01/12/24 10:56	1
13C2 PFHxA	117		70 - 130	01/10/24 11:11	01/12/24 10:56	1
13C2 PFDA	116		70 - 130	01/10/24 11:11	01/12/24 10:56	1
13C3-GenX	105		70 - 130	01/10/24 11:11	01/12/24 10:56	1

**Client Sample ID: FB: MOANALUA WELLS**

**Lab Sample ID: 380-77684-2**

Date Collected: 01/05/24 10:30

Matrix: Water

Date Received: 01/09/24 10:55

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1

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# Client Sample Results

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

**Client Sample ID: FB: MOANALUA WELLS**

**Lab Sample ID: 380-77684-2**

**Date Collected: 01/05/24 10:30**

**Matrix: Water**

**Date Received: 01/09/24 10:55**

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		01/10/24 10:35	01/11/24 18:51	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>			<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	104		50 - 200			01/10/24 10:35	01/11/24 18:51	1
13C6 PFDA	104		50 - 200			01/10/24 10:35	01/11/24 18:51	1
13C5 PFHxA	107		50 - 200			01/10/24 10:35	01/11/24 18:51	1
13C4 PFHpA	103		50 - 200			01/10/24 10:35	01/11/24 18:51	1
13C8 PFOA	105		50 - 200			01/10/24 10:35	01/11/24 18:51	1
13C9 PFNA	106		50 - 200			01/10/24 10:35	01/11/24 18:51	1
13C7 PFUnA	103		50 - 200			01/10/24 10:35	01/11/24 18:51	1
13C2 PFDoA	114		50 - 200			01/10/24 10:35	01/11/24 18:51	1
13C4 PFBA	108		50 - 200			01/10/24 10:35	01/11/24 18:51	1
13C5 PFPeA	107		50 - 200			01/10/24 10:35	01/11/24 18:51	1
13C3 PFBS	106		50 - 200			01/10/24 10:35	01/11/24 18:51	1
13C3 PFHxS	110		50 - 200			01/10/24 10:35	01/11/24 18:51	1
13C8 PFOS	107		50 - 200			01/10/24 10:35	01/11/24 18:51	1
13C2-4:2-FTS	126		50 - 200			01/10/24 10:35	01/11/24 18:51	1
13C2-6:2-FTS	113		50 - 200			01/10/24 10:35	01/11/24 18:51	1
13C2-8:2-FTS	109		50 - 200			01/10/24 10:35	01/11/24 18:51	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		01/10/24 12:02	01/12/24 14:22	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		01/10/24 12:02	01/12/24 14:22	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		01/10/24 12:02	01/12/24 14:22	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		01/10/24 12:02	01/12/24 14:22	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		01/10/24 12:02	01/12/24 14:22	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		01/10/24 12:02	01/12/24 14:22	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		01/10/24 12:02	01/12/24 14:22	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		01/10/24 12:02	01/12/24 14:22	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		01/10/24 12:02	01/12/24 14:22	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		01/10/24 12:02	01/12/24 14:22	1

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# Client Sample Results

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

**Client Sample ID: FB: MOANALUA WELLS**

**Lab Sample ID: 380-77684-2**

Date Collected: 01/05/24 10:30

Matrix: Water

Date Received: 01/09/24 10:55

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		01/10/24 12:02	01/12/24 14:22	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		01/10/24 12:02	01/12/24 14:22	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		01/10/24 12:02	01/12/24 14:22	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		01/10/24 12:02	01/12/24 14:22	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		01/10/24 12:02	01/12/24 14:22	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		01/10/24 12:02	01/12/24 14:22	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		01/10/24 12:02	01/12/24 14:22	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		01/10/24 12:02	01/12/24 14:22	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	102		70 - 130			01/10/24 12:02	01/12/24 14:22	1
13C2 PFHxA	114		70 - 130			01/10/24 12:02	01/12/24 14:22	1
13C2 PFDA	114		70 - 130			01/10/24 12:02	01/12/24 14:22	1
13C3-GenX	102		70 - 130			01/10/24 12:02	01/12/24 14:22	1

# Action Limit Summary

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-77681-1**

**PWSID Number: HI0000331**

## Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Alachlor	<0.048		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

# Surrogate Summary

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	PRY (70-130)	TPP (70-130)
380-77681-1	MOANALUA WELLS	98	100	115

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	PRY (70-130)	TPP (70-130)
380-77627-AD-1-A MS	Matrix Spike	97	101	116
380-77708-AH-1-A DU	Duplicate	97	98	111
LCS 380-71124/23-A	Lab Control Sample	96	100	115
MB 380-71124/21-A	Method Blank	98	97	114
MRL 380-71124/22-A	Lab Control Sample	100	101	107

**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)
380-77684-1	MOANALUA WELLS	109	117	116	105
380-77684-1 MS	MOANALUA WELLS	101	117	115	112
380-77684-1 MSD	MOANALUA WELLS	106	118	116	109
380-77684-2	FB: MOANALUA WELLS	102	114	114	102
LCS 380-70977/23-A	Lab Control Sample	105	109	112	105
MBL 380-70977/21-A	Method Blank	117	107	121	102
MRL 380-70977/22-A	Lab Control Sample	101	100	104	91

**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: 380-77681-1  
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)
380-77684-1	MOANALUA WELLS	101	101	107	101	105	105	101	110
380-77684-2	FB: MOANALUA WELLS	104	104	107	103	105	106	103	114
380-77747-B-3-A MS	Matrix Spike	115	99	111	110	109	103	97	107
380-77747-B-5-A DU	Duplicate	97	102	101	93	106	103	97	106
LCS 380-70949/25-A	Lab Control Sample	108	105	117	108	107	104	97	99
MBL 380-70949/23-A	Method Blank	109	119	125	129	126	120	113	118
MRL 380-70949/24-A	Lab Control Sample	104	106	113	115	112	110	99	105

		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)
380-77684-1	MOANALUA WELLS	106	105	106	104	103	124	112	103
380-77684-2	FB: MOANALUA WELLS	108	107	106	110	107	126	113	109
380-77747-B-3-A MS	Matrix Spike	115	119	111	108	109	124	121	111
380-77747-B-5-A DU	Duplicate	108	114	99	102	105	112	108	106
LCS 380-70949/25-A	Lab Control Sample	110	109	103	104	103	125	113	104
MBL 380-70949/23-A	Method Blank	118	123	113	124	122	145	137	142
MRL 380-70949/24-A	Lab Control Sample	107	111	110	112	113	129	123	114

### 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: 380-77681-1  
SDG: 525.2, 533, 537.1

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

**Lab Sample ID: MB 380-71124/21-A**  
**Matrix: Water**  
**Analysis Batch: 71414**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 71124**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
2,4'-DDD	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
2,4'-DDE	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
2,4'-DDT	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
2,4-Dinitrotoluene	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
2,6-Dinitrotoluene	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
2-Methylnaphthalene	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
4,4'-DDD	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
4,4'-DDE	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
4,4'-DDT	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
Acenaphthene	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
Acenaphthylene	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
Acetochlor	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
Alachlor	<0.049		0.049	ug/L		01/11/24 13:50	01/12/24 15:53	1
alpha-BHC	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
alpha-Chlordane	<0.049		0.049	ug/L		01/11/24 13:50	01/12/24 15:53	1
Anthracene	<0.020		0.020	ug/L		01/11/24 13:50	01/12/24 15:53	1
Atrazine	<0.049		0.049	ug/L		01/11/24 13:50	01/12/24 15:53	1
Benz(a)anthracene	<0.049		0.049	ug/L		01/11/24 13:50	01/12/24 15:53	1
Benzo[a]pyrene	<0.020		0.020	ug/L		01/11/24 13:50	01/12/24 15:53	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		01/11/24 13:50	01/12/24 15:53	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		01/11/24 13:50	01/12/24 15:53	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		01/11/24 13:50	01/12/24 15:53	1
beta-BHC	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		01/11/24 13:50	01/12/24 15:53	1
Bromacil	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
Butachlor	<0.049		0.049	ug/L		01/11/24 13:50	01/12/24 15:53	1
Butylbenzylphthalate	<0.49		0.49	ug/L		01/11/24 13:50	01/12/24 15:53	1
Chlorobenzilate	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
Chloroneb	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
Chlorothalonil (Draconil, Bravo)	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
Chlorpyrifos	<0.049		0.049	ug/L		01/11/24 13:50	01/12/24 15:53	1
Chrysene	<0.020		0.020	ug/L		01/11/24 13:50	01/12/24 15:53	1
delta-BHC	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
Di(2-ethylhexyl)adipate	<0.59		0.59	ug/L		01/11/24 13:50	01/12/24 15:53	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		01/11/24 13:50	01/12/24 15:53	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		01/11/24 13:50	01/12/24 15:53	1
Dieldrin	<0.20		0.20	ug/L		01/11/24 13:50	01/12/24 15:53	1
Diethylphthalate	<0.49		0.49	ug/L		01/11/24 13:50	01/12/24 15:53	1
Dimethylphthalate	<0.49		0.49	ug/L		01/11/24 13:50	01/12/24 15:53	1
Di-n-butyl phthalate	<0.98		0.98	ug/L		01/11/24 13:50	01/12/24 15:53	1
Di-n-octyl phthalate	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
Endosulfan I (Alpha)	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
Endosulfan II (Beta)	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
Endosulfan sulfate	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
Endrin	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
Endrin aldehyde	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
EPTC	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1

