

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

# ANALYTICAL REPORT

## PREPARED FOR

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

Generated 11/13/2023 5:08:19 PM

## JOB DESCRIPTION

RED-HILL  
RUSH Weekly Red Hill

## JOB NUMBER

380-64482-1

# 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



Generated  
11/13/2023 5:08:19 PM

Authorized for release by  
Rachelle Arada, Project Manager  
[Rachelle.Arada@et.eurofinsus.com](mailto:Rachelle.Arada@et.eurofinsus.com)  
(626)386-1106



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Action Limit Summary . . . . .	22
Surrogate Summary . . . . .	24
Isotope Dilution Summary . . . . .	25
QC Sample Results . . . . .	27
QC Association Summary . . . . .	46
Lab Chronicle . . . . .	48
Certification Summary . . . . .	50
Method Summary . . . . .	52
Sample Summary . . . . .	53
Chain of Custody . . . . .	54
Receipt Checklists . . . . .	56

# Definitions/Glossary

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

Job ID: 380-64482-1

## Qualifiers

### GC/MS Semi VOA

Qualifier	Qualifier Description
^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
B	Analyte was found in the associated method blank.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

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

# Case Narrative

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

Job ID: 380-64482-1

## Job ID: 380-64482-1

### Laboratory: Eurofins Eaton Analytical Pomona

#### Narrative

#### Job Narrative 380-64482-1

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 9/27/2023 10:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.4°C, 1.6°C and 1.9°C

#### GC/MS Semi VOA

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

#### PFAS

Method 533: The method blank for preparation batch 380-58208 contained Perfluorobutanoic acid (PFBA) greater than 1/3 MRL. Affected samples AIEA GULCH WELLS PUMP 2 (380-64482-2), AIEA WELLS PUMPS 1&2 (260) P2 (380-64482-3), HALAWA WELLS UNITS 1 & 2 P1 (380-64482-4), FB AIEA GULCH WELLS PUMP 2 (380-64482-10) and FB AIEA WELLS PUMPS 1&2 (260) (380-64482-11) is non-detect for Perfluorobutanoic acid (PFBA); therefore, re-extraction and/or re-analysis of samples were not performed. No impact on data.

Method 533: The method blank for preparation batch 380-58208 and field reagent blank FB HALAWA WELLS UNITS 1 & 2 P1 (380-64482-12) contained Perfluorobutanoic acid (PFBA) greater than 1/3 MRL. Native sample to field reagent blank FB HALAWA WELLS UNITS 1 & 2 P1 (380-64482-12) is ND for Perfluorobutanoic acid (PFBA). FRB is not needed for affected analyte.

Method 533: The method blank for preparation batch 380-58208 and field reagent blank FB MOANALUA WELLS (380-64482-9) contained Perfluorobutanoic acid (PFBA) greater than 1/3 MRL. Any detection of Perfluorobutanoic acid (PFBA) in the associated native sample is not acceptable. Native sample is detected for Perfluorobutanoic acid (PFBA). Data excluded due to this QC failure.

Method 537.1\_DW\_PREC: Results for Perfluorooctanoic acid (PFOA) in samples MOANALUA WELLS (380-64482-1), AIEA GULCH WELLS PUMP 2 (380-64482-2), AIEA WELLS PUMPS 1&2 (260) P2 (380-64482-3), HALAWA WELLS UNITS 1 & 2 P1 (380-64482-4), FB MOANALUA WELLS (380-64482-9), FB AIEA GULCH WELLS PUMP 2 (380-64482-10), FB AIEA WELLS PUMPS 1&2 (260) (380-64482-11) and FB HALAWA WELLS UNITS 1 & 2 P1 (380-64482-12) are potentially due to contamination from the Trizma preservative. Sample results are suspect and not acceptable for compliance reporting. Data excluded from this report.

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: 380-64482-1

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

**Lab Sample ID: 380-64482-1**

No Detections.

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

**Lab Sample ID: 380-64482-2**

No Detections.

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

**Lab Sample ID: 380-64482-3**

No Detections.

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

**Lab Sample ID: 380-64482-4**

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	2.7		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	2.3		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.5		2.0	ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	2.0		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	2.7		2.0	ng/L	1		533	Total/NA

**Client Sample ID: FB AIEA GULCH WELLS PUMP 2**

**Lab Sample ID: 380-64482-10**

No Detections.

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

**Lab Sample ID: 380-64482-11**

No Detections.

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

**Lab Sample ID: 380-64482-12**

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Eaton Analytical Pomona

# Client Sample Results

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

Job ID: 380-64482-1

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-64482-1**

Date Collected: 09/25/23 09:57

Matrix: Drinking Water

Date Received: 09/27/23 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
2,4'-DDD	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
2,4'-DDE	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
2,4'-DDT	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
2,4-Dinitrotoluene	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
2,6-Dinitrotoluene	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
2-Methylnaphthalene	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
4,4'-DDD	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
4,4'-DDE	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
4,4'-DDT	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
Acenaphthene	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
Acenaphthylene	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
Acetochlor	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
Alachlor	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 19:55	1
alpha-BHC	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
alpha-Chlordane	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 19:55	1
Anthracene	<0.020		0.020	ug/L		09/28/23 10:55	09/29/23 19:55	1
Atrazine	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 19:55	1
Benz(a)anthracene	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 19:55	1
Benzo[a]pyrene	<0.020		0.020	ug/L		09/28/23 10:55	09/29/23 19:55	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		09/28/23 10:55	09/29/23 19:55	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 19:55	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		09/28/23 10:55	09/29/23 19:55	1
beta-BHC	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		09/28/23 10:55	09/29/23 19:55	1
Bromacil	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
Butachlor	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 19:55	1
Butylbenzylphthalate	<0.49		0.49	ug/L		09/28/23 10:55	09/29/23 19:55	1
Chlorobenzilate	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
Chloroneb	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
Chlorothalonil (Draconil, Bravo)	<0.099	^3+	0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
Chlorpyrifos	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 19:55	1
Chrysene	<0.020		0.020	ug/L		09/28/23 10:55	09/29/23 19:55	1
delta-BHC	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
Di(2-ethylhexyl)adipate	<0.59		0.59	ug/L		09/28/23 10:55	09/29/23 19:55	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 19:55	1
Diclorvos (DDVP)	<0.049	^3+	0.049	ug/L		09/28/23 10:55	09/29/23 19:55	1
Dieldrin	<0.20		0.20	ug/L		09/28/23 10:55	09/29/23 19:55	1
Diethylphthalate	<0.49		0.49	ug/L		09/28/23 10:55	09/29/23 19:55	1
Dimethylphthalate	<0.49		0.49	ug/L		09/28/23 10:55	09/29/23 19:55	1
Di-n-butyl phthalate	<0.99		0.99	ug/L		09/28/23 10:55	09/29/23 19:55	1
Di-n-octyl phthalate	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
Endosulfan I (Alpha)	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
Endosulfan II (Beta)	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
Endosulfan sulfate	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
Endrin	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
Endrin aldehyde	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
EPTC	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
Fluoranthene	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1

Eurofins Eaton Analytical Pomona

# Client Sample Results

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

Job ID: 380-64482-1

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-64482-1**

Date Collected: 09/25/23 09:57

Matrix: Drinking Water

Date Received: 09/27/23 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 19:55	1
gamma-Chlordane	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 19:55	1
Heptachlor	<0.040		0.040	ug/L		09/28/23 10:55	09/29/23 19:55	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 19:55	1
Hexachlorobenzene	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 19:55	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 19:55	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 19:55	1
Isophorone	<0.49		0.49	ug/L		09/28/23 10:55	09/29/23 19:55	1
Lindane	<0.040		0.040	ug/L		09/28/23 10:55	09/29/23 19:55	1
Malathion	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
Methoxychlor	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
Metolachlor	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 19:55	1
Molinate	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
Naphthalene	<0.30		0.30	ug/L		09/28/23 10:55	09/29/23 19:55	1
Parathion	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
Pendimethalin (Penoxaline)	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
Phenanthrene	<0.040		0.040	ug/L		09/28/23 10:55	09/29/23 19:55	1
Propachlor	<0.049	^3+	0.049	ug/L		09/28/23 10:55	09/29/23 19:55	1
Pyrene	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 19:55	1
Simazine	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 19:55	1
Terbacil	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
Terbutylazine	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1
Thiobencarb	<0.20		0.20	ug/L		09/28/23 10:55	09/29/23 19:55	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		09/28/23 10:55	09/29/23 19:55	1
trans-Nonachlor	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 19:55	1
Trifluralin	<0.099		0.099	ug/L		09/28/23 10:55	09/29/23 19:55	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	09/28/23 10:55	09/29/23 19:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	108		70 - 130	09/28/23 10:55	09/29/23 19:55	1
Perylene-d12	96		70 - 130	09/28/23 10:55	09/29/23 19:55	1
Triphenylphosphate	103		70 - 130	09/28/23 10:55	09/29/23 19:55	1

**Client Sample ID: AIEA GULCH WELLS PUMP 2**

**Lab Sample ID: 380-64482-2**

Date Collected: 09/25/23 11:09

Matrix: Drinking Water

Date Received: 09/27/23 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
2,4'-DDD	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
2,4'-DDE	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
2,4'-DDT	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
2,4-Dinitrotoluene	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
2,6-Dinitrotoluene	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
2-Methylnaphthalene	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
4,4'-DDD	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
4,4'-DDE	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1

Eurofins Eaton Analytical Pomona



# Client Sample Results

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

Job ID: 380-64482-1

**Client Sample ID: AIEA GULCH WELLS PUMP 2**

**Lab Sample ID: 380-64482-2**

Date Collected: 09/25/23 11:09

Matrix: Drinking Water

Date Received: 09/27/23 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
Acenaphthene	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
Acenaphthylene	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
Acetochlor	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
Alachlor	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 20:15	1
alpha-BHC	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
alpha-Chlordane	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 20:15	1
Anthracene	<0.020		0.020	ug/L		09/28/23 10:55	09/29/23 20:15	1
Atrazine	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 20:15	1
Benz(a)anthracene	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 20:15	1
Benzo[a]pyrene	<0.020		0.020	ug/L		09/28/23 10:55	09/29/23 20:15	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		09/28/23 10:55	09/29/23 20:15	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 20:15	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		09/28/23 10:55	09/29/23 20:15	1
beta-BHC	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		09/28/23 10:55	09/29/23 20:15	1
Bromacil	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
Butachlor	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 20:15	1
Butylbenzylphthalate	<0.49		0.49	ug/L		09/28/23 10:55	09/29/23 20:15	1
Chlorobenzilate	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
Chloroneb	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
Chlorothalonil (Draconil, Bravo)	<0.098	^3+	0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
Chlorpyrifos	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 20:15	1
Chrysene	<0.020		0.020	ug/L		09/28/23 10:55	09/29/23 20:15	1
delta-BHC	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
Di(2-ethylhexyl)adipate	<0.59		0.59	ug/L		09/28/23 10:55	09/29/23 20:15	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 20:15	1
Diclorvos (DDVP)	<0.049	^3+	0.049	ug/L		09/28/23 10:55	09/29/23 20:15	1
Dieldrin	<0.20		0.20	ug/L		09/28/23 10:55	09/29/23 20:15	1
Diethylphthalate	<0.49		0.49	ug/L		09/28/23 10:55	09/29/23 20:15	1
Dimethylphthalate	<0.49		0.49	ug/L		09/28/23 10:55	09/29/23 20:15	1
Di-n-butyl phthalate	<0.98		0.98	ug/L		09/28/23 10:55	09/29/23 20:15	1
Di-n-octyl phthalate	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
Endosulfan I (Alpha)	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
Endosulfan II (Beta)	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
Endosulfan sulfate	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
Endrin	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
Endrin aldehyde	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
EPTC	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
Fluoranthene	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
Fluorene	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 20:15	1
gamma-Chlordane	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 20:15	1
Heptachlor	<0.039		0.039	ug/L		09/28/23 10:55	09/29/23 20:15	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 20:15	1
Hexachlorobenzene	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 20:15	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 20:15	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 20:15	1
Isophorone	<0.49		0.49	ug/L		09/28/23 10:55	09/29/23 20:15	1
Lindane	<0.039		0.039	ug/L		09/28/23 10:55	09/29/23 20:15	1

Eurofins Eaton Analytical Pomona

# Client Sample Results

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

Job ID: 380-64482-1

**Client Sample ID: AIEA GULCH WELLS PUMP 2**

**Lab Sample ID: 380-64482-2**

Date Collected: 09/25/23 11:09

Matrix: Drinking Water

Date Received: 09/27/23 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Malathion	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
Methoxychlor	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
Metolachlor	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 20:15	1
Molinate	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
Naphthalene	<0.29		0.29	ug/L		09/28/23 10:55	09/29/23 20:15	1
Parathion	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
Pendimethalin (Penoxaline)	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
Phenanthrene	<0.039		0.039	ug/L		09/28/23 10:55	09/29/23 20:15	1
Propachlor	<0.049	^3+	0.049	ug/L		09/28/23 10:55	09/29/23 20:15	1
Pyrene	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 20:15	1
Simazine	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 20:15	1
Terbacil	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
Terbutylazine	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1
Thiobencarb	<0.20		0.20	ug/L		09/28/23 10:55	09/29/23 20:15	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		09/28/23 10:55	09/29/23 20:15	1
trans-Nonachlor	<0.049		0.049	ug/L		09/28/23 10:55	09/29/23 20:15	1
Trifluralin	<0.098		0.098	ug/L		09/28/23 10:55	09/29/23 20:15	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	09/28/23 10:55	09/29/23 20:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	105		70 - 130	09/28/23 10:55	09/29/23 20:15	1
Perylene-d12	99		70 - 130	09/28/23 10:55	09/29/23 20:15	1
Triphenylphosphate	103		70 - 130	09/28/23 10:55	09/29/23 20:15	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafiuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1
Perfluorobutanoic acid (PFBA)	<2.0	B	2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1

