

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 12/12/2024 11:21:42 AM

JOB DESCRIPTION

RED-HILL
Weekly

JOB NUMBER

380-123519-1

Eurofins Eaton Analytical Pomona

Job Notes

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

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

Compliance Statement

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

Authorization



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Authorized for release by
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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	14
Surrogate Summary	15
Isotope Dilution Summary	17
QC Sample Results	18
QC Association Summary	51
Lab Chronicle	54
Certification Summary	55
Method Summary	57
Sample Summary	58
Chain of Custody	59
Receipt Checklists	64

Definitions/Glossary

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

Job ID: 380-123519-1
SDG: Weekly

Qualifiers

GC/MS Semi VOA

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

GC/MS Semi VOA TICs

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

LCMS

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

Glossary

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

Case Narrative

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

Job ID: 380-123519-1

Job ID: 380-123519-1

Eurofins Eaton Analytical Pomona

Job Narrative 380-123519-1

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 and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided 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 11/22/2024 9:43 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.3°C and 2.1°C.

GC/MS Semi VOA

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

Gasoline Range Organics

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

Diesel Range Organics

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

Organic Prep

Method 537.1 DW: The following sample spilled during extraction due to line detaching: FB: HALAWA SHAFT VIEW POOL (380-123519-4)

PFAS

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

Detection Summary

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

Job ID: 380-123519-1
SDG: Weekly

Client Sample ID: HALAWA SHAFT VIEW POOL

Lab Sample ID: 380-123519-1

No Detections.

Client Sample ID: TB: HALAWA SHAFT VIEW POOL

Lab Sample ID: 380-123519-2

No Detections.

Client Sample ID: HALAWA SHAFT VIEW POOL

Lab Sample ID: 380-123519-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	3.5		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.6		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.8		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.0		2.0	ng/L	1		537.1	Total/NA

Client Sample ID: FB: HALAWA SHAFT VIEW POOL

Lab Sample ID: 380-123519-4

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: 380-123519-1
SDG: Weekly

Client Sample ID: HALAWA SHAFT VIEW POOL

Lab Sample ID: 380-123519-1

Date Collected: 11/19/24 10:00

Matrix: Water

Date Received: 11/22/24 09:43

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		11/25/24 10:43	11/26/24 18:40	1
2,4'-DDD	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
2,4'-DDE	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
2,4'-DDT	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
2,4-Dinitrotoluene	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
2,6-Dinitrotoluene	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
2-Methylnaphthalene	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
4,4'-DDD	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
4,4'-DDE	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
4,4'-DDT	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Acenaphthene	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Acenaphthylene	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Acetochlor	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Alachlor	<0.048		0.048	ug/L		11/25/24 10:43	11/26/24 18:40	1
alpha-BHC	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
alpha-Chlordane	<0.048		0.048	ug/L		11/25/24 10:43	11/26/24 18:40	1
Anthracene	<0.019		0.019	ug/L		11/25/24 10:43	11/26/24 18:40	1
Atrazine	<0.048		0.048	ug/L		11/25/24 10:43	11/26/24 18:40	1
Benz(a)anthracene	<0.048		0.048	ug/L		11/25/24 10:43	11/26/24 18:40	1
Benzo[a]pyrene	<0.019		0.019	ug/L		11/25/24 10:43	11/26/24 18:40	1
Benzo[b]fluoranthene	<0.019		0.019	ug/L		11/25/24 10:43	11/26/24 18:40	1
Benzo[g,h,i]perylene	<0.048		0.048	ug/L		11/25/24 10:43	11/26/24 18:40	1
Benzo[k]fluoranthene	<0.019		0.019	ug/L		11/25/24 10:43	11/26/24 18:40	1
beta-BHC	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58	ug/L		11/25/24 10:43	11/26/24 18:40	1
Bromacil	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Butachlor	<0.048		0.048	ug/L		11/25/24 10:43	11/26/24 18:40	1
Butylbenzylphthalate	<0.48		0.48	ug/L		11/25/24 10:43	11/26/24 18:40	1
Chlorobenzilate	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Chloroneb	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Chlorothalonil (Draconil, Bravo)	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Chlorpyrifos	<0.048		0.048	ug/L		11/25/24 10:43	11/26/24 18:40	1
Chrysene	<0.019		0.019	ug/L		11/25/24 10:43	11/26/24 18:40	1
delta-BHC	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Di(2-ethylhexyl)adipate	<0.58		0.58	ug/L		11/25/24 10:43	11/26/24 18:40	1
Dibenz(a,h)anthracene	<0.048		0.048	ug/L		11/25/24 10:43	11/26/24 18:40	1
Diclorvos (DDVP)	<0.048		0.048	ug/L		11/25/24 10:43	11/26/24 18:40	1
Dieldrin	<0.0097		0.0097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Diethylphthalate	<0.48		0.48	ug/L		11/25/24 10:43	11/26/24 18:40	1
Dimethylphthalate	<0.48		0.48	ug/L		11/25/24 10:43	11/26/24 18:40	1
Di-n-butyl phthalate	<0.97		0.97	ug/L		11/25/24 10:43	11/26/24 18:40	1
Di-n-octyl phthalate	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Endosulfan I (Alpha)	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Endosulfan II (Beta)	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Endosulfan sulfate	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Endrin	<0.0097		0.0097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Endrin aldehyde	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
EPTC	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Fluoranthene	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1