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# QC Sample Results

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

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

**Lab Sample ID: MB 380-71124/21-A**  
**Matrix: Water**  
**Analysis Batch: 71414**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 71124**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
Fluorene	<0.049		0.049	ug/L		01/11/24 13:50	01/12/24 15:53	1
gamma-Chlordane	<0.049		0.049	ug/L		01/11/24 13:50	01/12/24 15:53	1
Heptachlor	<0.039		0.039	ug/L		01/11/24 13:50	01/12/24 15:53	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		01/11/24 13:50	01/12/24 15:53	1
Hexachlorobenzene	<0.049		0.049	ug/L		01/11/24 13:50	01/12/24 15:53	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		01/11/24 13:50	01/12/24 15:53	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		01/11/24 13:50	01/12/24 15:53	1
Isophorone	<0.49		0.49	ug/L		01/11/24 13:50	01/12/24 15:53	1
Lindane	<0.039		0.039	ug/L		01/11/24 13:50	01/12/24 15:53	1
Malathion	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
Methoxychlor	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
Metolachlor	<0.049		0.049	ug/L		01/11/24 13:50	01/12/24 15:53	1
Molinate	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
Naphthalene	<0.29		0.29	ug/L		01/11/24 13:50	01/12/24 15:53	1
Parathion	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
Pendimethalin (Penoxaline)	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
Phenanthrene	<0.039		0.039	ug/L		01/11/24 13:50	01/12/24 15:53	1
Propachlor	<0.049		0.049	ug/L		01/11/24 13:50	01/12/24 15:53	1
Pyrene	<0.049		0.049	ug/L		01/11/24 13:50	01/12/24 15:53	1
Simazine	<0.049		0.049	ug/L		01/11/24 13:50	01/12/24 15:53	1
Terbacil	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
Terbutylazine	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1
Thiobencarb	<0.20		0.20	ug/L		01/11/24 13:50	01/12/24 15:53	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		01/11/24 13:50	01/12/24 15:53	1
trans-Nonachlor	<0.049		0.049	ug/L		01/11/24 13:50	01/12/24 15:53	1
Trifluralin	<0.098		0.098	ug/L		01/11/24 13:50	01/12/24 15:53	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Decane	2.59	T J N	ug/L		2.38	124-18-5	01/11/24 13:50	01/12/24 15:53	1
Decane, 4-methyl-	0.584	T J N	ug/L		2.54	2847-72-5	01/11/24 13:50	01/12/24 15:53	1
9-Octadecenamamide, (Z)-	0.500	T J N	ug/L		7.35	301-02-0	01/11/24 13:50	01/12/24 15:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	98		70 - 130	01/11/24 13:50	01/12/24 15:53	1
Perylene-d12	97		70 - 130	01/11/24 13:50	01/12/24 15:53	1
Triphenylphosphate	114		70 - 130	01/11/24 13:50	01/12/24 15:53	1

**Lab Sample ID: LCS 380-71124/23-A**  
**Matrix: Water**  
**Analysis Batch: 71414**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 71124**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	1.95	2.02		ug/L		104	70 - 130
2,4'-DDD	1.95	2.23		ug/L		114	70 - 130
2,4'-DDE	1.95	2.41		ug/L		123	70 - 130
2,4'-DDT	1.95	2.22		ug/L		114	70 - 130
2,4-Dinitrotoluene	1.95	1.94		ug/L		99	70 - 130

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# QC Sample Results

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

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

**Lab Sample ID: LCS 380-71124/23-A**  
**Matrix: Water**  
**Analysis Batch: 71414**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 71124**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,6-Dinitrotoluene	1.95	1.91		ug/L		98	70 - 130
2-Methylnaphthalene	1.95	2.07		ug/L		106	70 - 130
4,4'-DDD	1.95	2.24		ug/L		115	70 - 130
4,4'-DDE	1.95	2.03		ug/L		104	70 - 130
4,4'-DDT	1.95	2.20		ug/L		112	70 - 130
Acenaphthene	1.95	1.99		ug/L		102	70 - 130
Acenaphthylene	1.95	1.99		ug/L		102	70 - 130
Acetochlor	1.95	2.34		ug/L		120	70 - 130
Alachlor	1.95	2.26		ug/L		116	70 - 130
alpha-BHC	1.95	2.13		ug/L		109	70 - 130
alpha-Chlordane	1.95	2.02		ug/L		103	70 - 130
Anthracene	1.95	2.06		ug/L		106	70 - 130
Atrazine	1.95	2.56	*+	ug/L		131	70 - 130
Benz(a)anthracene	1.95	2.19		ug/L		112	70 - 130
Benzo[a]pyrene	1.95	2.22		ug/L		114	70 - 130
Benzo[b]fluoranthene	1.95	2.20		ug/L		113	70 - 130
Benzo[g,h,i]perylene	1.95	2.35		ug/L		120	70 - 130
Benzo[k]fluoranthene	1.95	2.21		ug/L		113	70 - 130
beta-BHC	1.95	2.15		ug/L		110	70 - 130
Bis(2-ethylhexyl) phthalate	1.95	2.17		ug/L		111	70 - 130
Bromacil	1.95	1.99		ug/L		102	70 - 130
Butachlor	1.95	2.24		ug/L		115	70 - 130
Butylbenzylphthalate	1.95	2.29		ug/L		117	70 - 130
Chlorobenzilate	1.95	2.11		ug/L		108	70 - 130
Chloroneb	1.95	2.14		ug/L		110	70 - 130
Chlorothalonil (Draconil, Bravo)	1.95	2.20		ug/L		112	70 - 130
Chlorpyrifos	1.95	2.24		ug/L		115	70 - 130
Chrysene	1.95	2.31		ug/L		118	70 - 130
delta-BHC	1.95	2.09		ug/L		107	70 - 130
Di(2-ethylhexyl)adipate	1.95	2.42		ug/L		124	70 - 130
Dibenz(a,h)anthracene	1.95	2.29		ug/L		117	70 - 130
Diclorvos (DDVP)	1.95	2.10		ug/L		107	70 - 130
Dieldrin	1.95	2.26		ug/L		116	70 - 130
Diethylphthalate	1.95	2.16		ug/L		110	70 - 130
Dimethylphthalate	1.95	2.21		ug/L		113	70 - 130
Di-n-butyl phthalate	3.91	4.24		ug/L		108	70 - 130
Di-n-octyl phthalate	1.95	2.13		ug/L		109	70 - 130
Endosulfan I (Alpha)	1.95	2.23		ug/L		114	70 - 130
Endosulfan II (Beta)	1.95	2.48		ug/L		127	70 - 130
Endosulfan sulfate	1.95	2.28		ug/L		117	70 - 130
Endrin	1.95	2.54		ug/L		130	70 - 130
Endrin aldehyde	1.95	2.11		ug/L		108	70 - 130
EPTC	1.95	2.16		ug/L		111	70 - 130
Fluoranthene	1.95	2.27		ug/L		116	70 - 130
Fluorene	1.95	2.14		ug/L		109	70 - 130
gamma-Chlordane	1.95	2.04		ug/L		104	70 - 130
Heptachlor	1.95	2.29		ug/L		117	70 - 130
Heptachlor epoxide (isomer B)	1.95	2.10		ug/L		108	70 - 130
Hexachlorobenzene	1.95	2.04		ug/L		104	70 - 130