Eurofins Eaton Analytical Pomona

# Client Sample Results

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

Job ID: 380-64482-1

**Client Sample ID: AIEA GULCH WELLS PUMP 2**

**Lab Sample ID: 380-64482-2**

Date Collected: 09/25/23 11:09

Matrix: Drinking Water

Date Received: 09/27/23 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:40	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	63		50 - 200			10/06/23 04:15	10/13/23 04:40	1
13C6 PFDA	86		50 - 200			10/06/23 04:15	10/13/23 04:40	1
13C5 PFHxA	73		50 - 200			10/06/23 04:15	10/13/23 04:40	1
13C4 PFHpA	77		50 - 200			10/06/23 04:15	10/13/23 04:40	1
13C8 PFOA	82		50 - 200			10/06/23 04:15	10/13/23 04:40	1
13C9 PFNA	86		50 - 200			10/06/23 04:15	10/13/23 04:40	1
13C7 PFUnA	85		50 - 200			10/06/23 04:15	10/13/23 04:40	1
13C2 PFDoA	90		50 - 200			10/06/23 04:15	10/13/23 04:40	1
13C4 PFBA	72		50 - 200			10/06/23 04:15	10/13/23 04:40	1
13C5 PFPeA	68		50 - 200			10/06/23 04:15	10/13/23 04:40	1
13C3 PFBS	93		50 - 200			10/06/23 04:15	10/13/23 04:40	1
13C3 PFHxS	67		50 - 200			10/06/23 04:15	10/13/23 04:40	1
13C8 PFOS	89		50 - 200			10/06/23 04:15	10/13/23 04:40	1
13C2-4:2-FTS	97		50 - 200			10/06/23 04:15	10/13/23 04:40	1
13C2-6:2-FTS	95		50 - 200			10/06/23 04:15	10/13/23 04:40	1
13C2-8:2-FTS	99		50 - 200			10/06/23 04:15	10/13/23 04:40	1

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

**Lab Sample ID: 380-64482-3**

Date Collected: 09/25/23 11:41

Matrix: Drinking Water

Date Received: 09/27/23 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
2,4'-DDD	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
2,4'-DDE	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
2,4'-DDT	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
2,4-Dinitrotoluene	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
2,6-Dinitrotoluene	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
2-Methylnaphthalene	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
4,4'-DDD	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
4,4'-DDE	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
4,4'-DDT	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
Acenaphthene	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
Acenaphthylene	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1

Eurofins Eaton Analytical Pomona

# Client Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: 380-64482-3**

Date Collected: 09/25/23 11:41

Matrix: Drinking Water

Date Received: 09/27/23 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetochlor	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
Alachlor	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:36	1
alpha-BHC	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
alpha-Chlordane	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:36	1
Anthracene	<0.019		0.019	ug/L		09/28/23 12:30	09/29/23 20:36	1
Atrazine	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:36	1
Benz(a)anthracene	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:36	1
Benzo[a]pyrene	<0.019		0.019	ug/L		09/28/23 12:30	09/29/23 20:36	1
Benzo[b]fluoranthene	<0.019		0.019	ug/L		09/28/23 12:30	09/29/23 20:36	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:36	1
Benzo[k]fluoranthene	<0.019		0.019	ug/L		09/28/23 12:30	09/29/23 20:36	1
beta-BHC	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58	ug/L		09/28/23 12:30	09/29/23 20:36	1
Bromacil	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
Butachlor	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:36	1
Butylbenzylphthalate	<0.49		0.49	ug/L		09/28/23 12:30	09/29/23 20:36	1
Chlorobenzilate	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
Chloroneb	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
Chlorothalonil (Draconil, Bravo)	<0.097	^3+	0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
Chlorpyrifos	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:36	1
Chrysene	<0.019		0.019	ug/L		09/28/23 12:30	09/29/23 20:36	1
delta-BHC	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
Di(2-ethylhexyl)adipate	<0.58		0.58	ug/L		09/28/23 12:30	09/29/23 20:36	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:36	1
Diclorvos (DDVP)	<0.049	^3+	0.049	ug/L		09/28/23 12:30	09/29/23 20:36	1
Dieldrin	<0.19		0.19	ug/L		09/28/23 12:30	09/29/23 20:36	1
Diethylphthalate	<0.49		0.49	ug/L		09/28/23 12:30	09/29/23 20:36	1
Dimethylphthalate	<0.49		0.49	ug/L		09/28/23 12:30	09/29/23 20:36	1
Di-n-butyl phthalate	<0.97		0.97	ug/L		09/28/23 12:30	09/29/23 20:36	1
Di-n-octyl phthalate	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
Endosulfan I (Alpha)	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
Endosulfan II (Beta)	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
Endosulfan sulfate	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
Endrin	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
Endrin aldehyde	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
EPTC	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
Fluoranthene	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
Fluorene	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:36	1
gamma-Chlordane	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:36	1
Heptachlor	<0.039		0.039	ug/L		09/28/23 12:30	09/29/23 20:36	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:36	1
Hexachlorobenzene	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:36	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:36	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:36	1
Isophorone	<0.49		0.49	ug/L		09/28/23 12:30	09/29/23 20:36	1
Lindane	<0.039		0.039	ug/L		09/28/23 12:30	09/29/23 20:36	1
Malathion	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
Methoxychlor	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
Metolachlor	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:36	1

Eurofins Eaton Analytical Pomona

# Client Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: 380-64482-3**

Date Collected: 09/25/23 11:41

Matrix: Drinking Water

Date Received: 09/27/23 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Molinate	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
Naphthalene	<0.29		0.29	ug/L		09/28/23 12:30	09/29/23 20:36	1
Parathion	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
Pendimethalin (Penoxaline)	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
Phenanthrene	<0.039		0.039	ug/L		09/28/23 12:30	09/29/23 20:36	1
Propachlor	<0.049	^3+	0.049	ug/L		09/28/23 12:30	09/29/23 20:36	1
Pyrene	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:36	1
Simazine	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:36	1
Terbacil	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
Terbutylazine	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1
Thiobencarb	<0.19		0.19	ug/L		09/28/23 12:30	09/29/23 20:36	1
Total Permethrin (mixed isomers)	<0.19		0.19	ug/L		09/28/23 12:30	09/29/23 20:36	1
trans-Nonachlor	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:36	1
Trifluralin	<0.097		0.097	ug/L		09/28/23 12:30	09/29/23 20:36	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	09/28/23 12:30	09/29/23 20:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	108		70 - 130	09/28/23 12:30	09/29/23 20:36	1
Perylene-d12	100		70 - 130	09/28/23 12:30	09/29/23 20:36	1
Triphenylphosphate	99		70 - 130	09/28/23 12:30	09/29/23 20:36	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1
Perfluorobutanoic acid (PFBA)	<2.0	B	2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1

Eurofins Eaton Analytical Pomona

# Client Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: 380-64482-3**

Date Collected: 09/25/23 11:41

Matrix: Drinking Water

Date Received: 09/27/23 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 04:50	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	72		50 - 200			10/06/23 04:15	10/13/23 04:50	1
13C6 PFDA	86		50 - 200			10/06/23 04:15	10/13/23 04:50	1
13C5 PFHxA	80		50 - 200			10/06/23 04:15	10/13/23 04:50	1
13C4 PFHpA	82		50 - 200			10/06/23 04:15	10/13/23 04:50	1
13C8 PFOA	84		50 - 200			10/06/23 04:15	10/13/23 04:50	1
13C9 PFNA	86		50 - 200			10/06/23 04:15	10/13/23 04:50	1
13C7 PFUnA	85		50 - 200			10/06/23 04:15	10/13/23 04:50	1
13C2 PFDoA	88		50 - 200			10/06/23 04:15	10/13/23 04:50	1
13C4 PFBA	81		50 - 200			10/06/23 04:15	10/13/23 04:50	1
13C5 PFPeA	76		50 - 200			10/06/23 04:15	10/13/23 04:50	1
13C3 PFBS	93		50 - 200			10/06/23 04:15	10/13/23 04:50	1
13C3 PFHxS	71		50 - 200			10/06/23 04:15	10/13/23 04:50	1
13C8 PFOS	92		50 - 200			10/06/23 04:15	10/13/23 04:50	1
13C2-4:2-FTS	100		50 - 200			10/06/23 04:15	10/13/23 04:50	1
13C2-6:2-FTS	100		50 - 200			10/06/23 04:15	10/13/23 04:50	1
13C2-8:2-FTS	103		50 - 200			10/06/23 04:15	10/13/23 04:50	1

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

**Lab Sample ID: 380-64482-4**

Date Collected: 09/25/23 10:36

Matrix: Drinking Water

Date Received: 09/27/23 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
2,4'-DDD	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
2,4'-DDE	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
2,4'-DDT	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
2,4-Dinitrotoluene	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
2,6-Dinitrotoluene	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
2-Methylnaphthalene	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
4,4'-DDD	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
4,4'-DDE	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
4,4'-DDT	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
Acenaphthene	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
Acenaphthylene	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
Acetochlor	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
Alachlor	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:56	1
alpha-BHC	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
alpha-Chlordane	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:56	1

Eurofins Eaton Analytical Pomona



# Client Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: 380-64482-4**

Date Collected: 09/25/23 10:36

Matrix: Drinking Water

Date Received: 09/27/23 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	<0.020		0.020	ug/L		09/28/23 12:30	09/29/23 20:56	1
Atrazine	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:56	1
Benz(a)anthracene	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:56	1
Benzo[a]pyrene	<0.020		0.020	ug/L		09/28/23 12:30	09/29/23 20:56	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		09/28/23 12:30	09/29/23 20:56	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:56	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		09/28/23 12:30	09/29/23 20:56	1
beta-BHC	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		09/28/23 12:30	09/29/23 20:56	1
Bromacil	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
Butachlor	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:56	1
Butylbenzylphthalate	<0.49		0.49	ug/L		09/28/23 12:30	09/29/23 20:56	1
Chlorobenzilate	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
Chloroneb	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
Chlorothalonil (Draconil, Bravo)	<0.098	^3+	0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
Chlorpyrifos	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:56	1
Chrysene	<0.020		0.020	ug/L		09/28/23 12:30	09/29/23 20:56	1
delta-BHC	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
Di(2-ethylhexyl)adipate	<0.59		0.59	ug/L		09/28/23 12:30	09/29/23 20:56	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:56	1
Diclorvos (DDVP)	<0.049	^3+	0.049	ug/L		09/28/23 12:30	09/29/23 20:56	1
Dieldrin	<0.20		0.20	ug/L		09/28/23 12:30	09/29/23 20:56	1
Diethylphthalate	<0.49		0.49	ug/L		09/28/23 12:30	09/29/23 20:56	1
Dimethylphthalate	<0.49		0.49	ug/L		09/28/23 12:30	09/29/23 20:56	1
Di-n-butyl phthalate	<0.98		0.98	ug/L		09/28/23 12:30	09/29/23 20:56	1
Di-n-octyl phthalate	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
Endosulfan I (Alpha)	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
Endosulfan II (Beta)	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
Endosulfan sulfate	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
Endrin	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
Endrin aldehyde	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
EPTC	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
Fluoranthene	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
Fluorene	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:56	1
gamma-Chlordane	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:56	1
Heptachlor	<0.039		0.039	ug/L		09/28/23 12:30	09/29/23 20:56	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:56	1
Hexachlorobenzene	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:56	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:56	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:56	1
Isophorone	<0.49		0.49	ug/L		09/28/23 12:30	09/29/23 20:56	1
Lindane	<0.039		0.039	ug/L		09/28/23 12:30	09/29/23 20:56	1
Malathion	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
Methoxychlor	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
Metolachlor	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:56	1
Molinate	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
Naphthalene	<0.29		0.29	ug/L		09/28/23 12:30	09/29/23 20:56	1
Parathion	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
Pendimethalin (Penoxaline)	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1

Eurofins Eaton Analytical Pomona

# Client Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: 380-64482-4**

Date Collected: 09/25/23 10:36

Matrix: Drinking Water

Date Received: 09/27/23 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	<0.039		0.039	ug/L		09/28/23 12:30	09/29/23 20:56	1
Propachlor	<0.049	^3+	0.049	ug/L		09/28/23 12:30	09/29/23 20:56	1
Pyrene	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:56	1
Simazine	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:56	1
Terbacil	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
Terbutylazine	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1
Thiobencarb	<0.20		0.20	ug/L		09/28/23 12:30	09/29/23 20:56	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		09/28/23 12:30	09/29/23 20:56	1
trans-Nonachlor	<0.049		0.049	ug/L		09/28/23 12:30	09/29/23 20:56	1
Trifluralin	<0.098		0.098	ug/L		09/28/23 12:30	09/29/23 20:56	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	0.70	T J	ug/L		3.74	N/A	09/28/23 12:30	09/29/23 20:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	106		70 - 130	09/28/23 12:30	09/29/23 20:56	1
Perylene-d12	95		70 - 130	09/28/23 12:30	09/29/23 20:56	1
Triphenylphosphate	103		70 - 130	09/28/23 12:30	09/29/23 20:56	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>2.7</b>		2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1
<b>Perfluorohexanoic acid (PFHxA)</b>	<b>2.3</b>		2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>2.5</b>		2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1
<b>Perfluorooctanoic acid (PFOA)</b>	<b>2.0</b>		2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1
Perfluorobutanoic acid (PFBA)	<2.0	B	2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1