Client Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

Client Sample ID: HALAWA SHAFT VIEW POOL

Lab Sample ID: 380-123519-1

Date Collected: 11/19/24 10:00

Matrix: Water

Date Received: 11/22/24 09:43

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	<0.048		0.048	ug/L		11/25/24 10:43	11/26/24 18:40	1
gamma-Chlordane	<0.048		0.048	ug/L		11/25/24 10:43	11/26/24 18:40	1
Heptachlor	<0.0097		0.0097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Heptachlor epoxide (isomer B)	<0.0097		0.0097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Hexachlorobenzene	<0.048		0.048	ug/L		11/25/24 10:43	11/26/24 18:40	1
Hexachlorocyclopentadiene	<0.048		0.048	ug/L		11/25/24 10:43	11/26/24 18:40	1
Indeno[1,2,3-cd]pyrene	<0.048		0.048	ug/L		11/25/24 10:43	11/26/24 18:40	1
Isophorone	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Lindane	<0.0097		0.0097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Malathion	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Methoxychlor	<0.048		0.048	ug/L		11/25/24 10:43	11/26/24 18:40	1
Metolachlor	<0.048		0.048	ug/L		11/25/24 10:43	11/26/24 18:40	1
Molinate	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Naphthalene	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Parathion	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Pendimethalin (Penoxaline)	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Phenanthrene	<0.039		0.039	ug/L		11/25/24 10:43	11/26/24 18:40	1
Propachlor	<0.048		0.048	ug/L		11/25/24 10:43	11/26/24 18:40	1
Pyrene	<0.048		0.048	ug/L		11/25/24 10:43	11/26/24 18:40	1
Simazine	<0.048		0.048	ug/L		11/25/24 10:43	11/26/24 18:40	1
Terbacil	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Terbutylazine	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Thiobencarb	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1
Total Permethrin (mixed isomers)	<0.19		0.19	ug/L		11/25/24 10:43	11/26/24 18:40	1
trans-Nonachlor	<0.048		0.048	ug/L		11/25/24 10:43	11/26/24 18:40	1
Trifluralin	<0.097		0.097	ug/L		11/25/24 10:43	11/26/24 18:40	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	11/25/24 10:43	11/26/24 18:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	99		70 - 130	11/25/24 10:43	11/26/24 18:40	1
Perylene-d12	90		70 - 130	11/25/24 10:43	11/26/24 18:40	1
Triphenylphosphate	99		70 - 130	11/25/24 10:43	11/26/24 18:40	1

Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.19		0.19	ug/L		11/25/24 06:08	12/06/24 14:43	1
2-Methylnaphthalene	<0.19		0.19	ug/L		11/25/24 06:08	12/06/24 14:43	1
Acenaphthene	<0.19		0.19	ug/L		11/25/24 06:08	12/06/24 14:43	1
Acenaphthylene	<0.19		0.19	ug/L		11/25/24 06:08	12/06/24 14:43	1
Anthracene	<0.19		0.19	ug/L		11/25/24 06:08	12/06/24 14:43	1
Benzo[a]anthracene	<0.19		0.19	ug/L		11/25/24 06:08	12/06/24 14:43	1
Benzo[a]pyrene	<0.19		0.19	ug/L		11/25/24 06:08	12/06/24 14:43	1
Benzo[b]fluoranthene	<0.19		0.19	ug/L		11/25/24 06:08	12/06/24 14:43	1
Benzo[g,h,i]perylene	<0.19		0.19	ug/L		11/25/24 06:08	12/06/24 14:43	1
Benzo[k]fluoranthene	<0.19		0.19	ug/L		11/25/24 06:08	12/06/24 14:43	1
Chrysene	<0.19		0.19	ug/L		11/25/24 06:08	12/06/24 14:43	1
Dibenz(a,h)anthracene	<0.19		0.19	ug/L		11/25/24 06:08	12/06/24 14:43	1
Fluoranthene	<0.19		0.19	ug/L		11/25/24 06:08	12/06/24 14:43	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

Client Sample ID: HALAWA SHAFT VIEW POOL

Lab Sample ID: 380-123519-1

Date Collected: 11/19/24 10:00

Matrix: Water

Date Received: 11/22/24 09:43

Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	<0.19		0.19	ug/L		11/25/24 06:08	12/06/24 14:43	1
Indeno[1,2,3-cd]pyrene	<0.19		0.19	ug/L		11/25/24 06:08	12/06/24 14:43	1
Naphthalene	<0.19		0.19	ug/L		11/25/24 06:08	12/06/24 14:43	1
Phenanthrene	<0.19		0.19	ug/L		11/25/24 06:08	12/06/24 14:43	1
Pyrene	<0.19		0.19	ug/L		11/25/24 06:08	12/06/24 14:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	81		28 - 127	11/25/24 06:08	12/06/24 14:43	1
2-Fluorobiphenyl (Surr)	77		31 - 120	11/25/24 06:08	12/06/24 14:43	1
2-Fluorophenol (Surr)	55		17 - 120	11/25/24 06:08	12/06/24 14:43	1
Nitrobenzene-d5 (Surr)	83		27 - 120	11/25/24 06:08	12/06/24 14:43	1
Phenol-d6 (Surr)	35		10 - 120	11/25/24 06:08	12/06/24 14:43	1
p-Terphenyl-d14 (Surr)	85		45 - 120	11/25/24 06:08	12/06/24 14:43	1

Method: EPA 625.1 - Semivolatile Organic Compounds (GC/MS)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Methylene Chloride	22	T J N	ug/L		1.51	75-09-2	11/25/24 06:08	12/11/24 12:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	69		33 - 139	11/25/24 06:08	12/11/24 12:08	1
2-Fluorobiphenyl (Surr)	86		33 - 126	11/25/24 06:08	12/11/24 12:08	1
2-Fluorophenol (Surr)	49		12 - 120	11/25/24 06:08	12/11/24 12:08	1
Nitrobenzene-d5 (Surr)	82		36 - 120	11/25/24 06:08	12/11/24 12:08	1
Phenol-d6 (Surr)	28		10 - 120	11/25/24 06:08	12/11/24 12:08	1
p-Terphenyl-d14 (Surr)	82		47 - 131	11/25/24 06:08	12/11/24 12:08	1