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# QC Sample Results

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

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

**Lab Sample ID: LCS 380-71124/23-A**  
**Matrix: Water**  
**Analysis Batch: 71414**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 71124**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexachlorocyclopentadiene	1.95	2.11		ug/L		108	70 - 130
Indeno[1,2,3-cd]pyrene	1.95	2.33		ug/L		119	70 - 130
Isophorone	1.95	2.13		ug/L		109	70 - 130
Lindane	1.95	2.14		ug/L		110	70 - 130
Malathion	1.95	2.13		ug/L		109	70 - 130
Methoxychlor	1.95	2.18		ug/L		112	70 - 130
Metolachlor	1.95	2.15		ug/L		110	70 - 130
Molinate	1.95	2.12		ug/L		108	70 - 130
Naphthalene	1.95	1.96		ug/L		100	70 - 130
Parathion	1.95	2.23		ug/L		114	70 - 130
Pendimethalin (Penoxaline)	1.95	2.06		ug/L		105	70 - 130
Phenanthrene	1.95	2.00		ug/L		102	70 - 130
Propachlor	1.95	2.39		ug/L		122	70 - 130
Pyrene	1.95	2.37		ug/L		122	70 - 130
Simazine	1.95	2.45		ug/L		125	70 - 130
Terbacil	1.95	2.32		ug/L		119	70 - 130
Terbutylazine	1.95	2.22		ug/L		114	70 - 130
Thiobencarb	1.95	2.28		ug/L		117	70 - 130
trans-Nonachlor	1.95	2.15		ug/L		110	70 - 130
Trifluralin	1.95	2.00		ug/L		102	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	96		70 - 130
Perylene-d12	100		70 - 130
Triphenylphosphate	115		70 - 130

**Lab Sample ID: MRL 380-71124/22-A**  
**Matrix: Water**  
**Analysis Batch: 71414**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 71124**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.0978	0.115		ug/L		118	50 - 150
2,4'-DDD	0.0978	0.123		ug/L		125	50 - 150
2,4'-DDE	0.0978	0.113		ug/L		115	50 - 150
2,4'-DDT	0.0978	0.148	^3+	ug/L		151	50 - 150
2,4-Dinitrotoluene	0.0978	0.108		ug/L		110	50 - 150
2,6-Dinitrotoluene	0.0978	0.106		ug/L		109	50 - 150
2-Methylnaphthalene	0.0978	0.109		ug/L		111	50 - 150
4,4'-DDD	0.0978	0.125		ug/L		128	50 - 150
4,4'-DDE	0.0978	0.0982		ug/L		100	50 - 150
4,4'-DDT	0.0978	0.159	^3+	ug/L		162	50 - 150
Acenaphthene	0.0978	0.102		ug/L		105	50 - 150
Acenaphthylene	0.0978	0.0952	J	ug/L		97	50 - 150
Acetochlor	0.0489	0.0539	J	ug/L		110	50 - 150
Alachlor	0.0489	0.0616		ug/L		126	50 - 150
alpha-BHC	0.0978	0.109		ug/L		111	50 - 150
alpha-Chlordane	0.0244	0.0350	J	ug/L		143	50 - 150
Anthracene	0.0196	<0.019		ug/L		94	50 - 150

# QC Sample Results

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

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

**Lab Sample ID: MRL 380-71124/22-A**  
**Matrix: Water**  
**Analysis Batch: 71414**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 71124**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Atrazine	0.0489	<0.047		ug/L		94	50 - 150
Benz(a)anthracene	0.0489	0.0747	^3+	ug/L		153	50 - 150
Benzo[a]pyrene	0.0196	0.0287		ug/L		147	50 - 150
Benzo[b]fluoranthene	0.0196	0.0277		ug/L		142	50 - 150
Benzo[g,h,i]perylene	0.0489	0.0699		ug/L		143	50 - 150
Benzo[k]fluoranthene	0.0196	0.0311	^3+	ug/L		159	50 - 150
beta-BHC	0.0978	0.111		ug/L		114	50 - 150
Bis(2-ethylhexyl) phthalate	0.587	0.677		ug/L		115	50 - 150
Bromacil	0.0978	0.156	^3+	ug/L		159	50 - 150
Butachlor	0.0489	0.0686		ug/L		140	50 - 150
Butylbenzylphthalate	0.147	0.184	J	ug/L		126	50 - 150
Chlorobenzilate	0.0978	0.127		ug/L		130	50 - 150
Chloroneb	0.0978	0.0870	J	ug/L		89	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0978	0.125		ug/L		127	50 - 150
Chlorpyrifos	0.0489	0.0524		ug/L		107	50 - 150
Chrysene	0.0196	0.0219		ug/L		112	50 - 150
delta-BHC	0.0978	0.119		ug/L		122	50 - 150
Di(2-ethylhexyl)adipate	0.293	0.403	J	ug/L		138	50 - 150
Dibenz(a,h)anthracene	0.0489	0.0673		ug/L		138	50 - 150
Diclorvos (DDVP)	0.0489	0.0738	^3+	ug/L		151	50 - 150
Dieldrin	0.0978	0.124	J	ug/L		126	50 - 150
Diethylphthalate	0.147	0.167	J	ug/L		114	50 - 150
Dimethylphthalate	0.293	0.323	J	ug/L		110	50 - 150
Di-n-butyl phthalate	0.293	0.345	J	ug/L		118	49 - 243
Di-n-octyl phthalate	0.0978	0.120		ug/L		123	50 - 150
Endosulfan I (Alpha)	0.0978	0.116		ug/L		119	50 - 150
Endosulfan II (Beta)	0.0978	0.135		ug/L		138	50 - 150
Endosulfan sulfate	0.0978	0.143		ug/L		146	50 - 150
Endrin	0.0978	0.122		ug/L		125	50 - 150
Endrin aldehyde	0.0978	0.122		ug/L		125	50 - 150
EPTC	0.0978	0.108		ug/L		110	50 - 150
Fluoranthene	0.0489	0.0510	J	ug/L		104	50 - 150
Fluorene	0.0489	0.0522		ug/L		107	50 - 150
gamma-Chlordane	0.0244	0.0367	J	ug/L		150	50 - 150
Heptachlor	0.0391	0.0475		ug/L		121	50 - 150
Heptachlor epoxide (isomer B)	0.0489	0.0652		ug/L		133	50 - 150
Hexachlorobenzene	0.0489	0.0482	J	ug/L		98	50 - 150
Hexachlorocyclopentadiene	0.0489	0.0444	J	ug/L		91	50 - 150
Indeno[1,2,3-cd]pyrene	0.0489	0.0740	^3+	ug/L		151	50 - 150
Isophorone	0.0978	0.119	J	ug/L		121	50 - 150
Lindane	0.0391	0.0416		ug/L		106	50 - 150
Malathion	0.0978	0.122		ug/L		125	50 - 150
Methoxychlor	0.0978	0.120		ug/L		123	50 - 150
Metolachlor	0.0489	0.0719		ug/L		147	50 - 150
Molinate	0.0978	0.111		ug/L		114	50 - 150
Naphthalene	0.0978	0.116	J	ug/L		119	50 - 150
Parathion	0.0978	0.150	^3+	ug/L		153	50 - 150
Pendimethalin (Penoxaline)	0.0978	0.115		ug/L		117	50 - 150
Phenanthrene	0.0196	0.0209	J	ug/L		107	50 - 150

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

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

**Lab Sample ID: MRL 380-71124/22-A**  
**Matrix: Water**  
**Analysis Batch: 71414**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 71124**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Propachlor	0.0489	0.0550		ug/L		112	50 - 150
Pyrene	0.0489	0.0508		ug/L		104	50 - 150
Simazine	0.0489	0.0530		ug/L		108	50 - 150
Terbacil	0.0978	0.110		ug/L		112	50 - 150
Terbutylazine	0.0978	0.112		ug/L		115	50 - 150
Thiobencarb	0.0978	0.108	J	ug/L		110	50 - 150
trans-Nonachlor	0.0244	0.0386	J ^3+	ug/L		158	50 - 150
Trifluralin	0.0978	0.138		ug/L		141	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	100		70 - 130
Perylene-d12	101		70 - 130
Triphenylphosphate	107		70 - 130

**Lab Sample ID: 380-77627-AD-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 71414**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 71124**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	<0.099		1.93	2.04		ug/L		106	70 - 130
2,4'-DDD	<0.099		1.93	2.21		ug/L		115	70 - 130
2,4'-DDE	<0.099		1.93	2.46		ug/L		128	70 - 130
2,4'-DDT	<0.099	^3+	1.93	2.21		ug/L		115	70 - 130
2,4-Dinitrotoluene	<0.099		1.93	1.97		ug/L		102	70 - 130
2,6-Dinitrotoluene	<0.099		1.93	1.93		ug/L		100	70 - 130
2-Methylnaphthalene	<0.099		1.93	2.08		ug/L		108	70 - 130
4,4'-DDD	<0.099		1.93	2.32		ug/L		120	70 - 130
4,4'-DDE	<0.099		1.93	2.06		ug/L		107	70 - 130
4,4'-DDT	<0.099	^3+	1.93	2.28		ug/L		118	70 - 130
Acenaphthene	<0.099		1.93	1.98		ug/L		103	70 - 130
Acenaphthylene	<0.099		1.93	2.06		ug/L		107	70 - 130
Acetochlor	<0.099		1.93	2.40		ug/L		125	70 - 130
Alachlor	<0.049		1.93	2.28		ug/L		118	70 - 130
alpha-BHC	<0.099		1.93	2.14		ug/L		111	70 - 130
alpha-Chlordane	<0.049		1.93	2.02		ug/L		105	70 - 130
Anthracene	<0.020		1.93	1.84		ug/L		96	70 - 130
Atrazine	<0.049	*+ F1	1.93	2.56	F1	ug/L		133	70 - 130
Benz(a)anthracene	<0.049	^3+	1.93	2.21		ug/L		115	70 - 130
Benzo[a]pyrene	<0.020		1.93	2.15		ug/L		112	70 - 130
Benzo[b]fluoranthene	<0.020		1.93	2.26		ug/L		117	70 - 130
Benzo[g,h,i]perylene	<0.049		1.93	2.31		ug/L		120	70 - 130
Benzo[k]fluoranthene	<0.020	^3+	1.93	2.14		ug/L		111	70 - 130
beta-BHC	<0.099		1.93	2.15		ug/L		111	70 - 130
Bis(2-ethylhexyl) phthalate	<0.59		1.93	2.20		ug/L		114	70 - 130
Bromacil	<0.099	^3+	1.93	2.18		ug/L		113	70 - 130
Butachlor	<0.049		1.93	2.29		ug/L		119	70 - 130
Butylbenzylphthalate	<0.49		1.93	2.33		ug/L		121	70 - 130
Chlorobenzilate	<0.099		1.93	2.16		ug/L		112	70 - 130