Eurofins Eaton Analytical Pomona



# Client Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: 380-64482-4**

Date Collected: 09/25/23 10:36

Matrix: Drinking Water

Date Received: 09/27/23 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1
<b>Perfluoropentanoic acid (PFPeA)</b>	<b>2.7</b>		2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:10	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	67		50 - 200			10/06/23 04:15	10/13/23 05:10	1
13C6 PFDA	93		50 - 200			10/06/23 04:15	10/13/23 05:10	1
13C5 PFHxA	79		50 - 200			10/06/23 04:15	10/13/23 05:10	1
13C4 PFHpA	83		50 - 200			10/06/23 04:15	10/13/23 05:10	1
13C8 PFOA	85		50 - 200			10/06/23 04:15	10/13/23 05:10	1
13C9 PFNA	89		50 - 200			10/06/23 04:15	10/13/23 05:10	1
13C7 PFUnA	87		50 - 200			10/06/23 04:15	10/13/23 05:10	1
13C2 PFDoA	93		50 - 200			10/06/23 04:15	10/13/23 05:10	1
13C4 PFBA	81		50 - 200			10/06/23 04:15	10/13/23 05:10	1
13C5 PFPeA	78		50 - 200			10/06/23 04:15	10/13/23 05:10	1
13C3 PFBS	92		50 - 200			10/06/23 04:15	10/13/23 05:10	1
13C3 PFHxS	75		50 - 200			10/06/23 04:15	10/13/23 05:10	1
13C8 PFOS	91		50 - 200			10/06/23 04:15	10/13/23 05:10	1
13C2-4:2-FTS	111		50 - 200			10/06/23 04:15	10/13/23 05:10	1
13C2-6:2-FTS	105		50 - 200			10/06/23 04:15	10/13/23 05:10	1
13C2-8:2-FTS	132		50 - 200			10/06/23 04:15	10/13/23 05:10	1

**Client Sample ID: FB AIEA GULCH WELLS PUMP 2**

**Lab Sample ID: 380-64482-10**

Date Collected: 09/25/23 11:09

Matrix: Drinking Water

Date Received: 09/27/23 10:30

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:31	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:31	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:31	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:31	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:31	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:31	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:31	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:31	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:31	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:31	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:31	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:31	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:31	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:31	1
Perfluorobutanoic acid (PFBA)	<2.0	B	2.0	ng/L		10/06/23 04:15	10/13/23 05:31	1

Eurofins Eaton Analytical Pomona

# Client Sample Results

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

Job ID: 380-64482-1

**Client Sample ID: FB AIEA GULCH WELLS PUMP 2**

**Lab Sample ID: 380-64482-10**

**Date Collected: 09/25/23 11:09**

**Matrix: Drinking Water**

**Date Received: 09/27/23 10:30**

**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		10/06/23 04:15	10/13/23 05:31	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:31	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:31	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:31	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:31	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:31	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:31	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:31	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:31	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:31	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	89		50 - 200			10/06/23 04:15	10/13/23 05:31	1
13C6 PFDA	92		50 - 200			10/06/23 04:15	10/13/23 05:31	1
13C5 PFHxA	100		50 - 200			10/06/23 04:15	10/13/23 05:31	1
13C4 PFHpA	90		50 - 200			10/06/23 04:15	10/13/23 05:31	1
13C8 PFOA	94		50 - 200			10/06/23 04:15	10/13/23 05:31	1
13C9 PFNA	93		50 - 200			10/06/23 04:15	10/13/23 05:31	1
13C7 PFUnA	92		50 - 200			10/06/23 04:15	10/13/23 05:31	1
13C2 PFDoA	94		50 - 200			10/06/23 04:15	10/13/23 05:31	1
13C4 PFBA	95		50 - 200			10/06/23 04:15	10/13/23 05:31	1
13C5 PFPeA	90		50 - 200			10/06/23 04:15	10/13/23 05:31	1
13C3 PFBS	97		50 - 200			10/06/23 04:15	10/13/23 05:31	1
13C3 PFHxS	74		50 - 200			10/06/23 04:15	10/13/23 05:31	1
13C8 PFOS	93		50 - 200			10/06/23 04:15	10/13/23 05:31	1
13C2-4:2-FTS	105		50 - 200			10/06/23 04:15	10/13/23 05:31	1
13C2-6:2-FTS	105		50 - 200			10/06/23 04:15	10/13/23 05:31	1
13C2-8:2-FTS	100		50 - 200			10/06/23 04:15	10/13/23 05:31	1

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

**Lab Sample ID: 380-64482-11**

**Date Collected: 09/25/23 11:41**

**Matrix: Drinking Water**

**Date Received: 09/27/23 10:30**

**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		10/06/23 04:15	10/13/23 05:41	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:41	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:41	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:41	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:41	1

Eurofins Eaton Analytical Pomona

# Client Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: 380-64482-11**

**Date Collected: 09/25/23 11:41**

**Matrix: Drinking Water**

**Date Received: 09/27/23 10:30**

**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		10/06/23 04:15	10/13/23 05:41	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:41	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:41	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:41	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:41	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:41	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:41	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:41	1
Perfluorobutanoic acid (PFBA)	<2.0	B	2.0	ng/L		10/06/23 04:15	10/13/23 05:41	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:41	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:41	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:41	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:41	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:41	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:41	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:41	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:41	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:41	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:41	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	86		50 - 200			10/06/23 04:15	10/13/23 05:41	1
13C6 PFDA	93		50 - 200			10/06/23 04:15	10/13/23 05:41	1
13C5 PFHxA	92		50 - 200			10/06/23 04:15	10/13/23 05:41	1
13C4 PFHpA	89		50 - 200			10/06/23 04:15	10/13/23 05:41	1
13C8 PFOA	94		50 - 200			10/06/23 04:15	10/13/23 05:41	1
13C9 PFNA	98		50 - 200			10/06/23 04:15	10/13/23 05:41	1
13C7 PFUnA	89		50 - 200			10/06/23 04:15	10/13/23 05:41	1
13C2 PFDoA	94		50 - 200			10/06/23 04:15	10/13/23 05:41	1
13C4 PFBA	92		50 - 200			10/06/23 04:15	10/13/23 05:41	1
13C5 PFPeA	88		50 - 200			10/06/23 04:15	10/13/23 05:41	1
13C3 PFBS	94		50 - 200			10/06/23 04:15	10/13/23 05:41	1
13C3 PFHxS	72		50 - 200			10/06/23 04:15	10/13/23 05:41	1
13C8 PFOS	94		50 - 200			10/06/23 04:15	10/13/23 05:41	1
13C2-4:2-FTS	106		50 - 200			10/06/23 04:15	10/13/23 05:41	1
13C2-6:2-FTS	106		50 - 200			10/06/23 04:15	10/13/23 05:41	1
13C2-8:2-FTS	102		50 - 200			10/06/23 04:15	10/13/23 05:41	1

# Client Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: 380-64482-12**

Date Collected: 09/25/23 10:36

Matrix: Drinking Water

Date Received: 09/27/23 10:30

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1
Perfluorobutanoic acid (PFBA)	<2.0	B	2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		10/06/23 04:15	10/13/23 05:50	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	83		50 - 200	10/06/23 04:15	10/13/23 05:50	1
13C6 PFDA	93		50 - 200	10/06/23 04:15	10/13/23 05:50	1
13C5 PFHxA	87		50 - 200	10/06/23 04:15	10/13/23 05:50	1
13C4 PFHpA	92		50 - 200	10/06/23 04:15	10/13/23 05:50	1
13C8 PFOA	94		50 - 200	10/06/23 04:15	10/13/23 05:50	1
13C9 PFNA	93		50 - 200	10/06/23 04:15	10/13/23 05:50	1
13C7 PFUnA	87		50 - 200	10/06/23 04:15	10/13/23 05:50	1
13C2 PFDoA	89		50 - 200	10/06/23 04:15	10/13/23 05:50	1
13C4 PFBA	92		50 - 200	10/06/23 04:15	10/13/23 05:50	1
13C5 PFPeA	90		50 - 200	10/06/23 04:15	10/13/23 05:50	1
13C3 PFBS	92		50 - 200	10/06/23 04:15	10/13/23 05:50	1
13C3 PFHxS	69		50 - 200	10/06/23 04:15	10/13/23 05:50	1
13C8 PFOS	92		50 - 200	10/06/23 04:15	10/13/23 05:50	1

Eurofins Eaton Analytical Pomona

# Client Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: 380-64482-12**

**Date Collected: 09/25/23 10:36**

**Matrix: Drinking Water**

**Date Received: 09/27/23 10:30**

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

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C2-4:2-FTS	103		50 - 200	10/06/23 04:15	10/13/23 05:50	1
13C2-6:2-FTS	105		50 - 200	10/06/23 04:15	10/13/23 05:50	1
13C2-8:2-FTS	97		50 - 200	10/06/23 04:15	10/13/23 05:50	1

# Action Limit Summary

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

Job ID: 380-64482-1

**Client Sample ID: MOANALUA WELLS**

**Lab Sample ID: 380-64482-1**

**PWSID Number: HI0000331**

## Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL		RL	Method	Prep Type
				Limit				
Alachlor	<0.049		ug/L	2		0.049	525.2	Total/NA
Atrazine	<0.049		ug/L	3		0.049	525.2	Total/NA
Benzo[a]pyrene	<0.020		ug/L	0.2		0.020	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.59		ug/L	6		0.59	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.59		ug/L	400		0.59	525.2	Total/NA
Endrin	<0.099		ug/L	2		0.099	525.2	Total/NA
Heptachlor	<0.040		ug/L	0.4		0.040	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.049		ug/L	0.2		0.049	525.2	Total/NA
Hexachlorobenzene	<0.049		ug/L	1		0.049	525.2	Total/NA
Hexachlorocyclopentadiene	<0.049		ug/L	50		0.049	525.2	Total/NA
Lindane	<0.040		ug/L	0.2		0.040	525.2	Total/NA
Methoxychlor	<0.099		ug/L	40		0.099	525.2	Total/NA
Simazine	<0.049		ug/L	4		0.049	525.2	Total/NA

**Client Sample ID: AIEA GULCH WELLS PUMP 2**

**Lab Sample ID: 380-64482-2**

**PWSID Number: HI0000331**

## Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL		RL	Method	Prep Type
				Limit				
Alachlor	<0.049		ug/L	2		0.049	525.2	Total/NA
Atrazine	<0.049		ug/L	3		0.049	525.2	Total/NA
Benzo[a]pyrene	<0.020		ug/L	0.2		0.020	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.59		ug/L	6		0.59	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.59		ug/L	400		0.59	525.2	Total/NA
Endrin	<0.098		ug/L	2		0.098	525.2	Total/NA
Heptachlor	<0.039		ug/L	0.4		0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.049		ug/L	0.2		0.049	525.2	Total/NA
Hexachlorobenzene	<0.049		ug/L	1		0.049	525.2	Total/NA
Hexachlorocyclopentadiene	<0.049		ug/L	50		0.049	525.2	Total/NA
Lindane	<0.039		ug/L	0.2		0.039	525.2	Total/NA
Methoxychlor	<0.098		ug/L	40		0.098	525.2	Total/NA
Simazine	<0.049		ug/L	4		0.049	525.2	Total/NA

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

**Lab Sample ID: 380-64482-3**

**PWSID Number: HI0000331**

## Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL		RL	Method	Prep Type
				Limit				
Alachlor	<0.049		ug/L	2		0.049	525.2	Total/NA
Atrazine	<0.049		ug/L	3		0.049	525.2	Total/NA

Eurofins Eaton Analytical Pomona

# Action Limit Summary

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

Job ID: 380-64482-1

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

**Lab Sample ID: 380-64482-3**

**(Continued)**

**PWSID Number: HI0000331**

## Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Benzo[a]pyrene	<0.019		ug/L	0.2	0.019	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.58		ug/L	6	0.58	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.58		ug/L	400	0.58	525.2	Total/NA
Endrin	<0.097		ug/L	2	0.097	525.2	Total/NA
Heptachlor	<0.039		ug/L	0.4	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.049		ug/L	0.2	0.049	525.2	Total/NA
Hexachlorobenzene	<0.049		ug/L	1	0.049	525.2	Total/NA
Hexachlorocyclopentadiene	<0.049		ug/L	50	0.049	525.2	Total/NA
Lindane	<0.039		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	<0.097		ug/L	40	0.097	525.2	Total/NA
Simazine	<0.049		ug/L	4	0.049	525.2	Total/NA

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

**Lab Sample ID: 380-64482-4**

**PWSID Number: HI0000331**

## Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Alachlor	<0.049		ug/L	2	0.049	525.2	Total/NA
Atrazine	<0.049		ug/L	3	0.049	525.2	Total/NA
Benzo[a]pyrene	<0.020		ug/L	0.2	0.020	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.59		ug/L	6	0.59	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.59		ug/L	400	0.59	525.2	Total/NA
Endrin	<0.098		ug/L	2	0.098	525.2	Total/NA
Heptachlor	<0.039		ug/L	0.4	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.049		ug/L	0.2	0.049	525.2	Total/NA
Hexachlorobenzene	<0.049		ug/L	1	0.049	525.2	Total/NA
Hexachlorocyclopentadiene	<0.049		ug/L	50	0.049	525.2	Total/NA
Lindane	<0.039		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	<0.098		ug/L	40	0.098	525.2	Total/NA
Simazine	<0.049		ug/L	4	0.049	525.2	Total/NA



# Surrogate Summary

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

Job ID: 380-64482-1

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

Matrix: Drinking Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	2NMX	PRY	TPP
		(70-130)	(70-130)	(70-130)
380-64482-1	MOANALUA WELLS	108	96	103
380-64482-2	AIEA GULCH WELLS PUMP 2	105	99	103
380-64482-3	AIEA WELLS PUMPS 1&2 (260) P2	108	100	99
380-64482-4	HALAWA WELLS UNITS 1 & 2 P1	106	95	103

#### 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

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	2NMX	PRY	TPP
		(70-130)	(70-130)	(70-130)
380-64257-BS-1-A MS	Matrix Spike	106	91	90
380-64257-BT-1-A MSD	Matrix Spike Duplicate	106	88	94
LCS 380-57222/22-A	Lab Control Sample	105	96	105
LCSD 380-57222/23-A	Lab Control Sample Dup	106	94	104
MB 380-57222/19-A	Method Blank	106	98	102
MRL 380-57222/20-A	Lab Control Sample	105	98	101

#### Surrogate Legend

2NMX = 2-Nitro-m-xylene

PRY = Perylene-d12

TPP = Triphenylphosphate



# Isotope Dilution Summary

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

Job ID: 380-64482-1

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-64482-2	AIEA GULCH WELLS PUMP 2	63	86	73	77	82	86	85	90
380-64482-3	AIEA WELLS PUMPS 1&2 (260) P2	72	86	80	82	84	86	85	88
380-64482-4	HALAWA WELLS UNITS 1 & 2 P1	67	93	79	83	85	89	87	93
380-64482-10	FB AIEA GULCH WELLS PUMP 2	89	92	100	90	94	93	92	94
380-64482-11	FB AIEA WELLS PUMPS 1&2 (260)	86	93	92	89	94	98	89	94
380-64482-12	FB HALAWA WELLS UNITS 1 & 2 P1	83	93	87	92	94	93	87	89