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			11/29/24 18:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		38 - 134		11/29/24 18:19	1

Method: SW846 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (C10-C24)	<27		27	ug/L		11/26/24 17:51	11/29/24 15:34	1
Motor Oil Range Organics [C24-C36]	<27		27	ug/L		11/26/24 17:51	11/29/24 15:34	1
C8-C18	<27		27	ug/L		11/26/24 17:51	11/29/24 15:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane (Surr)	69		60 - 130	11/26/24 17:51	11/29/24 15:34	1

Client Sample ID: TB: HALAWA SHAFT VIEW POOL

Lab Sample ID: 380-123519-2

Date Collected: 11/19/24 10:00

Matrix: Water

Date Received: 11/22/24 09:43

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			11/29/24 16:09	1

Client Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

Client Sample ID: TB: HALAWA SHAFT VIEW POOL

Lab Sample ID: 380-123519-2

Date Collected: 11/19/24 10:00

Matrix: Water

Date Received: 11/22/24 09:43

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		38 - 134		11/29/24 16:09	1

Client Sample ID: HALAWA SHAFT VIEW POOL

Lab Sample ID: 380-123519-3

Date Collected: 11/19/24 10:00

Matrix: Water

Date Received: 11/22/24 09:43

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	-	11/24/24 18:39	11/25/24 15:32	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L	-	11/24/24 18:39	11/25/24 15:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L	-	11/24/24 18:39	11/25/24 15:32	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L	-	11/24/24 18:39	11/25/24 15:32	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L	-	11/24/24 18:39	11/25/24 15:32	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L	-	11/24/24 18:39	11/25/24 15:32	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L	-	11/24/24 18:39	11/25/24 15:32	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L	-	11/24/24 18:39	11/25/24 15:32	1
Perfluorohexanesulfonic acid (PFHxS)	3.5		2.0	ng/L	-	11/24/24 18:39	11/25/24 15:32	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L	-	11/24/24 18:39	11/25/24 15:32	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L	-	11/24/24 18:39	11/25/24 15:32	1
Perfluorooctanesulfonic acid (PFOS)	3.6		2.0	ng/L	-	11/24/24 18:39	11/25/24 15:32	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L	-	11/24/24 18:39	11/25/24 15:32	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L	-	11/24/24 18:39	11/25/24 15:32	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L	-	11/24/24 18:39	11/25/24 15:32	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L	-	11/24/24 18:39	11/25/24 15:32	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L	-	11/24/24 18:39	11/25/24 15:32	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L	-	11/24/24 18:39	11/25/24 15:32	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L	-	11/24/24 18:39	11/25/24 15:32	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L	-	11/24/24 18:39	11/25/24 15:32	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L	-	11/24/24 18:39	11/25/24 15:32	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L	-	11/24/24 18:39	11/25/24 15:32	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L	-	11/24/24 18:39	11/25/24 15:32	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L	-	11/24/24 18:39	11/25/24 15:32	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L	-	11/24/24 18:39	11/25/24 15:32	1
Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
13C3 HFPO-DA	96		50 - 200	11/24/24 18:39	11/25/24 15:32	1		
13C6 PFDA	90		50 - 200	11/24/24 18:39	11/25/24 15:32	1		
13C5 PFHxA	98		50 - 200	11/24/24 18:39	11/25/24 15:32	1		
13C4 PFHpA	95		50 - 200	11/24/24 18:39	11/25/24 15:32	1		
13C8 PFOA	94		50 - 200	11/24/24 18:39	11/25/24 15:32	1		