# QC Sample Results

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

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

**Lab Sample ID: 380-77627-AD-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 71414**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 71124**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroneb	<0.099		1.93	2.21		ug/L		115	70 - 130
Chlorothalonil (Draconil, Bravo)	<0.099		1.93	2.15		ug/L		111	70 - 130
Chlorpyrifos	<0.049		1.93	2.30		ug/L		120	70 - 130
Chrysene	<0.020		1.93	2.32		ug/L		120	70 - 130
delta-BHC	<0.099		1.93	2.14		ug/L		111	70 - 130
Di(2-ethylhexyl)adipate	<0.59		1.93	2.50		ug/L		130	70 - 130
Dibenz(a,h)anthracene	<0.049		1.93	2.32		ug/L		120	70 - 130
Diclorvos (DDVP)	<0.049	^3+	1.93	2.12		ug/L		110	70 - 130
Dieldrin	<0.20		1.93	2.34		ug/L		121	70 - 130
Diethylphthalate	<0.49		1.93	2.18		ug/L		113	70 - 130
Dimethylphthalate	<0.49		1.93	2.20		ug/L		114	70 - 130
Di-n-butyl phthalate	<0.99		3.86	4.36		ug/L		111	70 - 130
Di-n-octyl phthalate	<0.099		1.93	2.15		ug/L		111	70 - 130
Endosulfan I (Alpha)	<0.099		1.93	2.24		ug/L		116	70 - 130
Endosulfan II (Beta)	<0.099		1.93	2.47		ug/L		128	70 - 130
Endosulfan sulfate	<0.099		1.93	2.31		ug/L		120	70 - 130
Endrin	<0.099	F1	1.93	2.63	F1	ug/L		137	70 - 130
Endrin aldehyde	<0.099		1.93	1.95		ug/L		101	70 - 130
EPTC	<0.099		1.93	2.16		ug/L		112	70 - 130
Fluoranthene	<0.099		1.93	2.33		ug/L		121	70 - 130
Fluorene	<0.049		1.93	2.13		ug/L		111	70 - 130
gamma-Chlordane	<0.049		1.93	2.07		ug/L		107	70 - 130
Heptachlor	<0.040		1.93	2.30		ug/L		119	70 - 130
Heptachlor epoxide (isomer B)	<0.049		1.93	2.16		ug/L		112	70 - 130
Hexachlorobenzene	<0.049		1.93	2.04		ug/L		106	70 - 130
Hexachlorocyclopentadiene	<0.049		1.93	2.10		ug/L		109	70 - 130
Indeno[1,2,3-cd]pyrene	<0.049	^3+	1.93	2.28		ug/L		118	70 - 130
Isophorone	<0.49		1.93	2.16		ug/L		112	70 - 130
Lindane	<0.040		1.93	2.18		ug/L		113	70 - 130
Malathion	<0.099		1.93	2.21		ug/L		114	70 - 130
Methoxychlor	<0.099		1.93	2.20		ug/L		114	70 - 130
Metolachlor	<0.049		1.93	2.22		ug/L		115	70 - 130
Molinate	<0.099		1.93	2.16		ug/L		112	70 - 130
Naphthalene	<0.30		1.93	2.01		ug/L		104	70 - 130
Parathion	<0.099	^3+	1.93	2.26		ug/L		117	70 - 130
Pendimethalin (Penoxaline)	<0.099		1.93	2.20		ug/L		114	70 - 130
Phenanthrene	<0.040		1.93	2.04		ug/L		106	70 - 130
Propachlor	<0.049		1.93	2.44		ug/L		126	70 - 130
Pyrene	<0.049		1.93	2.40		ug/L		125	70 - 130
Simazine	<0.049		1.93	2.50		ug/L		130	70 - 130
Terbacil	<0.099		1.93	2.44		ug/L		126	70 - 130
Terbutylazine	<0.099		1.93	2.22		ug/L		115	70 - 130
Thiobencarb	<0.20		1.93	2.35		ug/L		122	70 - 130
trans-Nonachlor	<0.049	^3+	1.93	2.11		ug/L		109	70 - 130
Trifluralin	<0.099		1.93	2.03		ug/L		105	70 - 130

Surrogate	MS %Recovery	MS Qualifier	MS Limits
2-Nitro-m-xylene	97		70 - 130

# QC Sample Results

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

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

**Lab Sample ID: 380-77627-AD-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 71414**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 71124**

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
<i>Perylene-d12</i>	101		70 - 130
<i>Triphenylphosphate</i>	116		70 - 130

**Lab Sample ID: 380-77708-AH-1-A DU**  
**Matrix: Water**  
**Analysis Batch: 71414**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 71124**

<b>Analyte</b>	<b>Sample Result</b>	<b>Sample Qualifier</b>	<b>DU Result</b>	<b>DU Qualifier</b>	<b>Unit</b>	<b>D</b>	<b>RPD</b>	<b>Limit</b>
1-Methylnaphthalene	<0.096		<0.097		ug/L		NC	20
2,4'-DDD	<0.096		<0.097		ug/L		NC	20
2,4'-DDE	<0.096		<0.097		ug/L		NC	20
2,4'-DDT	<0.096	^3+	<0.097		ug/L		NC	20
2,4-Dinitrotoluene	<0.096		<0.097		ug/L		NC	20
2,6-Dinitrotoluene	<0.096		<0.097		ug/L		NC	20
2-Methylnaphthalene	<0.096		<0.097		ug/L		NC	20
4,4'-DDD	<0.096		<0.097		ug/L		NC	20
4,4'-DDE	<0.096		<0.097		ug/L		NC	20
4,4'-DDT	<0.096	^3+	<0.097		ug/L		NC	20
Acenaphthene	<0.096		<0.097		ug/L		NC	20
Acenaphthylene	<0.096		<0.097		ug/L		NC	20
Acetochlor	<0.096		<0.097		ug/L		NC	20
Alachlor	<0.048		<0.048		ug/L		NC	20
alpha-BHC	<0.096		<0.097		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	^3+	<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	^3+	<0.019		ug/L		NC	20
beta-BHC	<0.096		<0.097		ug/L		NC	20
Bis(2-ethylhexyl) phthalate	<0.58		<0.58		ug/L		NC	20
Bromacil	<0.096	^3+	<0.097		ug/L		NC	20
Butachlor	<0.048		<0.048		ug/L		NC	20
Butylbenzylphthalate	<0.48		<0.48		ug/L		NC	20
Chlorobenzilate	<0.096		<0.097		ug/L		NC	20
Chloroneb	<0.096		<0.097		ug/L		NC	20
Chlorothalonil (Draconil, Bravo)	<0.096		<0.097		ug/L		NC	20
Chlorpyrifos	<0.048		<0.048		ug/L		NC	20
Chrysene	<0.019		<0.019		ug/L		NC	20
delta-BHC	<0.096		<0.097		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	^3+	<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

# QC Sample Results

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

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

**Lab Sample ID: 380-77708-AH-1-A DU**  
**Matrix: Water**  
**Analysis Batch: 71414**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 71124**