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-64482-2	AIEA GULCH WELLS PUMP 2	72	68	93	67	89	97	95	99
380-64482-3	AIEA WELLS PUMPS 1&2 (260) P2	81	76	93	71	92	100	100	103
380-64482-4	HALAWA WELLS UNITS 1 & 2 P1	81	78	92	75	91	111	105	132
380-64482-10	FB AIEA GULCH WELLS PUMP 2	95	90	97	74	93	105	105	100
380-64482-11	FB AIEA WELLS PUMPS 1&2 (260)	92	88	94	72	94	106	106	102
380-64482-12	FB HALAWA WELLS UNITS 1 & 2 P1	92	90	92	69	92	103	105	97

### Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-64792-B-1-A MS	Matrix Spike	104	95	100	99	93	98	91	93
380-64792-C-1-A MSD	Matrix Spike Duplicate	102	96	102	96	95	96	95	94
LCS 380-58208/21-A	Lab Control Sample	88	93	93	87	93	95	89	92

Eurofins Eaton Analytical Pomona

# Isotope Dilution Summary

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

Job ID: 380-64482-1

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

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
LCSD 380-58208/22-A	Lab Control Sample Dup	96	97	96	94	95	95	96	97
MBL 380-58208/19-A	Method Blank	92	95	97	93	99	101	86	92
MRL 380-58208/20-A	Lab Control Sample	86	95	98	100	95	101	93	94

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-64792-B-1-A MS	Matrix Spike	95	99	93	84	91	99	98	92
380-64792-C-1-A MSD	Matrix Spike Duplicate	97	98	91	88	92	97	100	96
LCS 380-58208/21-A	Lab Control Sample	93	91	93	82	90	97	98	99
LCSD 380-58208/22-A	Lab Control Sample Dup	94	91	93	80	92	95	95	95
MBL 380-58208/19-A	Method Blank	95	94	92	72	92	109	105	109
MRL 380-58208/20-A	Lab Control Sample	96	92	95	74	93	114	104	99

### 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: 380-64482-1

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

**Lab Sample ID: MB 380-57222/19-A**  
**Matrix: Water**  
**Analysis Batch: 57446**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 57222**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
2,4'-DDD	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
2,4'-DDE	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
2,4'-DDT	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
2,4-Dinitrotoluene	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
2,6-Dinitrotoluene	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
2-Methylnaphthalene	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
4,4'-DDD	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
4,4'-DDE	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
4,4'-DDT	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
Acenaphthene	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
Acenaphthylene	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
Acetochlor	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
Alachlor	<0.050		0.050	ug/L		09/28/23 09:15	09/29/23 15:08	1
alpha-BHC	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
alpha-Chlordane	<0.050		0.050	ug/L		09/28/23 09:15	09/29/23 15:08	1
Anthracene	<0.020		0.020	ug/L		09/28/23 09:15	09/29/23 15:08	1
Atrazine	<0.050		0.050	ug/L		09/28/23 09:15	09/29/23 15:08	1
Benz(a)anthracene	<0.050		0.050	ug/L		09/28/23 09:15	09/29/23 15:08	1
Benzo[a]pyrene	<0.020		0.020	ug/L		09/28/23 09:15	09/29/23 15:08	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		09/28/23 09:15	09/29/23 15:08	1
Benzo[g,h,i]perylene	<0.050		0.050	ug/L		09/28/23 09:15	09/29/23 15:08	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		09/28/23 09:15	09/29/23 15:08	1
beta-BHC	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		09/28/23 09:15	09/29/23 15:08	1
Bromacil	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
Butachlor	<0.050		0.050	ug/L		09/28/23 09:15	09/29/23 15:08	1
Butylbenzylphthalate	<0.50		0.50	ug/L		09/28/23 09:15	09/29/23 15:08	1
Chlorobenzilate	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
Chloroneb	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
Chlorothalonil (Draconil, Bravo)	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
Chlorpyrifos	<0.050		0.050	ug/L		09/28/23 09:15	09/29/23 15:08	1
Chrysene	<0.020		0.020	ug/L		09/28/23 09:15	09/29/23 15:08	1
delta-BHC	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
Di(2-ethylhexyl)adipate	<0.59		0.59	ug/L		09/28/23 09:15	09/29/23 15:08	1
Dibenz(a,h)anthracene	<0.050		0.050	ug/L		09/28/23 09:15	09/29/23 15:08	1
Diclorvos (DDVP)	<0.050		0.050	ug/L		09/28/23 09:15	09/29/23 15:08	1
Dieldrin	<0.20		0.20	ug/L		09/28/23 09:15	09/29/23 15:08	1
Diethylphthalate	<0.50		0.50	ug/L		09/28/23 09:15	09/29/23 15:08	1
Dimethylphthalate	<0.50		0.50	ug/L		09/28/23 09:15	09/29/23 15:08	1
Di-n-butyl phthalate	<0.99		0.99	ug/L		09/28/23 09:15	09/29/23 15:08	1
Di-n-octyl phthalate	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
Endosulfan I (Alpha)	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
Endosulfan II (Beta)	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
Endosulfan sulfate	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
Endrin	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
Endrin aldehyde	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
EPTC	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: MB 380-57222/19-A**  
**Matrix: Water**  
**Analysis Batch: 57446**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 57222**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
Fluorene	<0.050		0.050	ug/L		09/28/23 09:15	09/29/23 15:08	1
gamma-Chlordane	<0.050		0.050	ug/L		09/28/23 09:15	09/29/23 15:08	1
Heptachlor	<0.040		0.040	ug/L		09/28/23 09:15	09/29/23 15:08	1
Heptachlor epoxide (isomer B)	<0.050		0.050	ug/L		09/28/23 09:15	09/29/23 15:08	1
Hexachlorobenzene	<0.050		0.050	ug/L		09/28/23 09:15	09/29/23 15:08	1
Hexachlorocyclopentadiene	<0.050		0.050	ug/L		09/28/23 09:15	09/29/23 15:08	1
Indeno[1,2,3-cd]pyrene	<0.050		0.050	ug/L		09/28/23 09:15	09/29/23 15:08	1
Isophorone	<0.50		0.50	ug/L		09/28/23 09:15	09/29/23 15:08	1
Lindane	<0.040		0.040	ug/L		09/28/23 09:15	09/29/23 15:08	1
Malathion	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
Methoxychlor	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
Metolachlor	<0.050		0.050	ug/L		09/28/23 09:15	09/29/23 15:08	1
Molinate	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
Naphthalene	<0.30		0.30	ug/L		09/28/23 09:15	09/29/23 15:08	1
Parathion	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
Pendimethalin (Penoxaline)	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
Phenanthrene	<0.040		0.040	ug/L		09/28/23 09:15	09/29/23 15:08	1
Propachlor	<0.050		0.050	ug/L		09/28/23 09:15	09/29/23 15:08	1
Pyrene	<0.050		0.050	ug/L		09/28/23 09:15	09/29/23 15:08	1
Simazine	<0.050		0.050	ug/L		09/28/23 09:15	09/29/23 15:08	1
Terbacil	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
Terbutylazine	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1
Thiobencarb	<0.20		0.20	ug/L		09/28/23 09:15	09/29/23 15:08	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		09/28/23 09:15	09/29/23 15:08	1
trans-Nonachlor	<0.050		0.050	ug/L		09/28/23 09:15	09/29/23 15:08	1
Trifluralin	<0.099		0.099	ug/L		09/28/23 09:15	09/29/23 15:08	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Decane	3.02	T J N	ug/L		2.33	124-18-5	09/28/23 09:15	09/29/23 15:08	1
Unknown	0.671	T J	ug/L		3.72	N/A	09/28/23 09:15	09/29/23 15:08	1
Tridecanoic acid	0.937	T J N	ug/L		5.69	638-53-9	09/28/23 09:15	09/29/23 15:08	1
Octadecanoic acid	0.567	T J N	ug/L		6.35	57-11-4	09/28/23 09:15	09/29/23 15:08	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	106		70 - 130	09/28/23 09:15	09/29/23 15:08	1
Perylene-d12	98		70 - 130	09/28/23 09:15	09/29/23 15:08	1
Triphenylphosphate	102		70 - 130	09/28/23 09:15	09/29/23 15:08	1

**Lab Sample ID: LCS 380-57222/22-A**  
**Matrix: Water**  
**Analysis Batch: 57446**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 57222**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	1.99	2.12		ug/L		107	70 - 130
2,4'-DDD	1.99	1.93		ug/L		97	70 - 130
2,4'-DDE	1.99	1.89		ug/L		95	70 - 130
2,4'-DDT	1.99	2.19		ug/L		110	70 - 130

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: LCS 380-57222/22-A**  
**Matrix: Water**  
**Analysis Batch: 57446**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 57222**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4-Dinitrotoluene	1.99	1.95		ug/L		98	70 - 130
2,6-Dinitrotoluene	1.99	1.92		ug/L		96	70 - 130
2-Methylnaphthalene	1.99	2.14		ug/L		108	70 - 130
4,4'-DDD	1.99	2.05		ug/L		103	70 - 130
4,4'-DDE	1.99	1.87		ug/L		94	70 - 130
4,4'-DDT	1.99	2.11		ug/L		106	70 - 130
Acenaphthene	1.99	1.99		ug/L		100	70 - 130
Acenaphthylene	1.99	1.98		ug/L		100	70 - 130
Acetochlor	1.99	2.01		ug/L		101	70 - 130
Alachlor	1.99	2.00		ug/L		100	70 - 130
alpha-BHC	1.99	2.24		ug/L		112	70 - 130
alpha-Chlordane	1.99	1.86		ug/L		94	70 - 130
Anthracene	1.99	2.00		ug/L		100	70 - 130
Atrazine	1.99	2.35		ug/L		118	70 - 130
Benz(a)anthracene	1.99	2.11		ug/L		106	70 - 130
Benzo[a]pyrene	1.99	2.01		ug/L		101	70 - 130
Benzo[b]fluoranthene	1.99	2.05		ug/L		103	70 - 130
Benzo[g,h,i]perylene	1.99	1.99		ug/L		100	70 - 130
Benzo[k]fluoranthene	1.99	2.14		ug/L		108	70 - 130
beta-BHC	1.99	2.21		ug/L		111	70 - 130
Bis(2-ethylhexyl) phthalate	1.99	2.03		ug/L		102	70 - 130
Bromacil	1.99	2.15		ug/L		108	70 - 130
Butachlor	1.99	2.34		ug/L		118	70 - 130
Butylbenzylphthalate	1.99	2.13		ug/L		107	70 - 130
Chlorobenzilate	1.99	2.04		ug/L		103	70 - 130
Chloroneb	1.99	1.99		ug/L		100	70 - 130
Chlorothalonil (Draconil, Bravo)	1.99	1.91		ug/L		96	70 - 130
Chlorpyrifos	1.99	2.00		ug/L		100	70 - 130
Chrysene	1.99	2.02		ug/L		101	70 - 130
delta-BHC	1.99	1.96		ug/L		98	70 - 130
Di(2-ethylhexyl)adipate	1.99	2.20		ug/L		111	70 - 130
Dibenz(a,h)anthracene	1.99	2.08		ug/L		105	70 - 130
Diclorvos (DDVP)	1.99	2.22		ug/L		112	70 - 130
Dieldrin	1.99	1.87		ug/L		94	70 - 130
Diethylphthalate	1.99	2.27		ug/L		114	70 - 130
Dimethylphthalate	1.99	2.09		ug/L		105	70 - 130
Di-n-butyl phthalate	3.98	3.93		ug/L		99	70 - 130
Di-n-octyl phthalate	1.99	1.77		ug/L		89	70 - 130
Endosulfan I (Alpha)	1.99	1.93		ug/L		97	70 - 130
Endosulfan II (Beta)	1.99	2.09		ug/L		105	70 - 130
Endosulfan sulfate	1.99	2.04		ug/L		102	70 - 130
Endrin	1.99	1.95		ug/L		98	70 - 130
Endrin aldehyde	1.99	2.01		ug/L		101	70 - 130
EPTC	1.99	2.15		ug/L		108	70 - 130
Fluoranthene	1.99	2.02		ug/L		102	70 - 130
Fluorene	1.99	2.10		ug/L		106	70 - 130
gamma-Chlordane	1.99	1.85		ug/L		93	70 - 130
Heptachlor	1.99	2.18		ug/L		110	70 - 130
Heptachlor epoxide (isomer B)	1.99	1.88		ug/L		95	70 - 130

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: LCS 380-57222/22-A**  
**Matrix: Water**  
**Analysis Batch: 57446**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 57222**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexachlorobenzene	1.99	2.06		ug/L		103	70 - 130
Hexachlorocyclopentadiene	1.99	2.48		ug/L		125	70 - 130
Indeno[1,2,3-cd]pyrene	1.99	2.05		ug/L		103	70 - 130
Isophorone	1.99	2.21		ug/L		111	70 - 130
Lindane	1.99	2.30		ug/L		116	70 - 130
Malathion	1.99	2.04		ug/L		103	70 - 130
Methoxychlor	1.99	2.09		ug/L		105	70 - 130
Metolachlor	1.99	2.11		ug/L		106	70 - 130
Molinate	1.99	2.17		ug/L		109	70 - 130
Naphthalene	1.99	2.10		ug/L		105	70 - 130
Parathion	1.99	2.10		ug/L		105	70 - 130
Pendimethalin (Penoxaline)	1.99	1.98		ug/L		100	70 - 130
Phenanthrene	1.99	1.98		ug/L		99	70 - 130
Propachlor	1.99	2.10		ug/L		106	70 - 130
Pyrene	1.99	2.03		ug/L		102	70 - 130
Simazine	1.99	2.33		ug/L		117	70 - 130
Terbacil	1.99	2.14		ug/L		107	70 - 130
Terbutylazine	1.99	2.24		ug/L		112	70 - 130
Thiobencarb	1.99	2.11		ug/L		106	70 - 130
trans-Nonachlor	1.99	1.81		ug/L		91	70 - 130
Trifluralin	1.99	2.00		ug/L		100	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	105		70 - 130
Perylene-d12	96		70 - 130
Triphenylphosphate	105		70 - 130