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

Client Sample ID: HALAWA SHAFT VIEW POOL

Lab Sample ID: 380-123519-3

Date Collected: 11/19/24 10:00

Matrix: Water

Date Received: 11/22/24 09:43

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C9 PFNA	88		50 - 200	11/24/24 18:39	11/25/24 15:32	1
13C7 PFUnA	95		50 - 200	11/24/24 18:39	11/25/24 15:32	1
13C2 PFDoA	99		50 - 200	11/24/24 18:39	11/25/24 15:32	1
13C4 PFBA	100		50 - 200	11/24/24 18:39	11/25/24 15:32	1
13C5 PFPeA	105		50 - 200	11/24/24 18:39	11/25/24 15:32	1
13C3 PFBS	107		50 - 200	11/24/24 18:39	11/25/24 15:32	1
13C3 PFHxS	107		50 - 200	11/24/24 18:39	11/25/24 15:32	1
13C8 PFOS	107		50 - 200	11/24/24 18:39	11/25/24 15:32	1
13C2-4:2-FTS	146		50 - 200	11/24/24 18:39	11/25/24 15:32	1
13C2-6:2-FTS	131		50 - 200	11/24/24 18:39	11/25/24 15:32	1
13C2-8:2-FTS	119		50 - 200	11/24/24 18:39	11/25/24 15:32	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		11/25/24 12:00	11/26/24 11:46	1
Perfluorooctanesulfonic acid (PFOS)	3.8		2.0	ng/L		11/25/24 12:00	11/26/24 11:46	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		11/25/24 12:00	11/26/24 11:46	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		11/25/24 12:00	11/26/24 11:46	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		11/25/24 12:00	11/26/24 11:46	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		11/25/24 12:00	11/26/24 11:46	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		11/25/24 12:00	11/26/24 11:46	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		11/25/24 12:00	11/26/24 11:46	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		11/25/24 12:00	11/26/24 11:46	1
Perfluorohexanesulfonic acid (PFHxS)	4.0		2.0	ng/L		11/25/24 12:00	11/26/24 11:46	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		11/25/24 12:00	11/26/24 11:46	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		11/25/24 12:00	11/26/24 11:46	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		11/25/24 12:00	11/26/24 11:46	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		11/25/24 12:00	11/26/24 11:46	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		11/25/24 12:00	11/26/24 11:46	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		11/25/24 12:00	11/26/24 11:46	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		11/25/24 12:00	11/26/24 11:46	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		11/25/24 12:00	11/26/24 11:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	114		70 - 130	11/25/24 12:00	11/26/24 11:46	1
13C2 PFHxA	120		70 - 130	11/25/24 12:00	11/26/24 11:46	1
13C2 PFDA	118		70 - 130	11/25/24 12:00	11/26/24 11:46	1
13C3-GenX	115		70 - 130	11/25/24 12:00	11/26/24 11:46	1