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Di-n-butyl phthalate	<0.96		<0.97		ug/L		NC	20
Di-n-octyl phthalate	<0.096		<0.097		ug/L		NC	20
Endosulfan I (Alpha)	<0.096		<0.097		ug/L		NC	20
Endosulfan II (Beta)	<0.096		<0.097		ug/L		NC	20
Endosulfan sulfate	<0.096		<0.097		ug/L		NC	20
Endrin	<0.096		<0.097		ug/L		NC	20
Endrin aldehyde	<0.096		<0.097		ug/L		NC	20
EPTC	<0.096		<0.097		ug/L		NC	20
Fluoranthene	<0.096		<0.097		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	^3+	<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	<0.096		<0.097		ug/L		NC	20
Methoxychlor	<0.096		<0.097		ug/L		NC	20
Metolachlor	<0.048		<0.048		ug/L		NC	20
Molinate	<0.096		<0.097		ug/L		NC	20
Naphthalene	<0.29		<0.29		ug/L		NC	20
Parathion	<0.096	^3+	<0.097		ug/L		NC	20
Pendimethalin (Penoxaline)	<0.096		<0.097		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	<0.096		<0.097		ug/L		NC	20
Terbutylazine	<0.096		<0.097		ug/L		NC	20
Thiobencarb	<0.19		<0.19		ug/L		NC	20
Total Permethrin (mixed isomers)	<0.19		<0.19		ug/L		NC	20
trans-Nonachlor	<0.048	^3+	<0.048		ug/L		NC	20
Trifluralin	<0.096		<0.097		ug/L		NC	20
		<b>DU</b>	<b>DU</b>					
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>					
2-Nitro-m-xylene	97		70 - 130					
Perylene-d12	98		70 - 130					
Triphenylphosphate	111		70 - 130					



# QC Sample Results

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

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

**Lab Sample ID: MBL 380-70949/23-A**  
**Matrix: Water**  
**Analysis Batch: 71200**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 70949**

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		01/10/24 10:35	01/11/24 16:34	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	109		50 - 200	01/10/24 10:35	01/11/24 16:34	1
13C6 PFDA	119		50 - 200	01/10/24 10:35	01/11/24 16:34	1
13C5 PFHxA	125		50 - 200	01/10/24 10:35	01/11/24 16:34	1
13C4 PFHpA	129		50 - 200	01/10/24 10:35	01/11/24 16:34	1
13C8 PFOA	126		50 - 200	01/10/24 10:35	01/11/24 16:34	1
13C9 PFNA	120		50 - 200	01/10/24 10:35	01/11/24 16:34	1
13C7 PFUnA	113		50 - 200	01/10/24 10:35	01/11/24 16:34	1
13C2 PFDoA	118		50 - 200	01/10/24 10:35	01/11/24 16:34	1
13C4 PFBA	118		50 - 200	01/10/24 10:35	01/11/24 16:34	1
13C5 PFPeA	123		50 - 200	01/10/24 10:35	01/11/24 16:34	1
13C3 PFBS	113		50 - 200	01/10/24 10:35	01/11/24 16:34	1
13C3 PFHxS	124		50 - 200	01/10/24 10:35	01/11/24 16:34	1

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

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

**Lab Sample ID: MBL 380-70949/23-A**  
**Matrix: Water**  
**Analysis Batch: 71200**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 70949**

<i>Isotope Dilution</i>	<i>MBL %Recovery</i>	<i>MBL Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C8 PFOS	122		50 - 200	01/10/24 10:35	01/11/24 16:34	1
13C2-4:2-FTS	145		50 - 200	01/10/24 10:35	01/11/24 16:34	1
13C2-6:2-FTS	137		50 - 200	01/10/24 10:35	01/11/24 16:34	1
13C2-8:2-FTS	142		50 - 200	01/10/24 10:35	01/11/24 16:34	1

**Lab Sample ID: LCS 380-70949/25-A**  
**Matrix: Water**  
**Analysis Batch: 71200**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 70949**

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	125		ng/L		104	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	121		ng/L		100	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	119		ng/L		99	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	130		ng/L		108	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	129		ng/L		107	70 - 130
Perfluorodecanoic acid (PFDA)	120	114		ng/L		94	70 - 130
Perfluorododecanoic acid (PFDoA)	120	125		ng/L		104	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	117		ng/L		97	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	115		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	120	111		ng/L		92	70 - 130
Perfluorononanoic acid (PFNA)	120	117		ng/L		97	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	117		ng/L		97	70 - 130
Perfluorooctanoic acid (PFOA)	120	114		ng/L		95	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	116		ng/L		96	70 - 130
Perfluorobutanoic acid (PFBA)	120	121		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	122		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	112		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	123		ng/L		102	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	93.7		ng/L		78	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	120	129		ng/L		107	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	121		ng/L		100	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	123		ng/L		102	70 - 130
Perfluoropentanoic acid (PFPeA)	120	120		ng/L		100	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	122		ng/L		102	70 - 130

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# QC Sample Results

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

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

**Lab Sample ID: LCS 380-70949/25-A**  
**Matrix: Water**  
**Analysis Batch: 71200**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 70949**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	120	119		ng/L		99	70 - 130
<b>LCS LCS</b>							
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				
13C3 HFPO-DA	108		50 - 200				
13C6 PFDA	105		50 - 200				
13C5 PFHxA	117		50 - 200				
13C4 PFHpA	108		50 - 200				
13C8 PFOA	107		50 - 200				
13C9 PFNA	104		50 - 200				
13C7 PFUnA	97		50 - 200				
13C2 PFDoA	99		50 - 200				
13C4 PFBA	110		50 - 200				
13C5 PFPeA	109		50 - 200				
13C3 PFBS	103		50 - 200				
13C3 PFHxS	104		50 - 200				
13C8 PFOS	103		50 - 200				
13C2-4:2-FTS	125		50 - 200				
13C2-6:2-FTS	113		50 - 200				
13C2-8:2-FTS	104		50 - 200				

**Lab Sample ID: MRL 380-70949/24-A**  
**Matrix: Water**  
**Analysis Batch: 71200**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 70949**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.61	J	ng/L		80	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	1.61	J	ng/L		80	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	1.72	J	ng/L		86	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	1.79	J	ng/L		89	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	1.78	J	ng/L		89	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	1.75	J	ng/L		87	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	1.68	J	ng/L		84	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	1.69	J	ng/L		84	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	1.58	J	ng/L		79	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	1.88	J	ng/L		94	50 - 150
Perfluorononanoic acid (PFNA)	2.00	1.85	J	ng/L		92	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	1.75	J	ng/L		87	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	1.76	J	ng/L		88	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	1.74	J	ng/L		87	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	1.76	J	ng/L		88	50 - 150

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# QC Sample Results

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

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

**Lab Sample ID: MRL 380-70949/24-A**  
**Matrix: Water**  
**Analysis Batch: 71200**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 70949**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	1.89	J	ng/L		94	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	1.79	J	ng/L		89	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	1.84	J	ng/L		92	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	1.50	J	ng/L		75	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.00	1.62	J	ng/L		81	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	1.74	J	ng/L		87	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	1.62	J	ng/L		81	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	1.65	J	ng/L		82	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	1.70	J	ng/L		85	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	1.60	J	ng/L		80	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	104		50 - 200
13C6 PFDA	106		50 - 200
13C5 PFHxA	113		50 - 200
13C4 PFHpA	115		50 - 200
13C8 PFOA	112		50 - 200
13C9 PFNA	110		50 - 200
13C7 PFUnA	99		50 - 200
13C2 PFDoA	105		50 - 200
13C4 PFBA	107		50 - 200
13C5 PFPeA	111		50 - 200
13C3 PFBS	110		50 - 200
13C3 PFHxS	112		50 - 200
13C8 PFOS	113		50 - 200
13C2-4:2-FTS	129		50 - 200
13C2-6:2-FTS	123		50 - 200
13C2-8:2-FTS	114		50 - 200

**Lab Sample ID: 380-77747-B-3-A MS**  
**Matrix: Water**  
**Analysis Batch: 71200**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 70949**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		120	119		ng/L		99	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		120	113		ng/L		94	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		120	117		ng/L		97	70 - 130

# QC Sample Results

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

Job ID: 380-77681-1  
 SDG: 525.2, 533, 537.1

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

**Lab Sample ID: 380-77747-B-3-A MS**  
**Matrix: Water**  
**Analysis Batch: 71200**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 70949**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		120	123		ng/L		102	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	4.6		120	118		ng/L		95	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		120	121		ng/L		101	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		120	113		ng/L		94	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		120	114		ng/L		94	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	6.4		120	120		ng/L		94	70 - 130
Perfluorohexanoic acid (PFHxA)	2.2		120	120		ng/L		98	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		120	120		ng/L		99	70 - 130
Perfluorooctanesulfonic acid (PFOS)	6.1		120	113		ng/L		89	70 - 130
Perfluorooctanoic acid (PFOA)	2.1		120	115		ng/L		94	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		120	125		ng/L		104	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		120	124		ng/L		102	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		120	124		ng/L		103	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		120	118		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		120	118		ng/L		98	70 - 130
Nonafluoro-3,6-dioxahheptanoic acid (NFDHA)	<2.0		120	95.9		ng/L		80	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		120	124		ng/L		103	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		120	118		ng/L		98	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		120	120		ng/L		99	70 - 130
Perfluoropentanoic acid (PFPeA)	2.2		120	123		ng/L		100	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		120	113		ng/L		94	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		120	118		ng/L		97	70 - 130