**Lab Sample ID: LCSD 380-57222/23-A**  
**Matrix: Water**  
**Analysis Batch: 57446**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 57222**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	1.99	2.20		ug/L		111	70 - 130	4	20
2,4'-DDD	1.99	2.02		ug/L		102	70 - 130	5	20
2,4'-DDE	1.99	1.99		ug/L		100	70 - 130	5	20
2,4'-DDT	1.99	2.27		ug/L		114	70 - 130	4	20
2,4-Dinitrotoluene	1.99	1.96		ug/L		99	70 - 130	0	20
2,6-Dinitrotoluene	1.99	1.95		ug/L		98	70 - 130	2	20
2-Methylnaphthalene	1.99	2.23		ug/L		112	70 - 130	4	20
4,4'-DDD	1.99	2.15		ug/L		108	70 - 130	5	20
4,4'-DDE	1.99	1.94		ug/L		98	70 - 130	4	20
4,4'-DDT	1.99	2.18		ug/L		110	70 - 130	3	20
Acenaphthene	1.99	2.05		ug/L		103	70 - 130	3	20
Acenaphthylene	1.99	1.97		ug/L		99	70 - 130	1	20
Acetochlor	1.99	2.06		ug/L		104	70 - 130	2	20
Alachlor	1.99	2.07		ug/L		104	70 - 130	3	20
alpha-BHC	1.99	2.28		ug/L		115	70 - 130	2	20
alpha-Chlordane	1.99	1.93		ug/L		97	70 - 130	3	20

# QC Sample Results

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

Job ID: 380-64482-1

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

Lab Sample ID: LCSD 380-57222/23-A

Client Sample ID: Lab Control Sample Dup

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 57446

Prep Batch: 57222

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	RPD Limit
							Limits	RPD		
Anthracene	1.99	2.05		ug/L		103	70 - 130	2	20	
Atrazine	1.99	2.44		ug/L		123	70 - 130	4	20	
Benz(a)anthracene	1.99	2.18		ug/L		110	70 - 130	3	20	
Benzo[a]pyrene	1.99	2.01		ug/L		101	70 - 130	0	20	
Benzo[b]fluoranthene	1.99	2.12		ug/L		106	70 - 130	3	20	
Benzo[g,h,i]perylene	1.99	2.09		ug/L		105	70 - 130	5	20	
Benzo[k]fluoranthene	1.99	2.19		ug/L		110	70 - 130	2	20	
beta-BHC	1.99	2.29		ug/L		115	70 - 130	3	20	
Bis(2-ethylhexyl) phthalate	1.99	2.08		ug/L		105	70 - 130	2	20	
Bromacil	1.99	2.20		ug/L		111	70 - 130	3	20	
Butachlor	1.99	2.40		ug/L		121	70 - 130	2	20	
Butylbenzylphthalate	1.99	2.21		ug/L		111	70 - 130	4	20	
Chlorobenzilate	1.99	2.10		ug/L		106	70 - 130	3	20	
Chloroneb	1.99	2.07		ug/L		104	70 - 130	4	20	
Chlorothalonil (Draconil, Bravo)	1.99	2.00		ug/L		101	70 - 130	4	20	
Chlorpyrifos	1.99	2.06		ug/L		104	70 - 130	3	20	
Chrysene	1.99	2.10		ug/L		106	70 - 130	4	20	
delta-BHC	1.99	2.01		ug/L		101	70 - 130	3	20	
Di(2-ethylhexyl)adipate	1.99	2.27		ug/L		114	70 - 130	3	20	
Dibenz(a,h)anthracene	1.99	2.14		ug/L		108	70 - 130	3	20	
Diclorvos (DDVP)	1.99	2.34		ug/L		118	70 - 130	5	20	
Dieldrin	1.99	1.97		ug/L		99	70 - 130	5	20	
Diethylphthalate	1.99	2.36		ug/L		119	70 - 130	4	20	
Dimethylphthalate	1.99	2.15		ug/L		108	70 - 130	3	20	
Di-n-butyl phthalate	3.97	4.10		ug/L		103	70 - 130	4	20	
Di-n-octyl phthalate	1.99	1.85		ug/L		93	70 - 130	4	20	
Endosulfan I (Alpha)	1.99	2.00		ug/L		101	70 - 130	3	20	
Endosulfan II (Beta)	1.99	2.11		ug/L		106	70 - 130	1	20	
Endosulfan sulfate	1.99	2.14		ug/L		108	70 - 130	5	20	
Endrin	1.99	2.01		ug/L		101	70 - 130	3	20	
Endrin aldehyde	1.99	2.07		ug/L		104	70 - 130	3	20	
EPTC	1.99	2.25		ug/L		113	70 - 130	4	20	
Fluoranthene	1.99	2.10		ug/L		106	70 - 130	4	20	
Fluorene	1.99	2.15		ug/L		108	70 - 130	2	20	
gamma-Chlordane	1.99	1.92		ug/L		97	70 - 130	3	20	
Heptachlor	1.99	2.25		ug/L		113	70 - 130	3	20	
Heptachlor epoxide (isomer B)	1.99	1.96		ug/L		99	70 - 130	4	20	
Hexachlorobenzene	1.99	2.14		ug/L		108	70 - 130	4	20	
Hexachlorocyclopentadiene	1.99	2.46		ug/L		124	70 - 130	1	20	
Indeno[1,2,3-cd]pyrene	1.99	2.09		ug/L		105	70 - 130	2	20	
Isophorone	1.99	2.34		ug/L		118	70 - 130	6	20	
Lindane	1.99	2.38		ug/L		120	70 - 130	4	20	
Malathion	1.99	2.12		ug/L		107	70 - 130	4	20	
Methoxychlor	1.99	2.15		ug/L		108	70 - 130	3	20	
Metolachlor	1.99	2.21		ug/L		111	70 - 130	5	20	
Molinate	1.99	2.26		ug/L		114	70 - 130	4	20	
Naphthalene	1.99	2.19		ug/L		110	70 - 130	4	20	
Parathion	1.99	2.10		ug/L		106	70 - 130	0	20	
Pendimethalin (Penoxaline)	1.99	1.94		ug/L		98	70 - 130	2	20	

Eurofins Eaton Analytical Pomona



# QC Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: LCSD 380-57222/23-A**  
**Matrix: Water**  
**Analysis Batch: 57446**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 57222**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Phenanthrene	1.99	2.04		ug/L		103	70 - 130	3	20
Propachlor	1.99	2.19		ug/L		110	70 - 130	4	20
Pyrene	1.99	2.12		ug/L		107	70 - 130	4	20
Simazine	1.99	2.41		ug/L		122	70 - 130	4	20
Terbacil	1.99	2.21		ug/L		111	70 - 130	3	20
Terbutylazine	1.99	2.31		ug/L		116	70 - 130	3	20
Thiobencarb	1.99	2.20		ug/L		111	70 - 130	4	20
trans-Nonachlor	1.99	1.91		ug/L		96	70 - 130	5	20
Trifluralin	1.99	2.04		ug/L		103	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Nitro-m-xylene	106		70 - 130
Perylene-d12	94		70 - 130
Triphenylphosphate	104		70 - 130

**Lab Sample ID: MRL 380-57222/20-A**  
**Matrix: Water**  
**Analysis Batch: 57446**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 57222**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.0994	0.114		ug/L		115	50 - 150
2,4'-DDD	0.0994	0.126		ug/L		127	50 - 150
2,4'-DDE	0.0994	0.103		ug/L		103	50 - 150
2,4'-DDT	0.0994	0.0978	J	ug/L		98	50 - 150
2,4-Dinitrotoluene	0.0994	0.110		ug/L		111	50 - 150
2,6-Dinitrotoluene	0.0994	0.0855	J	ug/L		86	50 - 150
2-Methylnaphthalene	0.0994	0.115		ug/L		115	50 - 150
4,4'-DDD	0.0994	0.0942	J	ug/L		95	50 - 150
4,4'-DDE	0.0994	0.0879	J	ug/L		88	50 - 150
4,4'-DDT	0.0994	0.123		ug/L		124	50 - 150
Acenaphthene	0.0994	0.100		ug/L		101	50 - 150
Acenaphthylene	0.0994	0.0941	J	ug/L		95	50 - 150
Acetochlor	0.0497	0.0439	J	ug/L		88	50 - 150
Alachlor	0.0497	0.0527		ug/L		106	50 - 150
alpha-BHC	0.0994	0.108		ug/L		109	50 - 150
alpha-Chlordane	0.0249	<0.029		ug/L		93	50 - 150
Anthracene	0.0199	0.0205		ug/L		103	50 - 150
Atrazine	0.0497	0.0551		ug/L		111	50 - 150
Benz(a)anthracene	0.0497	0.0440	J	ug/L		89	50 - 150
Benzo[a]pyrene	0.0199	0.0176	J	ug/L		89	50 - 150
Benzo[b]fluoranthene	0.0199	0.0186	J	ug/L		94	50 - 150
Benzo[g,h,i]perylene	0.0497	0.0470	J	ug/L		95	50 - 150
Benzo[k]fluoranthene	0.0199	0.0177	J	ug/L		89	50 - 150
beta-BHC	0.0994	0.116		ug/L		117	50 - 150
Bis(2-ethylhexyl) phthalate	0.596	0.645		ug/L		108	50 - 150
Bromacil	0.0994	0.129		ug/L		130	50 - 150
Butachlor	0.0497	0.0516		ug/L		104	50 - 150
Butylbenzylphthalate	0.149	0.152	J	ug/L		102	50 - 150



# QC Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: MRL 380-57222/20-A**  
**Matrix: Water**  
**Analysis Batch: 57446**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 57222**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chlorobenzilate	0.0994	0.107		ug/L		108	50 - 150
Chloroneb	0.0994	0.118		ug/L		119	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0994	0.195	^3+	ug/L		197	50 - 150
Chlorpyrifos	0.0497	0.0533		ug/L		107	50 - 150
Chrysene	0.0199	0.0201		ug/L		101	50 - 150
delta-BHC	0.0994	0.130		ug/L		131	50 - 150
Di(2-ethylhexyl)adipate	0.298	0.372	J	ug/L		125	50 - 150
Dibenz(a,h)anthracene	0.0497	0.0465	J	ug/L		94	50 - 150
Diclorvos (DDVP)	0.0497	0.0965	^3+	ug/L		194	50 - 150
Dieldrin	0.0994	0.114	J	ug/L		114	50 - 150
Diethylphthalate	0.149	0.181	J	ug/L		121	50 - 150
Dimethylphthalate	0.298	0.303	J	ug/L		102	50 - 150
Di-n-butyl phthalate	0.298	0.360	J	ug/L		121	49 - 243
Di-n-octyl phthalate	0.0994	0.109		ug/L		110	50 - 150
Endosulfan I (Alpha)	0.0994	0.0872	J	ug/L		88	50 - 150
Endosulfan II (Beta)	0.0994	0.115		ug/L		116	50 - 150
Endosulfan sulfate	0.0994	0.0912	J	ug/L		92	50 - 150
Endrin	0.0994	0.101		ug/L		102	50 - 150
Endrin aldehyde	0.0994	0.0873	J	ug/L		88	50 - 150
EPTC	0.0994	0.106		ug/L		107	50 - 150
Fluoranthene	0.0497	0.0529	J	ug/L		106	50 - 150
Fluorene	0.0497	<0.050		ug/L		99	50 - 150
gamma-Chlordane	0.0249	0.0257	J	ug/L		103	50 - 150
Heptachlor	0.0398	0.0472		ug/L		119	50 - 150
Heptachlor epoxide (isomer B)	0.0497	0.0487	J	ug/L		98	50 - 150
Hexachlorobenzene	0.0497	0.0500		ug/L		101	50 - 150
Hexachlorocyclopentadiene	0.0497	0.0568		ug/L		114	50 - 150
Indeno[1,2,3-cd]pyrene	0.0497	0.0447	J	ug/L		90	50 - 150
Isophorone	0.0994	0.112	J	ug/L		113	50 - 150
Lindane	0.0398	0.0466		ug/L		117	50 - 150
Malathion	0.0994	0.0963	J	ug/L		97	50 - 150
Methoxychlor	0.0994	0.124		ug/L		125	50 - 150
Metolachlor	0.0497	0.0542		ug/L		109	50 - 150
Molinate	0.0994	0.106		ug/L		106	50 - 150
Naphthalene	0.0994	0.116	J	ug/L		117	50 - 150
Parathion	0.0994	0.116		ug/L		117	50 - 150
Pendimethalin (Penoxaline)	0.0994	0.109		ug/L		110	50 - 150
Phenanthrene	0.0199	0.0230	J	ug/L		115	50 - 150
Propachlor	0.0497	0.0780	^3+	ug/L		157	50 - 150
Pyrene	0.0497	0.0498	J	ug/L		100	50 - 150
Simazine	0.0497	0.0571		ug/L		115	50 - 150
Terbacil	0.0994	0.108		ug/L		109	50 - 150
Terbutylazine	0.0994	0.103		ug/L		103	50 - 150
Thiobencarb	0.0994	0.108	J	ug/L		109	50 - 150
trans-Nonachlor	0.0249	0.0268	J	ug/L		108	50 - 150
Trifluralin	0.0994	0.110		ug/L		111	50 - 150

# QC Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: MRL 380-57222/20-A**  
**Matrix: Water**  
**Analysis Batch: 57446**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 57222**

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	105		70 - 130
Perylene-d12	98		70 - 130
Triphenylphosphate	101		70 - 130