Client Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

Client Sample ID: FB: HALAWA SHAFT VIEW POOL

Lab Sample ID: 380-123519-4

Date Collected: 11/19/24 10:00

Matrix: Water

Date Received: 11/22/24 09:43

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		11/26/24 06:39	11/26/24 22:54	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		11/26/24 06:39	11/26/24 22:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		11/26/24 06:39	11/26/24 22:54	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		11/26/24 06:39	11/26/24 22:54	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		11/26/24 06:39	11/26/24 22:54	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		11/26/24 06:39	11/26/24 22:54	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		11/26/24 06:39	11/26/24 22:54	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		11/26/24 06:39	11/26/24 22:54	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		11/26/24 06:39	11/26/24 22:54	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		11/26/24 06:39	11/26/24 22:54	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		11/26/24 06:39	11/26/24 22:54	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		11/26/24 06:39	11/26/24 22:54	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		11/26/24 06:39	11/26/24 22:54	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		11/26/24 06:39	11/26/24 22:54	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		11/26/24 06:39	11/26/24 22:54	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		11/26/24 06:39	11/26/24 22:54	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		11/26/24 06:39	11/26/24 22:54	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		11/26/24 06:39	11/26/24 22:54	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		11/26/24 06:39	11/26/24 22:54	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		11/26/24 06:39	11/26/24 22:54	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		11/26/24 06:39	11/26/24 22:54	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		11/26/24 06:39	11/26/24 22:54	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		11/26/24 06:39	11/26/24 22:54	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		11/26/24 06:39	11/26/24 22:54	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		11/26/24 06:39	11/26/24 22:54	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	79		50 - 200	11/26/24 06:39	11/26/24 22:54	1
13C6 PFDA	91		50 - 200	11/26/24 06:39	11/26/24 22:54	1
13C5 PFHxA	90		50 - 200	11/26/24 06:39	11/26/24 22:54	1
13C4 PFHpA	96		50 - 200	11/26/24 06:39	11/26/24 22:54	1
13C8 PFOA	96		50 - 200	11/26/24 06:39	11/26/24 22:54	1
13C9 PFNA	92		50 - 200	11/26/24 06:39	11/26/24 22:54	1
13C7 PFUnA	92		50 - 200	11/26/24 06:39	11/26/24 22:54	1
13C2 PFDoA	92		50 - 200	11/26/24 06:39	11/26/24 22:54	1
13C4 PFBA	95		50 - 200	11/26/24 06:39	11/26/24 22:54	1
13C5 PFPeA	97		50 - 200	11/26/24 06:39	11/26/24 22:54	1
13C3 PFBS	116		50 - 200	11/26/24 06:39	11/26/24 22:54	1
13C3 PFHxS	116		50 - 200	11/26/24 06:39	11/26/24 22:54	1
13C8 PFOS	115		50 - 200	11/26/24 06:39	11/26/24 22:54	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

Client Sample ID: FB: HALAWA SHAFT VIEW POOL

Lab Sample ID: 380-123519-4

Date Collected: 11/19/24 10:00

Matrix: Water

Date Received: 11/22/24 09:43

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	117		50 - 200	11/26/24 06:39	11/26/24 22:54	1
13C2-6:2-FTS	112		50 - 200	11/26/24 06:39	11/26/24 22:54	1
13C2-8:2-FTS	95		50 - 200	11/26/24 06:39	11/26/24 22:54	1

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Action Limit Summary

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

Job ID: 380-123519-1
SDG: Weekly

Client Sample ID: HALAWA SHAFT VIEW POOL

Lab Sample ID: 380-123519-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Alachlor	<0.048		ug/L	2	0.048	525.2	Total/NA
Atrazine	<0.048		ug/L	3	0.048	525.2	Total/NA
Benzo[a]pyrene	<0.019		ug/L	0.2	0.019	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.58		ug/L	6	0.58	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.58		ug/L	400	0.58	525.2	Total/NA
Endrin	<0.0097		ug/L	2	0.0097	525.2	Total/NA
Heptachlor	<0.0097		ug/L	0.4	0.0097	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.0097		ug/L	0.2	0.0097	525.2	Total/NA
Hexachlorobenzene	<0.048		ug/L	1	0.048	525.2	Total/NA
Hexachlorocyclopentadiene	<0.048		ug/L	50	0.048	525.2	Total/NA
Lindane	<0.0097		ug/L	0.2	0.0097	525.2	Total/NA
Methoxychlor	<0.048		ug/L	40	0.048	525.2	Total/NA
Simazine	<0.048		ug/L	4	0.048	525.2	Total/NA
Benzo[a]pyrene	<0.19		ug/L	0.2	0.19	625.1 SIM	Total/NA

Client Sample ID: HALAWA SHAFT VIEW POOL

Lab Sample ID: 380-123519-3

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.5		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.6		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.8		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.0		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Client Sample ID: FB: HALAWA SHAFT VIEW POOL

Lab Sample ID: 380-123519-4

Compliance Check

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

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

Eurofins Eaton Analytical Pomona

Surrogate Summary

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

Job ID: 380-123519-1
SDG: Weekly

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	PRY (70-130)	TPP (70-130)
380-123519-1	HALAWA SHAFT VIEW POOL	99	90	99
380-123576-G-1-B MSD	Matrix Spike Duplicate	100	98	106
380-123576-H-1-A MS	Matrix Spike	98	98	105
LCS 380-120635/23-A	Lab Control Sample	99	96	104
MB 380-120635/21-A	Method Blank	99	99	103
MRL 380-120635/22-A	Lab Control Sample	98	85	104