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
13C3 HFPO-DA	115		50 - 200
13C6 PFDA	99		50 - 200
13C5 PFHxA	111		50 - 200
13C4 PFHpA	110		50 - 200
13C8 PFOA	109		50 - 200
13C9 PFNA	103		50 - 200
13C7 PFUnA	97		50 - 200
13C2 PFDoA	107		50 - 200
13C4 PFBA	115		50 - 200
13C5 PFPeA	119		50 - 200
13C3 PFBS	111		50 - 200
13C3 PFHxS	108		50 - 200
13C8 PFOS	109		50 - 200

# QC Sample Results

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

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

**Lab Sample ID: 380-77747-B-3-A MS**  
**Matrix: Water**  
**Analysis Batch: 71200**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 70949**

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
13C2-4:2-FTS	124		50 - 200
13C2-6:2-FTS	121		50 - 200
13C2-8:2-FTS	111		50 - 200

**Lab Sample ID: 380-77747-B-5-A DU**  
**Matrix: Water**  
**Analysis Batch: 71200**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 70949**

<b>Analyte</b>	<b>Sample Result</b>	<b>Sample Qualifier</b>	<b>DU Result</b>	<b>DU Qualifier</b>	<b>Unit</b>	<b>D</b>	<b>RPD</b>	<b>Limit</b>
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		<2.0		ng/L		NC	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		<2.0		ng/L		NC	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		<2.0		ng/L		NC	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		<2.0		ng/L		NC	30
Perfluorobutanesulfonic acid (PFBS)	5.6		5.98		ng/L		7	30
Perfluorodecanoic acid (PFDA)	<2.0		<2.0		ng/L		NC	30
Perfluorododecanoic acid (PFDoA)	<2.0		<2.0		ng/L		NC	30
Perfluoroheptanoic acid (PFHpA)	<2.0		<2.0		ng/L		NC	30
Perfluorohexanesulfonic acid (PFHxS)	5.6		5.67		ng/L		0.5	30
Perfluorohexanoic acid (PFHxA)	<2.0		<2.0		ng/L		NC	30
Perfluorononanoic acid (PFNA)	<2.0		<2.0		ng/L		NC	30
Perfluorooctanesulfonic acid (PFOS)	3.6		3.51		ng/L		3	30
Perfluorooctanoic acid (PFOA)	<2.0		<2.0		ng/L		NC	30
Perfluoroundecanoic acid (PFUnA)	<2.0		<2.0		ng/L		NC	30
Perfluorobutanoic acid (PFBA)	<2.0		<2.0		ng/L		NC	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		<2.0		ng/L		NC	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		<2.0		ng/L		NC	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		<2.0		ng/L		NC	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		<2.0		ng/L		NC	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		<2.0		ng/L		NC	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		<2.0		ng/L		NC	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		<2.0		ng/L		NC	30
Perfluoropentanoic acid (PFPeA)	<2.0		<2.0		ng/L		NC	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		<2.0		ng/L		NC	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		<2.0		ng/L		NC	30

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

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

<i>Isotope Dilution</i>	<i>DU DU</i>	<i>Qualifier</i>	<i>Limits</i>
<i>%Recovery</i>			
13C3 HFPO-DA	97		50 - 200
13C6 PFDA	102		50 - 200
13C5 PFHxA	101		50 - 200
13C4 PFHpA	93		50 - 200
13C8 PFOA	106		50 - 200
13C9 PFNA	103		50 - 200
13C7 PFUnA	97		50 - 200
13C2 PFDoA	106		50 - 200
13C4 PFBA	108		50 - 200
13C5 PFPeA	114		50 - 200
13C3 PFBS	99		50 - 200
13C3 PFHxS	102		50 - 200
13C8 PFOS	105		50 - 200
13C2-4:2-FTS	112		50 - 200
13C2-6:2-FTS	108		50 - 200
13C2-8:2-FTS	106		50 - 200

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

**Lab Sample ID: MBL 380-70977/21-A**  
**Matrix: Water**  
**Analysis Batch: 71356**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 70977**

<i>Analyte</i>	<i>MBL</i>	<i>MBL</i>	<i>RL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	<i>Result</i>	<i>Qualifier</i>						
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		01/10/24 11:11	01/12/24 10:25	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		01/10/24 11:11	01/12/24 10:25	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		01/10/24 11:11	01/12/24 10:25	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		01/10/24 11:11	01/12/24 10:25	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		01/10/24 11:11	01/12/24 10:25	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		01/10/24 11:11	01/12/24 10:25	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		01/10/24 11:11	01/12/24 10:25	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		01/10/24 11:11	01/12/24 10:25	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		01/10/24 11:11	01/12/24 10:25	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		01/10/24 11:11	01/12/24 10:25	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		01/10/24 11:11	01/12/24 10:25	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		01/10/24 11:11	01/12/24 10:25	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		01/10/24 11:11	01/12/24 10:25	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		01/10/24 11:11	01/12/24 10:25	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		01/10/24 11:11	01/12/24 10:25	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		01/10/24 11:11	01/12/24 10:25	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		01/10/24 11:11	01/12/24 10:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		01/10/24 11:11	01/12/24 10:25	1
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>			<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
d5-NEtFOSAA	117		70 - 130			01/10/24 11:11	01/12/24 10:25	1
13C2 PFHxA	107		70 - 130			01/10/24 11:11	01/12/24 10:25	1
13C2 PFDA	121		70 - 130			01/10/24 11:11	01/12/24 10:25	1

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

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

**Lab Sample ID: MBL 380-70977/21-A**  
**Matrix: Water**  
**Analysis Batch: 71356**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 70977**

Surrogate	MBL MBL		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C3-GenX	102		70 - 130	01/10/24 11:11	01/12/24 10:25	1

**Lab Sample ID: LCS 380-70977/23-A**  
**Matrix: Water**  
**Analysis Batch: 71356**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 70977**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonic acid (PFOS)	50.1	45.1		ng/L		90	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.1	46.8		ng/L		93	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.1	46.7		ng/L		93	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.1	45.2		ng/L		90	70 - 130
Perfluorohexanoic acid (PFHxA)	50.1	43.0		ng/L		86	70 - 130
Perfluorododecanoic acid (PFDoA)	50.1	44.0		ng/L		88	70 - 130
Perfluorooctanoic acid (PFOA)	50.1	45.4		ng/L		91	70 - 130
Perfluorodecanoic acid (PFDA)	50.1	44.8		ng/L		89	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.1	46.9		ng/L		94	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.1	39.5		ng/L		79	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.1	45.1		ng/L		90	70 - 130
Perfluorononanoic acid (PFNA)	50.1	45.7		ng/L		91	70 - 130
Perfluorotetradecanoic acid (PFTA)	50.1	46.0		ng/L		92	70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.1	49.2		ng/L		98	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	50.1	44.2		ng/L		88	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.1	43.1		ng/L		86	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.1	45.7		ng/L		91	70 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
d5-NEtFOSAA	105		70 - 130
13C2 PFHxA	109		70 - 130
13C2 PFDA	112		70 - 130
13C3-GenX	105		70 - 130



# QC Sample Results

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

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

**Lab Sample ID: MRL 380-70977/22-A**  
**Matrix: Water**  
**Analysis Batch: 71356**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 70977**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	1.73	J	ng/L		86	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	1.98	J	ng/L		99	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	1.94	J	ng/L		97	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	1.99	J	ng/L		99	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.99	J	ng/L		99	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	1.88	J	ng/L		94	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	1.79	J	ng/L		89	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	1.93	J	ng/L		96	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	1.87	J	ng/L		93	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	1.84	J	ng/L		92	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	1.71	J	ng/L		85	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	1.91	J	ng/L		96	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.00	J	ng/L		100	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	1.91	J	ng/L		95	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.06	J	ng/L		103	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	1.91	J	ng/L		95	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.74	J	ng/L		87	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	1.88	J	ng/L		94	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	101		70 - 130
13C2 PFHxA	100		70 - 130
13C2 PFDA	104		70 - 130
13C3-GenX	91		70 - 130

**Lab Sample ID: 380-77684-1 MS**  
**Matrix: Water**  
**Analysis Batch: 71356**

**Client Sample ID: MOANALUA WELLS**  
**Prep Type: Total/NA**  
**Prep Batch: 70977**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.6	45.4		ng/L		90	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		50.6	48.4		ng/L		93	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		50.6	47.3		ng/L		93	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.6	48.0		ng/L		95	70 - 130