**Lab Sample ID: 380-64257-BS-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 57446**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 57222**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	<0.098		1.97	2.18		ug/L		110	70 - 130
2,4'-DDD	<0.098		1.97	1.81		ug/L		92	70 - 130
2,4'-DDE	<0.098		1.97	1.75		ug/L		89	70 - 130
2,4'-DDT	<0.098		1.97	1.94		ug/L		98	70 - 130
2,4-Dinitrotoluene	<0.098		1.97	1.87		ug/L		95	70 - 130
2,6-Dinitrotoluene	<0.098		1.97	1.90		ug/L		96	70 - 130
2-Methylnaphthalene	<0.098		1.97	2.22		ug/L		113	70 - 130
4,4'-DDD	<0.098		1.97	1.88		ug/L		95	70 - 130
4,4'-DDE	<0.098		1.97	1.72		ug/L		87	70 - 130
4,4'-DDT	<0.098		1.97	1.81		ug/L		92	70 - 130
Acenaphthene	<0.098		1.97	2.02		ug/L		102	70 - 130
Acenaphthylene	<0.098		1.97	1.97		ug/L		100	70 - 130
Acetochlor	<0.098		1.97	1.87		ug/L		95	70 - 130
Alachlor	<0.049		1.97	1.88		ug/L		95	70 - 130
alpha-BHC	<0.098		1.97	2.17		ug/L		110	70 - 130
alpha-Chlordane	<0.049		1.97	1.77		ug/L		90	70 - 130
Anthracene	<0.020		1.97	1.75		ug/L		88	70 - 130
Atrazine	<0.049		1.97	2.25		ug/L		114	70 - 130
Benz(a)anthracene	<0.049		1.97	1.77		ug/L		90	70 - 130
Benzo[a]pyrene	<0.020		1.97	1.80		ug/L		91	70 - 130
Benzo[b]fluoranthene	<0.020		1.97	2.01		ug/L		102	70 - 130
Benzo[g,h,i]perylene	<0.049		1.97	1.97		ug/L		100	70 - 130
Benzo[k]fluoranthene	<0.020		1.97	2.03		ug/L		103	70 - 130
beta-BHC	<0.098		1.97	2.10		ug/L		107	70 - 130
Bis(2-ethylhexyl) phthalate	<0.59		1.97	1.95		ug/L		99	70 - 130
Bromacil	<0.098		1.97	1.99		ug/L		101	70 - 130
Butachlor	<0.049		1.97	2.24		ug/L		113	70 - 130
Butylbenzylphthalate	<0.49		1.97	1.96		ug/L		100	70 - 130
Chlorobenzilate	<0.098		1.97	1.86		ug/L		95	70 - 130
Chloroneb	<0.098		1.97	2.02		ug/L		103	70 - 130
Chlorothalonil (Draconil, Bravo)	<0.098	^3+	1.97	1.84		ug/L		93	70 - 130
Chlorpyrifos	<0.049		1.97	1.88		ug/L		95	70 - 130
Chrysene	<0.020		1.97	2.06		ug/L		104	70 - 130
delta-BHC	<0.098		1.97	1.86		ug/L		94	70 - 130
Di(2-ethylhexyl)adipate	<0.59		1.97	1.92		ug/L		97	70 - 130
Dibenz(a,h)anthracene	<0.049		1.97	2.07		ug/L		105	70 - 130
Diclorvos (DDVP)	<0.049	^3+	1.97	2.23		ug/L		113	70 - 130
Dieldrin	<0.20		1.97	1.77		ug/L		90	70 - 130
Diethylphthalate	<0.49		1.97	2.31		ug/L		117	70 - 130

# QC Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: 380-64257-BS-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 57446**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 57222**

Analyte	Sample	Sample Qualifier	Spike Added	MS	MS	Unit	D	%Rec	%Rec	
	Result			Result					Qualifiers	Limits
Dimethylphthalate	<0.49		1.97	2.11		ug/L		107	70 - 130	
Di-n-butyl phthalate	<0.98		3.94	3.78		ug/L		96	70 - 130	
Di-n-octyl phthalate	<0.098		1.97	1.60		ug/L		81	70 - 130	
Endosulfan I (Alpha)	<0.098		1.97	1.83		ug/L		93	70 - 130	
Endosulfan II (Beta)	<0.098		1.97	1.92		ug/L		97	70 - 130	
Endosulfan sulfate	<0.098		1.97	1.82		ug/L		92	70 - 130	
Endrin	<0.098		1.97	1.82		ug/L		92	70 - 130	
Endrin aldehyde	<0.098	F1	1.97	0.763	F1	ug/L		39	70 - 130	
EPTC	<0.098		1.97	2.21		ug/L		112	70 - 130	
Fluoranthene	<0.098		1.97	1.90		ug/L		97	70 - 130	
Fluorene	<0.049		1.97	2.10		ug/L		106	70 - 130	
gamma-Chlordane	<0.049		1.97	1.72		ug/L		87	70 - 130	
Heptachlor	<0.039		1.97	2.17		ug/L		110	70 - 130	
Heptachlor epoxide (isomer B)	<0.049		1.97	1.78		ug/L		90	70 - 130	
Hexachlorobenzene	<0.049		1.97	2.11		ug/L		107	70 - 130	
Hexachlorocyclopentadiene	<0.049	F1	1.97	2.62	F1	ug/L		133	70 - 130	
Indeno[1,2,3-cd]pyrene	<0.049		1.97	2.04		ug/L		103	70 - 130	
Isophorone	<0.49		1.97	2.29		ug/L		116	70 - 130	
Lindane	<0.039		1.97	2.30		ug/L		116	70 - 130	
Malathion	<0.098		1.97	1.96		ug/L		99	70 - 130	
Methoxychlor	<0.098		1.97	2.10		ug/L		106	70 - 130	
Metolachlor	<0.049		1.97	2.03		ug/L		103	70 - 130	
Molinate	<0.098		1.97	2.24		ug/L		114	70 - 130	
Naphthalene	<0.29		1.97	2.17		ug/L		110	70 - 130	
Parathion	<0.098		1.97	1.92		ug/L		97	70 - 130	
Pendimethalin (Penoxaline)	<0.098		1.97	1.81		ug/L		92	70 - 130	
Phenanthrene	<0.039		1.97	1.99		ug/L		101	70 - 130	
Propachlor	<0.049	^3+	1.97	2.12		ug/L		108	70 - 130	
Pyrene	<0.049		1.97	1.92		ug/L		97	70 - 130	
Simazine	<0.049		1.97	2.24		ug/L		114	70 - 130	
Terbacil	<0.098		1.97	1.99		ug/L		101	70 - 130	
Terbutylazine	<0.098		1.97	2.14		ug/L		109	70 - 130	
Thiobencarb	<0.20		1.97	2.04		ug/L		103	70 - 130	
trans-Nonachlor	<0.049		1.97	1.70		ug/L		86	70 - 130	
Trifluralin	<0.098		1.97	2.01		ug/L		102	70 - 130	

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	106		70 - 130
Perylene-d12	91		70 - 130
Triphenylphosphate	90		70 - 130

**Lab Sample ID: 380-64257-BT-1-A MSD**  
**Matrix: Water**  
**Analysis Batch: 57446**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 57222**

Analyte	Sample	Sample Qualifier	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec		RPD	
	Result			Result					Qualifiers	Limits	RPD	Limit
1-Methylnaphthalene	<0.098		1.97	2.15		ug/L		109	70 - 130	1	20	
2,4'-DDD	<0.098		1.97	1.85		ug/L		94	70 - 130	2	20	

# QC Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: 380-64257-BT-1-A MSD**

**Client Sample ID: Matrix Spike Duplicate**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 57446**

**Prep Batch: 57222**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
2,4'-DDE	<0.098		1.97	1.83		ug/L		93	70 - 130	5	20
2,4'-DDT	<0.098		1.97	2.05		ug/L		104	70 - 130	6	20
2,4-Dinitrotoluene	<0.098		1.97	1.96		ug/L		99	70 - 130	5	20
2,6-Dinitrotoluene	<0.098		1.97	1.99		ug/L		101	70 - 130	5	20
2-Methylnaphthalene	<0.098		1.97	2.20		ug/L		111	70 - 130	1	20
4,4'-DDD	<0.098		1.97	1.96		ug/L		99	70 - 130	4	20
4,4'-DDE	<0.098		1.97	1.79		ug/L		91	70 - 130	4	20
4,4'-DDT	<0.098		1.97	1.92		ug/L		97	70 - 130	6	20
Acenaphthene	<0.098		1.97	2.01		ug/L		102	70 - 130	1	20
Acenaphthylene	<0.098		1.97	2.07		ug/L		105	70 - 130	5	20
Acetochlor	<0.098		1.97	1.98		ug/L		100	70 - 130	6	20
Alachlor	<0.049		1.97	1.94		ug/L		98	70 - 130	3	20
alpha-BHC	<0.098		1.97	2.19		ug/L		111	70 - 130	1	20
alpha-Chlordane	<0.049		1.97	1.81		ug/L		92	70 - 130	2	20
Anthracene	<0.020		1.97	1.83		ug/L		93	70 - 130	5	20
Atrazine	<0.049		1.97	2.29		ug/L		116	70 - 130	2	20
Benz(a)anthracene	<0.049		1.97	1.90		ug/L		96	70 - 130	7	20
Benzo[a]pyrene	<0.020		1.97	1.77		ug/L		90	70 - 130	2	20
Benzo[b]fluoranthene	<0.020		1.97	1.96		ug/L		99	70 - 130	3	20
Benzo[g,h,i]perylene	<0.049		1.97	1.87		ug/L		95	70 - 130	5	20
Benzo[k]fluoranthene	<0.020		1.97	1.96		ug/L		99	70 - 130	3	20
beta-BHC	<0.098		1.97	2.16		ug/L		109	70 - 130	3	20
Bis(2-ethylhexyl) phthalate	<0.59		1.97	1.94		ug/L		98	70 - 130	0	20
Bromacil	<0.098		1.97	2.11		ug/L		107	70 - 130	5	20
Butachlor	<0.049		1.97	2.27		ug/L		115	70 - 130	1	20
Butylbenzylphthalate	<0.49		1.97	2.00		ug/L		101	70 - 130	2	20
Chlorobenzilate	<0.098		1.97	1.94		ug/L		99	70 - 130	4	20
Chloroneb	<0.098		1.97	1.97		ug/L		100	70 - 130	3	20
Chlorothalonil (Draconil, Bravo)	<0.098	^3+	1.97	1.88		ug/L		95	70 - 130	3	20
Chlorpyrifos	<0.049		1.97	1.93		ug/L		98	70 - 130	3	20
Chrysene	<0.020		1.97	2.05		ug/L		104	70 - 130	0	20
delta-BHC	<0.098		1.97	1.89		ug/L		96	70 - 130	2	20
Di(2-ethylhexyl)adipate	<0.59		1.97	2.01		ug/L		102	70 - 130	5	20
Dibenz(a,h)anthracene	<0.049		1.97	1.91		ug/L		97	70 - 130	8	20
Diclorvos (DDVP)	<0.049	^3+	1.97	2.27		ug/L		115	70 - 130	2	20
Dieldrin	<0.20		1.97	1.75		ug/L		89	70 - 130	1	20
Diethylphthalate	<0.49		1.97	2.28		ug/L		116	70 - 130	1	20
Dimethylphthalate	<0.49		1.97	2.11		ug/L		107	70 - 130	0	20
Di-n-butyl phthalate	<0.98		3.95	3.89		ug/L		99	70 - 130	3	20
Di-n-octyl phthalate	<0.098		1.97	1.59		ug/L		80	70 - 130	1	20
Endosulfan I (Alpha)	<0.098		1.97	1.88		ug/L		95	70 - 130	3	20
Endosulfan II (Beta)	<0.098		1.97	1.94		ug/L		98	70 - 130	1	20
Endosulfan sulfate	<0.098		1.97	1.90		ug/L		96	70 - 130	4	20
Endrin	<0.098		1.97	1.86		ug/L		94	70 - 130	2	20
Endrin aldehyde	<0.098	F1	1.97	0.773	F1	ug/L		39	70 - 130	1	20
EPTC	<0.098		1.97	2.26		ug/L		115	70 - 130	3	20
Fluoranthene	<0.098		1.97	1.95		ug/L		99	70 - 130	2	20
Fluorene	<0.049		1.97	2.11		ug/L		107	70 - 130	1	20
gamma-Chlordane	<0.049		1.97	1.76		ug/L		89	70 - 130	2	20

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-64482-1

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

Lab Sample ID: 380-64257-BT-1-A MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 57446

Prep Batch: 57222

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
Heptachlor	<0.039		1.97	2.24		ug/L		113	70 - 130	3	20	
Heptachlor epoxide (isomer B)	<0.049		1.97	1.84		ug/L		93	70 - 130	3	20	
Hexachlorobenzene	<0.049		1.97	2.06		ug/L		104	70 - 130	2	20	
Hexachlorocyclopentadiene	<0.049	F1	1.97	2.61	F1	ug/L		132	70 - 130	1	20	
Indeno[1,2,3-cd]pyrene	<0.049		1.97	1.87		ug/L		95	70 - 130	9	20	
Isophorone	<0.49		1.97	2.29		ug/L		116	70 - 130	0	20	
Lindane	<0.039		1.97	2.29		ug/L		116	70 - 130	0	20	
Malathion	<0.098		1.97	2.02		ug/L		103	70 - 130	3	20	
Methoxychlor	<0.098		1.97	2.06		ug/L		105	70 - 130	2	20	
Metolachlor	<0.049		1.97	2.08		ug/L		105	70 - 130	2	20	
Molinate	<0.098		1.97	2.23		ug/L		113	70 - 130	0	20	
Naphthalene	<0.29		1.97	2.14		ug/L		108	70 - 130	1	20	
Parathion	<0.098		1.97	2.04		ug/L		103	70 - 130	6	20	
Pendimethalin (Penoxaline)	<0.098		1.97	1.87		ug/L		95	70 - 130	3	20	
Phenanthrene	<0.039		1.97	2.00		ug/L		101	70 - 130	1	20	
Propachlor	<0.049	^3+	1.97	2.13		ug/L		108	70 - 130	0	20	
Pyrene	<0.049		1.97	1.96		ug/L		99	70 - 130	2	20	
Simazine	<0.049		1.97	2.34		ug/L		118	70 - 130	4	20	
Terbacil	<0.098		1.97	2.13		ug/L		108	70 - 130	7	20	
Terbutylazine	<0.098		1.97	2.16		ug/L		110	70 - 130	1	20	
Thiobencarb	<0.20		1.97	2.09		ug/L		106	70 - 130	2	20	
trans-Nonachlor	<0.049		1.97	1.75		ug/L		89	70 - 130	3	20	
Trifluralin	<0.098		1.97	2.02		ug/L		102	70 - 130	0	20	
		<b>MSD</b>	<b>MSD</b>									
<b>Surrogate</b>		<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>							
2-Nitro-m-xylene		106			70 - 130							
Perylene-d12		88			70 - 130							
Triphenylphosphate		94			70 - 130							

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

Lab Sample ID: MBL 380-58208/19-A

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 59124

Prep Batch: 58208

Analyte	MBL	MBL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: MBL 380-58208/19-A**  
**Matrix: Water**  
**Analysis Batch: 59124**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 58208**

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1
Perfluorobutanoic acid (PFBA)	0.691	J B	2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		10/06/23 04:15	10/13/23 02:23	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	92		50 - 200	10/06/23 04:15	10/13/23 02:23	1
13C6 PFDA	95		50 - 200	10/06/23 04:15	10/13/23 02:23	1
13C5 PFHxA	97		50 - 200	10/06/23 04:15	10/13/23 02:23	1
13C4 PFHpA	93		50 - 200	10/06/23 04:15	10/13/23 02:23	1
13C8 PFOA	99		50 - 200	10/06/23 04:15	10/13/23 02:23	1
13C9 PFNA	101		50 - 200	10/06/23 04:15	10/13/23 02:23	1
13C7 PFUnA	86		50 - 200	10/06/23 04:15	10/13/23 02:23	1
13C2 PFDoA	92		50 - 200	10/06/23 04:15	10/13/23 02:23	1
13C4 PFBA	95		50 - 200	10/06/23 04:15	10/13/23 02:23	1
13C5 PFPeA	94		50 - 200	10/06/23 04:15	10/13/23 02:23	1
13C3 PFBS	92		50 - 200	10/06/23 04:15	10/13/23 02:23	1
13C3 PFHxS	72		50 - 200	10/06/23 04:15	10/13/23 02:23	1
13C8 PFOS	92		50 - 200	10/06/23 04:15	10/13/23 02:23	1
13C2-4:2-FTS	109		50 - 200	10/06/23 04:15	10/13/23 02:23	1
13C2-6:2-FTS	105		50 - 200	10/06/23 04:15	10/13/23 02:23	1
13C2-8:2-FTS	109		50 - 200	10/06/23 04:15	10/13/23 02:23	1

**Lab Sample ID: LCS 380-58208/21-A**  
**Matrix: Water**  
**Analysis Batch: 59124**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 58208**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	60.1	59.1		ng/L		98	70 - 130

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: LCS 380-58208/21-A**  
**Matrix: Water**  
**Analysis Batch: 59124**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 58208**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.1	62.0		ng/L		103	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.1	59.8		ng/L		99	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.1	61.0		ng/L		102	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.1	60.0		ng/L		100	70 - 130
Perfluorodecanoic acid (PFDA)	60.1	60.6		ng/L		101	70 - 130
Perfluorododecanoic acid (PFDoA)	60.1	60.2		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.1	62.6		ng/L		104	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.1	60.1		ng/L		100	70 - 130
Perfluorohexanoic acid (PFHxA)	60.1	62.6		ng/L		104	70 - 130
Perfluorononanoic acid (PFNA)	60.1	60.9		ng/L		101	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.1	61.8		ng/L		103	70 - 130
Perfluorooctanoic acid (PFOA)	60.1	61.0		ng/L		101	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.1	60.9		ng/L		101	70 - 130
Perfluorobutanoic acid (PFBA)	60.1	63.9		ng/L		106	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.1	62.0		ng/L		103	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.1	63.4		ng/L		105	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.1	61.2		ng/L		102	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.1	55.9		ng/L		93	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	60.1	57.5		ng/L		96	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.1	57.4		ng/L		96	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.1	62.2		ng/L		103	70 - 130
Perfluoropentanoic acid (PFPeA)	60.1	60.9		ng/L		101	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.1	63.4		ng/L		106	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	60.1	68.4		ng/L		114	70 - 130

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C3 HFPO-DA	88		50 - 200
13C6 PFDA	93		50 - 200
13C5 PFHxA	93		50 - 200
13C4 PFHpA	87		50 - 200
13C8 PFOA	93		50 - 200
13C9 PFNA	95		50 - 200
13C7 PFUnA	89		50 - 200
13C2 PFDoA	92		50 - 200
13C4 PFBA	93		50 - 200



# QC Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: LCS 380-58208/21-A**  
**Matrix: Water**  
**Analysis Batch: 59124**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 58208**

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C5 PFPeA	91		50 - 200
13C3 PFBS	93		50 - 200
13C3 PFHxS	82		50 - 200
13C8 PFOS	90		50 - 200
13C2-4:2-FTS	97		50 - 200
13C2-6:2-FTS	98		50 - 200
13C2-8:2-FTS	99		50 - 200

**Lab Sample ID: LCSD 380-58208/22-A**  
**Matrix: Water**  
**Analysis Batch: 59124**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 58208**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	RPD Limit
							Limits	RPD		
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.0	61.0		ng/L		102	70 - 130	3	30	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.0	62.7		ng/L		105	70 - 130	1	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.0	62.2		ng/L		104	70 - 130	4	30	
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.0	56.7		ng/L		94	70 - 130	7	30	
Perfluorobutanesulfonic acid (PFBS)	60.0	62.2		ng/L		104	70 - 130	4	30	
Perfluorodecanoic acid (PFDA)	60.0	61.8		ng/L		103	70 - 130	2	30	
Perfluorododecanoic acid (PFDoA)	60.0	62.4		ng/L		104	70 - 130	4	30	
Perfluoroheptanoic acid (PFHpA)	60.0	62.9		ng/L		105	70 - 130	1	30	
Perfluorohexanesulfonic acid (PFHxS)	60.0	62.3		ng/L		104	70 - 130	4	30	
Perfluorohexanoic acid (PFHxA)	60.0	62.0		ng/L		103	70 - 130	1	30	
Perfluorononanoic acid (PFNA)	60.0	66.1		ng/L		110	70 - 130	8	30	
Perfluorooctanesulfonic acid (PFOS)	60.0	63.8		ng/L		106	70 - 130	3	30	
Perfluorooctanoic acid (PFOA)	60.0	63.4		ng/L		106	70 - 130	4	30	
Perfluoroundecanoic acid (PFUnA)	60.0	60.3		ng/L		101	70 - 130	1	30	
Perfluorobutanoic acid (PFBA)	60.0	64.7		ng/L		108	70 - 130	1	30	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.0	68.3		ng/L		114	70 - 130	10	30	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.0	66.1		ng/L		110	70 - 130	4	30	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.0	61.1		ng/L		102	70 - 130	0	30	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.0	58.8		ng/L		98	70 - 130	5	30	
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	60.0	59.9		ng/L		100	70 - 130	4	30	
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.0	60.4		ng/L		101	70 - 130	5	30	
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.0	65.0		ng/L		108	70 - 130	4	30	

Eurofins Eaton Analytical Pomona



# QC Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: LCSD 380-58208/22-A**  
**Matrix: Water**  
**Analysis Batch: 59124**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 58208**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanoic acid (PFPeA)	60.0	65.5		ng/L		109	70 - 130	7	30
Perfluoroheptanesulfonic acid (PFHpS)	60.0	65.7		ng/L		110	70 - 130	4	30
Perfluoropentanesulfonic acid (PFPeS)	60.0	73.7		ng/L		123	70 - 130	7	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	LCSD Limits
13C3 HFPO-DA	96		50 - 200
13C6 PFDA	97		50 - 200
13C5 PFHxA	96		50 - 200
13C4 PFHpA	94		50 - 200
13C8 PFOA	95		50 - 200
13C9 PFNA	95		50 - 200
13C7 PFUnA	96		50 - 200
13C2 PFDoA	97		50 - 200
13C4 PFBA	94		50 - 200
13C5 PFPeA	91		50 - 200
13C3 PFBS	93		50 - 200
13C3 PFHxS	80		50 - 200
13C8 PFOS	92		50 - 200
13C2-4:2-FTS	95		50 - 200
13C2-6:2-FTS	95		50 - 200
13C2-8:2-FTS	95		50 - 200

**Lab Sample ID: MRL 380-58208/20-A**  
**Matrix: Water**  
**Analysis Batch: 59124**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 58208**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.11	J	ng/L		105	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.09	J	ng/L		104	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.13	J	ng/L		106	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.13	J	ng/L		107	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.23	J	ng/L		111	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.21	J	ng/L		111	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.24	J	ng/L		112	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.28	J	ng/L		114	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.11	J	ng/L		106	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.30	J	ng/L		115	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.24	J	ng/L		112	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.24	J	ng/L		112	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.45	J	ng/L		122	50 - 150

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: MRL 380-58208/20-A**  
**Matrix: Water**  
**Analysis Batch: 59124**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 58208**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.00	2.20	J	ng/L		110	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.84	J	ng/L		142	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.33	J	ng/L		116	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.40	J	ng/L		120	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.58	J	ng/L		129	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.16	J	ng/L		108	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.00	2.16	J	ng/L		108	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.02	J	ng/L		101	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	2.40	J	ng/L		120	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.30	J	ng/L		115	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.27	J	ng/L		113	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	2.84	J	ng/L		142	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	86		50 - 200
13C6 PFDA	95		50 - 200
13C5 PFHxA	98		50 - 200
13C4 PFHpA	100		50 - 200
13C8 PFOA	95		50 - 200
13C9 PFNA	101		50 - 200
13C7 PFUnA	93		50 - 200
13C2 PFDoA	94		50 - 200
13C4 PFBA	96		50 - 200
13C5 PFPeA	92		50 - 200
13C3 PFBS	95		50 - 200
13C3 PFHxS	74		50 - 200
13C8 PFOS	93		50 - 200
13C2-4:2-FTS	114		50 - 200
13C2-6:2-FTS	104		50 - 200
13C2-8:2-FTS	99		50 - 200

**Lab Sample ID: 380-64792-B-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 59124**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 58208**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		120	118		ng/L		98	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		120	129		ng/L		107	70 - 130

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: 380-64792-B-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 59124**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 58208**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		120	123		ng/L		102	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		120	119		ng/L		99	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		120	119		ng/L		99	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		120	126		ng/L		105	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		120	125		ng/L		104	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		120	121		ng/L		101	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		120	127		ng/L		105	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		120	121		ng/L		101	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		120	127		ng/L		106	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		120	129		ng/L		107	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		120	128		ng/L		107	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		120	124		ng/L		103	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0	B	120	129		ng/L		107	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		120	131		ng/L		109	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		120	128		ng/L		106	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		120	121		ng/L		100	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		120	128		ng/L		106	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		120	126		ng/L		105	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		120	124		ng/L		103	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		120	124		ng/L		103	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		120	123		ng/L		103	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		120	131		ng/L		109	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		120	145		ng/L		120	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
<sup>13</sup> C3 HFPO-DA	104		50 - 200
<sup>13</sup> C6 PFDA	95		50 - 200
<sup>13</sup> C5 PFHxA	100		50 - 200
<sup>13</sup> C4 PFHpA	99		50 - 200
<sup>13</sup> C8 PFOA	93		50 - 200
<sup>13</sup> C9 PFNA	98		50 - 200
<sup>13</sup> C7 PFUnA	91		50 - 200
<sup>13</sup> C2 PFDoA	93		50 - 200
<sup>13</sup> C4 PFBA	95		50 - 200
<sup>13</sup> C5 PFPeA	99		50 - 200
<sup>13</sup> C3 PFBS	93		50 - 200
<sup>13</sup> C3 PFHxS	84		50 - 200

# QC Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: 380-64792-B-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 59124**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 58208**

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
13C8 PFOS	91		50 - 200
13C2-4:2-FTS	99		50 - 200
13C2-6:2-FTS	98		50 - 200
13C2-8:2-FTS	92		50 - 200

**Lab Sample ID: 380-64792-C-1-A MSD**  
**Matrix: Water**  
**Analysis Batch: 59124**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 58208**

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		120	119		ng/L		99	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		120	124		ng/L		103	70 - 130	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		120	124		ng/L		103	70 - 130	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		120	120		ng/L		100	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		120	130		ng/L		108	70 - 130	9	30
Perfluorodecanoic acid (PFDA)	<2.0		120	123		ng/L		102	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	<2.0		120	124		ng/L		103	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		120	124		ng/L		103	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		120	121		ng/L		100	70 - 130	5	30
Perfluorohexanoic acid (PFHxA)	<2.0		120	120		ng/L		100	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		120	128		ng/L		106	70 - 130	0	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		120	128		ng/L		107	70 - 130	0	30
Perfluorooctanoic acid (PFOA)	<2.0		120	125		ng/L		104	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		120	123		ng/L		102	70 - 130	1	30
Perfluorobutanoic acid (PFBA)	<2.0	B	120	124		ng/L		103	70 - 130	4	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		120	130		ng/L		108	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		120	128		ng/L		107	70 - 130	1	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		120	117		ng/L		97	70 - 130	3	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		120	123		ng/L		102	70 - 130	4	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		120	128		ng/L		107	70 - 130	2	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		120	125		ng/L		104	70 - 130	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		120	125		ng/L		104	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)	<2.0		120	122		ng/L		101	70 - 130	1	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		120	133		ng/L		110	70 - 130	1	30

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-64482-1

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

**Lab Sample ID: 380-64792-C-1-A MSD**

**Client Sample ID: Matrix Spike Duplicate**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 59124**

**Prep Batch: 58208**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanesulfonic acid (PFPeS)	<2.0		120	136		ng/L		113	70 - 130	6	30