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-77684-1 MS  
Matrix: Water  
Analysis Batch: 71356

Client Sample ID: MOANALUA WELLS  
Prep Type: Total/NA  
Prep Batch: 70977

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.6	44.4		ng/L		88	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		50.6	48.2		ng/L		93	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		50.6	44.7		ng/L		88	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		50.6	48.5		ng/L		94	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		50.6	48.3		ng/L		95	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		50.6	48.9		ng/L		94	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		50.6	46.3		ng/L		91	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		50.6	46.6		ng/L		91	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		50.6	47.7		ng/L		94	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		50.6	45.9		ng/L		91	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.6	50.8		ng/L		100	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.6	45.7		ng/L		90	70 - 130
11-Chloroeicosasfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.6	43.9		ng/L		87	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.6	46.7		ng/L		92	70 - 130

Surrogate	MS %Recovery	MS Qualifier	MS Limits
d5-NEtFOSAA	101		70 - 130
13C2 PFHxA	117		70 - 130
13C2 PFDA	115		70 - 130
13C3-GenX	112		70 - 130

Lab Sample ID: 380-77684-1 MSD  
Matrix: Water  
Analysis Batch: 71356

Client Sample ID: MOANALUA WELLS  
Prep Type: Total/NA  
Prep Batch: 70977

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.2	44.6		ng/L		89	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		50.2	47.1		ng/L		91	70 - 130	3	30
Perfluoroundecanoic acid (PFUnA)	<2.0		50.2	46.3		ng/L		92	70 - 130	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.2	47.2		ng/L		94	70 - 130	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.2	44.9		ng/L		89	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	<2.0		50.2	47.3		ng/L		92	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	<2.0		50.2	42.6		ng/L		85	70 - 130	5	30
Perfluorooctanoic acid (PFOA)	<2.0		50.2	47.3		ng/L		93	70 - 130	2	30
Perfluorodecanoic acid (PFDA)	<2.0		50.2	45.9		ng/L		91	70 - 130	5	30

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-77681-1  
 SDG: 525.2, 533, 537.1

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

**Lab Sample ID: 380-77684-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 71356**

**Client Sample ID: MOANALUA WELLS**  
**Prep Type: Total/NA**  
**Prep Batch: 70977**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)	<2.0		50.2	47.1		ng/L		92	70 - 130	4	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		50.2	45.7		ng/L		90	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		50.2	45.2		ng/L		89	70 - 130	3	30
Perfluorononanoic acid (PFNA)	<2.0		50.2	46.7		ng/L		93	70 - 130	2	30
Perfluorotetradecanoic acid (PFTA)	<2.0		50.2	43.8		ng/L		87	70 - 130	5	30
Perfluorotridecanoic acid (PFTTrDA)	<2.0		50.2	49.4		ng/L		98	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		50.2	43.8		ng/L		87	70 - 130	4	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.2	42.0		ng/L		84	70 - 130	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.2	44.6		ng/L		89	70 - 130	4	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
d5-NEtFOSAA	106		70 - 130
13C2 PFHxA	118		70 - 130
13C2 PFDA	116		70 - 130
13C3-GenX	109		70 - 130

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# QC Association Summary

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

## GC/MS Semi VOA

### Prep Batch: 71124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-77681-1	MOANALUA WELLS	Total/NA	Drinking Water	525.2	
MB 380-71124/21-A	Method Blank	Total/NA	Water	525.2	
LCS 380-71124/23-A	Lab Control Sample	Total/NA	Water	525.2	
MRL 380-71124/22-A	Lab Control Sample	Total/NA	Water	525.2	
380-77627-AD-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-77708-AH-1-A DU	Duplicate	Total/NA	Water	525.2	

### Analysis Batch: 71414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-77681-1	MOANALUA WELLS	Total/NA	Drinking Water	525.2	71124
MB 380-71124/21-A	Method Blank	Total/NA	Water	525.2	71124
LCS 380-71124/23-A	Lab Control Sample	Total/NA	Water	525.2	71124
MRL 380-71124/22-A	Lab Control Sample	Total/NA	Water	525.2	71124
380-77627-AD-1-A MS	Matrix Spike	Total/NA	Water	525.2	71124
380-77708-AH-1-A DU	Duplicate	Total/NA	Water	525.2	71124

## LCMS

### Prep Batch: 70949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-77684-1	MOANALUA WELLS	Total/NA	Water	533	
380-77684-2	FB: MOANALUA WELLS	Total/NA	Water	533	
MBL 380-70949/23-A	Method Blank	Total/NA	Water	533	
LCS 380-70949/25-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-70949/24-A	Lab Control Sample	Total/NA	Water	533	
380-77747-B-3-A MS	Matrix Spike	Total/NA	Water	533	
380-77747-B-5-A DU	Duplicate	Total/NA	Water	533	

### Prep Batch: 70977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-77684-1	MOANALUA WELLS	Total/NA	Water	537.1 DW	
380-77684-2	FB: MOANALUA WELLS	Total/NA	Water	537.1 DW	
MBL 380-70977/21-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-70977/23-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-70977/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-77684-1 MS	MOANALUA WELLS	Total/NA	Water	537.1 DW	
380-77684-1 MSD	MOANALUA WELLS	Total/NA	Water	537.1 DW	

### Analysis Batch: 71200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-77684-1	MOANALUA WELLS	Total/NA	Water	533	70949
380-77684-2	FB: MOANALUA WELLS	Total/NA	Water	533	70949
MBL 380-70949/23-A	Method Blank	Total/NA	Water	533	70949
LCS 380-70949/25-A	Lab Control Sample	Total/NA	Water	533	70949
MRL 380-70949/24-A	Lab Control Sample	Total/NA	Water	533	70949
380-77747-B-3-A MS	Matrix Spike	Total/NA	Water	533	70949
380-77747-B-5-A DU	Duplicate	Total/NA	Water	533	70949

### Analysis Batch: 71356

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-77684-1	MOANALUA WELLS	Total/NA	Water	537.1	70977

# QC Association Summary

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

## LCMS (Continued)

### Analysis Batch: 71356 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-77684-2	FB: MOANALUA WELLS	Total/NA	Water	537.1	70977
MBL 380-70977/21-A	Method Blank	Total/NA	Water	537.1	70977
LCS 380-70977/23-A	Lab Control Sample	Total/NA	Water	537.1	70977
MRL 380-70977/22-A	Lab Control Sample	Total/NA	Water	537.1	70977
380-77684-1 MS	MOANALUA WELLS	Total/NA	Water	537.1	70977
380-77684-1 MSD	MOANALUA WELLS	Total/NA	Water	537.1	70977

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# Lab Chronicle

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

Job ID: 380-77681-1  
 SDG: 525.2, 533, 537.1

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-77681-1**

Date Collected: 01/05/24 10:30

Matrix: Drinking Water

Date Received: 01/09/24 10:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			71124	G9MN	EA POM	01/11/24 13:50
Total/NA	Analysis	525.2		1	71414	UPAC	EA POM	01/12/24 17:52

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-77684-1**

Date Collected: 01/05/24 10:30

Matrix: Water

Date Received: 01/09/24 10:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			70949	AUY6	EA POM	01/10/24 10:35
Total/NA	Analysis	533		1	71200	R6YA	EA POM	01/11/24 18:42
Total/NA	Prep	537.1 DW			70977	A5GB	EA POM	01/10/24 11:11
Total/NA	Analysis	537.1		1	71356	R6YA	EA POM	01/12/24 10:56

**Client Sample ID: FB: MOANALUA WELLS**

**Lab Sample ID: 380-77684-2**

Date Collected: 01/05/24 10:30

Matrix: Water

Date Received: 01/09/24 10:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			70949	AUY6	EA POM	01/10/24 10:35
Total/NA	Analysis	533		1	71200	R6YA	EA POM	01/11/24 18:51
Total/NA	Prep	537.1 DW			70977	A5GB	EA POM	01/10/24 12:02
Total/NA	Analysis	537.1		1	71356	R6YA	EA POM	01/12/24 14:22

**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: 380-77681-1  
SDG: 525.2, 533, 537.1

## Laboratory: Eurofins Eaton Analytical Pomona

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

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

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

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

# Accreditation/Certification Summary

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

Job ID: 380-77681-1  
 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
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The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	Drinking Water	Malathion
525.2	525.2	Drinking Water	Molinate
525.2	525.2	Drinking Water	Naphthalene
525.2	525.2	Drinking Water	Parathion
525.2	525.2	Drinking Water	Pendimethalin (Penoxaline)
525.2	525.2	Drinking Water	Phenanthrene
525.2	525.2	Drinking Water	Pyrene
525.2	525.2	Drinking Water	Terbacil
525.2	525.2	Drinking Water	Terbutylazine
525.2	525.2	Drinking Water	Thiobencarb
525.2	525.2	Drinking Water	Total Permethrin (mixed isomers)
525.2	525.2	Drinking Water	trans-Nonachlor
525.2	525.2	Drinking Water	Trifluralin
533	533	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)