<i>Isotope Dilution</i>	<i>MSD %Recovery</i>	<i>MSD Qualifier</i>	<i>Limits</i>
13C3 HFPO-DA	102		50 - 200
13C6 PFDA	96		50 - 200
13C5 PFHxA	102		50 - 200
13C4 PFHpA	96		50 - 200
13C8 PFOA	95		50 - 200
13C9 PFNA	96		50 - 200
13C7 PFUnA	95		50 - 200
13C2 PFDoA	94		50 - 200
13C4 PFBA	97		50 - 200
13C5 PFPeA	98		50 - 200
13C3 PFBS	91		50 - 200
13C3 PFHxS	88		50 - 200
13C8 PFOS	92		50 - 200
13C2-4:2-FTS	97		50 - 200
13C2-6:2-FTS	100		50 - 200
13C2-8:2-FTS	96		50 - 200

# QC Association Summary

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

Job ID: 380-64482-1

## GC/MS Semi VOA

### Prep Batch: 57222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-64482-1	MOANALUA WELLS	Total/NA	Drinking Water	525.2	
380-64482-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	525.2	
380-64482-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	525.2	
380-64482-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	525.2	
MB 380-57222/19-A	Method Blank	Total/NA	Water	525.2	
LCS 380-57222/22-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-57222/23-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-57222/20-A	Lab Control Sample	Total/NA	Water	525.2	
380-64257-BS-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-64257-BT-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	525.2	

### Analysis Batch: 57446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-64482-1	MOANALUA WELLS	Total/NA	Drinking Water	525.2	57222
380-64482-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	525.2	57222
380-64482-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	525.2	57222
380-64482-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	525.2	57222
MB 380-57222/19-A	Method Blank	Total/NA	Water	525.2	57222
LCS 380-57222/22-A	Lab Control Sample	Total/NA	Water	525.2	57222
LCSD 380-57222/23-A	Lab Control Sample Dup	Total/NA	Water	525.2	57222
MRL 380-57222/20-A	Lab Control Sample	Total/NA	Water	525.2	57222
380-64257-BS-1-A MS	Matrix Spike	Total/NA	Water	525.2	57222
380-64257-BT-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	525.2	57222

## LCMS

### Prep Batch: 58208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-64482-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	533	
380-64482-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	533	
380-64482-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	533	
380-64482-10	FB AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	533	
380-64482-11	FB AIEA WELLS PUMPS 1&2 (260)	Total/NA	Drinking Water	533	
380-64482-12	FB HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	533	
MBL 380-58208/19-A	Method Blank	Total/NA	Water	533	
LCS 380-58208/21-A	Lab Control Sample	Total/NA	Water	533	
LCSD 380-58208/22-A	Lab Control Sample Dup	Total/NA	Water	533	
MRL 380-58208/20-A	Lab Control Sample	Total/NA	Water	533	
380-64792-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-64792-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

### Analysis Batch: 59124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-64482-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	533	58208
380-64482-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	533	58208
380-64482-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	533	58208
380-64482-10	FB AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	533	58208
380-64482-11	FB AIEA WELLS PUMPS 1&2 (260)	Total/NA	Drinking Water	533	58208
380-64482-12	FB HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	533	58208
MBL 380-58208/19-A	Method Blank	Total/NA	Water	533	58208
LCS 380-58208/21-A	Lab Control Sample	Total/NA	Water	533	58208

Eurofins Eaton Analytical Pomona

# QC Association Summary

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

Job ID: 380-64482-1

## LCMS (Continued)

### Analysis Batch: 59124 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 380-58208/22-A	Lab Control Sample Dup	Total/NA	Water	533	58208
MRL 380-58208/20-A	Lab Control Sample	Total/NA	Water	533	58208
380-64792-B-1-A MS	Matrix Spike	Total/NA	Water	533	58208
380-64792-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	58208

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



# Lab Chronicle

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

Job ID: 380-64482-1

## Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-64482-1

Date Collected: 09/25/23 09:57

Matrix: Drinking Water

Date Received: 09/27/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			57222	OTM3	EA POM	09/28/23 10:55
Total/NA	Analysis	525.2		1	57446	Q8LA	EA POM	09/29/23 19:55

## Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-64482-2

Date Collected: 09/25/23 11:09

Matrix: Drinking Water

Date Received: 09/27/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			57222	OTM3	EA POM	09/28/23 10:55
Total/NA	Analysis	525.2		1	57446	Q8LA	EA POM	09/29/23 20:15
Total/NA	Prep	533			58208	XTD8	EA POM	10/06/23 04:15
Total/NA	Analysis	533		1	59124	SZ9R	EA POM	10/13/23 04:40

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

Lab Sample ID: 380-64482-3

Date Collected: 09/25/23 11:41

Matrix: Drinking Water

Date Received: 09/27/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			57222	OTM3	EA POM	09/28/23 12:30
Total/NA	Analysis	525.2		1	57446	Q8LA	EA POM	09/29/23 20:36
Total/NA	Prep	533			58208	XTD8	EA POM	10/06/23 04:15
Total/NA	Analysis	533		1	59124	SZ9R	EA POM	10/13/23 04:50

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

Lab Sample ID: 380-64482-4

Date Collected: 09/25/23 10:36

Matrix: Drinking Water

Date Received: 09/27/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			57222	OTM3	EA POM	09/28/23 12:30
Total/NA	Analysis	525.2		1	57446	Q8LA	EA POM	09/29/23 20:56
Total/NA	Prep	533			58208	XTD8	EA POM	10/06/23 04:15
Total/NA	Analysis	533		1	59124	SZ9R	EA POM	10/13/23 05:10

## Client Sample ID: FB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-64482-10

Date Collected: 09/25/23 11:09

Matrix: Drinking Water

Date Received: 09/27/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			58208	XTD8	EA POM	10/06/23 04:15
Total/NA	Analysis	533		1	59124	SZ9R	EA POM	10/13/23 05:31

# Lab Chronicle

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

Job ID: 380-64482-1

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

**Lab Sample ID: 380-64482-11**

Date Collected: 09/25/23 11:41

Matrix: Drinking Water

Date Received: 09/27/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			58208	XTD8	EA POM	10/06/23 04:15
Total/NA	Analysis	533		1	59124	SZ9R	EA POM	10/13/23 05:41

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

**Lab Sample ID: 380-64482-12**

Date Collected: 09/25/23 10:36

Matrix: Drinking Water

Date Received: 09/27/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			58208	XTD8	EA POM	10/06/23 04:15
Total/NA	Analysis	533		1	59124	SZ9R	EA POM	10/13/23 05:50

**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: 380-64482-1

## 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: 380-64482-1

## Laboratory: Eurofins Eaton Analytical Pomona (Continued)

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

Authority	Program	Identification Number	Expiration Date
-----------	---------	-----------------------	-----------------

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

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

# Method Summary

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

Job ID: 380-64482-1

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
525.2	Extraction of Semivolatile Compounds	EPA	EA POM
533	Extraction of Perfluorinated and Polyfluorinated 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

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

# Sample Summary

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

Job ID: 380-64482-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-64482-1	MOANALUA WELLS	Drinking Water	09/25/23 09:57	09/27/23 10:30	HI0000331
380-64482-2	AIEA GULCH WELLS PUMP 2	Drinking Water	09/25/23 11:09	09/27/23 10:30	HI0000331
380-64482-3	AIEA WELLS PUMPS 1&2 (260) P2	Drinking Water	09/25/23 11:41	09/27/23 10:30	HI0000331
380-64482-4	HALAWA WELLS UNITS 1 & 2 P1	Drinking Water	09/25/23 10:36	09/27/23 10:30	HI0000331
380-64482-10	FB AIEA GULCH WELLS PUMP 2	Drinking Water	09/25/23 11:09	09/27/23 10:30	
380-64482-11	FB AIEA WELLS PUMPS 1&2 (260)	Drinking Water	09/25/23 11:41	09/27/23 10:30	
380-64482-12	FB HALAWA WELLS UNITS 1 & 2 P1	Drinking Water	09/25/23 10:36	09/27/23 10:30	


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

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

### Chain of Custody Record

eurofins  
 Environmental Testing  
 / Air, Soil, Water

Client Information		Lab PM		Sampler		Camera Tracking No(s)		COC No		
Client Contact: Dr. Ron Fenstermacher 630 South Beretania Street, Chemistry Lab Honolulu, HI, 96843 Phone: 808-748-5091 (tel) Email: rfenstermacher@hbws.org Project Name: RED-HILL/HBWS sites Event Desc RUSH Weekly Red Hill Site Project #: 38001111 SSOW#:		Arada, Rachelle E-Mail: Rachelle.Arada@et.eurofins.com		BAILEY Phone: 808-748-5840		State of Origin		380-27941-2757 2 Page 1 of 2 Job #		
City & County of Honolulu		PWSID		Analysis Requested		Total Number of Containers		Preservation Codes:		
Due Date Requested TAT Requested (days) Compliance Project PO # WOC #		SUBCONTRACT - 825 PAH Physis LL (EAL) + TICS SUBCONTRACT - 8015 Gas (Purgable) LL (EAL) SUBCONTRACT - 8915 Diesel LL (EAL) and Motor Oil SUBCONTRACT - (MOD) 529plus PLUS TICS SUBCONTRACT - 8015 Gas (Purgable) LL (EAL) SUBCONTRACT - 8015 Gas (Purgable) LL (EAL)		RA Y N RA Y N RA Y N RA Y N RA Y N		537 1_DM_PRC - 537 1 Full List 533 - All Analytes		M - Hexane N - None O - As/FeO2 P - Na2OAS Q - Nitric Acid R - Na2SO3 S - H2SO4 G - Arsenic H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:		
Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	RA	Y	N	Special Instructions/Note:
MOANALUA WELLS	25-Sep-2023	0957 G	Water	Water	X	X	2	2	4	
AIEA GULCH WELLS PUMP2	25-Sep-2023	1109 G	Water	Water	X	X	2	2	4	
AIEA WELLS PUMPS 1&2 (260) P2	25-Sep-2023	1141 G	Water	Water	X	X	2	2	4	
HALAWA WELLS UNITS 1&2 P1	25-Sep-2023	1036 G	Water	Water	X	X	2	2	4	
TB MOANALUA WELLS	25-Sep-2023	0957	Water	Water					2	
TB AIEA GULCH WELLS PUMP2	25-Sep-2023	1109	Water	Water					2	
TB AIEA WELLS PUMPS 1&2 (260)	25-Sep-2023	1141	Water	Water					2	
TB HALAWA WELLS UNITS 1&2	25-Sep-2023	1036	Water	Water					2	



380-64482 COC

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months  
 Special Instructions/QC Requirements  
 Method of Shipment: FedEx 3 7735 4825 4498  
 7735 4825 4498  
 7735 4825 4487

Reinquired by: BAILEY	Date/Time: 26 Sep 2023 1400	Company: HBWS
Reinquired by:	Date/Time:	Company:
Reinquired by:	Date/Time:	Company:

Custody Seals Intact:  Yes  No  
 Cooler Temperature(s) °C and Other Remarks  
 1.5° @ 1.5-1.4° @ 1.7-2.0° @ 1.6-1.6-1.9. COC-17-2023





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

**Chain of Custody Record**

eurofins  
 Environmental Testing Inc.  
 4100 S. G St.

Client Information		Lab PM		Carrier Tracking No(s)		COC No	
Dr. Ron Fenstermacher		Arada, Rachelle		380-27941-2757 2		380-27941-2757 2	
City & County of Honolulu		E-Mail: Rachelle.Arada@et.euronisus.com		State of Origin		Page 2 of 2	
Address: 630 South Beretania Street, Chemistry Lab		PWSID		Job #		Preservation Codes	
City: Honolulu		Due Date Requested		Analysis Requested		M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Nitric Acid R - NaHSO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)	
State Zip: HI, 96843		TAT Requested (days)		533 - All Analytes		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other	
Phone: 808-748-5091 (tel)		Compliance Project Δ No		525 2.PREC - (MOD) 525plus PLUS TICS		Total Number of containers	
Email: Fenstermacher@hbws.org		PO # C20525101 exp 05312023		SUBCONTRACT - 8915 Diesel LL (EAL) and Motor Oil		Special Instructions/Note:	
Project Name: RED-HILL/HBWS sites Event Desc. RUSH Weekly Red Hill		WO #		SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)			
Site		Project # 38001111		SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) + TICS			
		SSOW#		Perform MS/MSD (Yes or No)			
		Sample Date		Field Filtered Sample (Yes or No)			
		Sample Time		537 1.DW.PREC - 537 1 Full List			
		Sample Type (C=Comp, G=grab)		RA Y N			
		Preservation Code		RA Y N			
		Matrix (W=water, S=solid, G=water, A=air)		RA Y N			
MOANALUA WELLS		25-Sep-2023 0957 G		3 3			
AIEA GULCH WELLS PUMP2		25-Sep-2023 1109 G		3 3			
AIEA WELLS PUMPS 1&2 (260) PZ		25-Sep-2023 1141 G		3 3			
HALAWA WELLS UNITS 1&2 P1		25-Sep-2023 1036 G		3 3			
FB MOANALUA WELLS		25-Sep-2023 0857		1 1			
FB AIEA GULCH WELLS PUMP2		25-Sep-2023 1109		1 1			
FB AIEA WELLS PUMPS 1&2 (260)		25-Sep-2023 1141		1 1			
FB HALAWA WELLS UNITS 1&2		25-Sep-2023 1036		1 1			

Possible Hazard Identification		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
Deliverable Requested I, II, III, IV Other (specify)		<input type="checkbox"/> Unknown	<input type="checkbox"/> Radiological
Empty Kit Relinquished by		Date	
Relinquished by BAILEY		26-Sep-2023	
Relinquished by		Date/Time	
Relinquished by		Date/Time	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No	

Special Instructions/QC Requirements		Method of Shipment	
Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Monifis		FEDEX 3 4825 4825 4498	
Received by		Date/Time	
Received by		Date/Time	
Received by		Date/Time	
Cooler Temperature(s) °C and Other Remarks		Cooler Temperature(s) °C and Other Remarks	
0.5°-0.1-1.4 @17°-0.1-1.6 @20°-0.1-1.9 66L-FRIGEN			



# Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-64482-1

**Login Number: 64482**  
**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	