# Method Summary

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

Job ID: 380-77681-1  
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

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# Sample Summary

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

Job ID: 380-77681-1  
SDG: 525.2, 533, 537.1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-77681-1	MOANALUA WELLS	Drinking Water	01/05/24 10:30	01/09/24 10:55	HI0000331
380-77684-1	MOANALUA WELLS	Water	01/05/24 10:30	01/09/24 10:55	
380-77684-2	FB: MOANALUA WELLS	Water	01/05/24 10:30	01/09/24 10:55	

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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**



<b>Client Information</b>		Lab PM Arada, Rachelle		Carrier Tracking No(s) 380-27941-2757 2	
Client Contact: Dr. Ron Fenstermacher		E-Mail Rachelle.Arada@et.eurofins.com		Page: Page 2 of 2	
Company City & County of Honolulu		PWSID		Job #	
Address 630 South Beretania Street; Chemistry Lab		Due Date Requested:		Preservation Codes:	
City Honolulu		TAT Requested (days):		A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2SO4 E - NaHSO4 F - MeOH R - Na2SO3 S - H2SO4 T - TSP Dodecylhydrate G - Amchlor U - Acetone H - Ascorbic Acid V - MCAA I - Ice W - pH 4-5 J - DI Water K - EDTA L - EDA Z - other (specify) Other:	
State, Zip HI, 96843		Compliance Project: Δ No		Total Number of containers	
Phone 808-748-5091 (tel)		PO # C20525101 exp 05312023		Special Instructions/Note:	
Email rfenstermacher@hbws.org		WO #		2 out of 4 10ml vial	
Project Name RED-HILL/HBWS sites Event Desc RUSH Weekly Red Hill		Project # 3800111		"8015 GAS (PURGEABLE)	
Site		SSOW#		ARRIVED BROKEL GR 01/09/2024	
<b>Sample Identification</b>		Sample Date		Special Instructions/Note:	
Sample Type (C=Comp, G=grab)		Sample Time		Total Number of containers	
Matrix (W=water, S=solid, O=wastobk, BT=Tissue, A=ur)		Preservation Code:		Special Instructions/Note:	
TB MOANALUA WELLS		5-Jan-2024 1130		Water	
FB MOANALUA WELLS		5-Jan-2024 1030		Water	
FB MOANALUA WELLS		5-Jan-2024 1630		Water	
380-77681 COC		QR Code		380-77681 COC	
<b>Possible Hazard Identification</b>		Date		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Deliverable Requested: I, II, III, IV, Other (specify)		<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months	
<b>Empty Kit Relinquished by</b>		Date		Special Instructions/QC Requirements	
Relinquished by: [Redacted]		Date 1/5/24 1200		Method of Shipment: FEDEX 7890 2663 5141	
Relinquished by:		Date/Time 1/5/24 1200		Received by: [Signature] G RITNER Company: [Redacted]	
Relinquished by:		Date/Time		Received by: Company:	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 751A 25° @ 1:24 PM 05/01/2024	



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

### Chain of Custody Record



<b>Client Information</b> Client Contact: Dr. Ron Fenstermacher Phone: 808-748-5840 City & County of Honolulu Address: 630 South Beretania Street, Chemistry Lab City: Honolulu State, Zip: HI, 96843 Phone: 808-748-5091 (tel) Email: rfenstermacher@hbws.org Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill Site:		Lab PM: Arada, Rachelle E-Mail: Rachelle.Arada@et.eurofins.com Carrier Tracking No(s): 380-27941-2757.2 State of Origin: Page 2 of 2 Job #:	
<b>Due Date Requested:</b> TAT Requested (days): Compliance Project: <input type="checkbox"/> <input checked="" type="checkbox"/> PO #: C20525101 exp 05312023 WO #:		<b>Analysis Requested</b> SUBCONTRACT - 825 PAH Physis LL (EAL) + TICS SUBCONTRACT - 8915 Diesel LL (EAL) and Motor Oil SUBCONTRACT - (MOD) 525plus PLUS TICS SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) SUBCONTRACT - 537.1 DW_PREC - 537.1 Full List 53 - All Analytes	
<b>Sample Identification</b> TB MOANALUA WELLS FB MOANALUA WELLS FB MOANALUA WELLS		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Total Number of Containers:	
<b>Sample Date</b> 5-Jan-2024 5-Jan-2024 5-Jan-2024	<b>Sample Time</b> 1030 1030 1030	<b>Sample Type</b> (C=Comp, G=grab)  G G	<b>Matrix</b> (W=water, S=solid, O=wastabil, AT=tissue, A=air) Water Water Water
<b>Preservation Code:</b> M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - NaHSO4 S - H2SO4 G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:		<b>Special Instructions/Note:</b> 2 out of 4 40ml vial '8015 GAS (PURGEABLE) APPROVED BROKEN - 6P 01/09/2024	
<b>Possible Hazard Identification</b> <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)			
<b>Empty Kit Relinquished by:</b> Relinquished by: [Signature] Relinquished by: [Signature] Relinquished by:		<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:	
<b>Custody Seals Intact:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<b>Method of Shipment:</b> FedEx 7890 2663 5141 Date/Time: 01/09/2024 10:55 Date/Time: 01/09/2024 10:55 Date/Time:	
Cooler Temperature(s) °C and Other Remarks: 75IN 25°C 1" = 2.4" 0°C = 32°F		Company: HBWS Company: HBWS Company:	

### Eurofins Eaton Analytical Pomona


941 Corporate Center Drive  
 Pomona, CA 91768-2642  
 Phone: 626-386-1100

### Chain of Custody Record



eurofins

Loc: 380  
 77681

<b>Client Information (Sub Contract Lab)</b>		Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-98979.1							
Client Contact: Shipping/Receiving		Phone:	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin: Hawaii							
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note): State - Hawaii		Job #: 380-77681-1							
Address: 2841 Dow Avenue, Suite 100,		<b>Analysis Requested</b>		<b>Preservation Codes:</b> A - HCL            M - Hexane B - NaOH        N - None C - Zn Acetate   O - AsNaO2 D - Nitric Acid   P - Na2O4S E - NaHSO4      Q - Na2SO3 F - MeOH        R - Na2S2O3 G - Amchlor     S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice            U - Acetone J - DI Water     V - MCAA K - EDTA        W - pH 4-5 L - EDA         Y - Trizma Z - other (specify)							
City: Tustin					Due Date Requested: 1/29/2024	TAT Requested (days):					
State, Zip: CA, 92780		Project #: 38001111	SSOW#:								
Phone: 714-895-5494(Tel)				Project #:							
Email:		SSOW#:		<b>Other:</b>							
Project Name: RED-HILL		SSOW#:									
Site: Honolulu BWS Sites				<b>Special Instructions/Note:</b>							
Site:											
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Swab, Osmetric, BT=TISSUE, ANAL)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	801BB_GRO_LLJ5030C (MOD) GRO	801BB_DRO_LL_CS03510C_LL_HNL Ranges: C10-C24/C24-C35/C35-C18	801BB_GRO_LLJ5030C GRO	Total Number of containers	Special Instructions/Note:
MOANALUA WELLS (380-77681-1)	1/5/24	10:30 Hawaiian		Water		X	X			4	MRLs are needed., initial volume (500ml) and final volume (2ml). MRLs are needed.
TB:MOANALUA WELLS (380-77681-2)	1/5/24	10:30 Hawaiian		Water				X		2	MRLs are needed.
 380-77681 Chain of Custody											
<p>Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Eaton Analytical, LLC.</p>											
<b>Possible Hazard Identification</b>						<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>					
Unconfirmed						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For            Months					
Deliverable Requested: I, II, III, IV, Other (specify)						Primary Deliverable Rank: 2					
Special Instructions/QC Requirements:											
Empty Kit Relinquished by:				Date:		Time:		Method of Shipment:			
Relinquished by: <i>Xsw</i>				Date/Time: 1/10/24 1110		Company: <i>EPA</i>		Received by: <i>[Signature]</i>		Date/Time: 1/10/24 11:10	
Relinquished by:				Date/Time:		Company:		Received by:		Date/Time:	
Relinquished by:				Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact: Δ Yes   Δ No				Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 1-3 / 1-3 SC12					

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# Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-77681-1  
SDG Number: 525.2, 533, 537.1

**Login Number: 77681**  
**List Number: 1**  
**Creator: Elyas, Matthew**

**List Source: Eurofins Eaton Analytical Pomona**

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	Two 8015 vials arrived broken.
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	



# Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-77681-1  
SDG Number: 525.2, 533, 537.1

**Login Number: 77684**  
**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	