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

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (33-139)	FBP (33-126)	2FP (12-120)	NBZ (36-120)	PHL6 (10-120)	TPHD14 (47-131)
380-123519-1	HALAWA SHAFT VIEW POOL	69	86	49	82	28	82
MB 570-507118/1-A	Method Blank	60	79	45	77	25	77

Surrogate Legend
 TBP = 2,4,6-Tribromophenol (Surr)
 FBP = 2-Fluorobiphenyl (Surr)
 2FP = 2-Fluorophenol (Surr)
 NBZ = Nitrobenzene-d5 (Surr)
 PHL6 = Phenol-d6 (Surr)
 TPHd14 = p-Terphenyl-d14 (Surr)

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (28-127)	FBP (31-120)	2FP (17-120)	NBZ (27-120)	PHL6 (10-120)	TPHD14 (45-120)
380-123519-1	HALAWA SHAFT VIEW POOL	81	77	55	83	35	85
380-123576-A-1-B MS	Matrix Spike	87	80	57	73	37	87
380-123576-A-1-C MSD	Matrix Spike Duplicate	81	74	53	68	37	86
LCS 570-507118/2-A	Lab Control Sample	84	77	61	70	43	81
LCSD 570-507118/3-A	Lab Control Sample Dup	75	68	54	64	38	74
MB 570-507118/1-A	Method Blank	69	72	54	82	34	80

Surrogate Legend
 TBP = 2,4,6-Tribromophenol (Surr)
 FBP = 2-Fluorobiphenyl (Surr)
 2FP = 2-Fluorophenol (Surr)
 NBZ = Nitrobenzene-d5 (Surr)
 PHL6 = Phenol-d6 (Surr)
 TPHd14 = p-Terphenyl-d14 (Surr)

Surrogate Summary

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

Job ID: 380-123519-1
SDG: Weekly

Method: 8015B GRO LL - Gasoline Range Organics - (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1 (38-134)
380-123126-C-3 MS	Matrix Spike	94
380-123126-C-3 MSD	Matrix Spike Duplicate	93
380-123519-1	HALAWA SHAFT VIEW POOL	85
380-123519-2	TB: HALAWA SHAFT VIEW POOL	84
LCS 570-508548/4	Lab Control Sample	93
LCSD 570 508548/5	Lab Control Sample Dup	93
MB 570-508548/6	Method Blank	85
MRL 570-508548/3	Lab Control Sample	89

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTCSN1 (60-130)
380-123519-1	HALAWA SHAFT VIEW POOL	69
380-123576-C-1-B MS	Matrix Spike	76
380-123576-C-1-C MSD	Matrix Spike Duplicate	76
LCS 570-507978/2-A	Lab Control Sample	77
LCSD 570-507978/3-A	Lab Control Sample Dup	73
MB 570-507978/1-A	Method Blank	74
MRL 570-507978/4-A	Lab Control Sample	72

Surrogate Legend

OTCSN = n-Octacosane (Surr)

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-123497-A-1-B MS	Matrix Spike	111	119	112	117
380-123497-A-1-C MSD	Matrix Spike Duplicate	114	122	121	121
380-123519-3	HALAWA SHAFT VIEW POOL	114	120	118	115
LCS 380-120624/23-A	Lab Control Sample	111	118	112	117
MBL 380-120624/21-A	Method Blank	111	117	114	112
MRL 380-120624/22-A	Lab Control Sample	122	118	114	121

Surrogate Legend

d5NEFOS = d5-NEtFOSAA

PFHxA = 13C2 PFHxA

PFDA = 13C2 PFDA

GenX = 13C3-GenX

Isotope Dilution Summary

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

Job ID: 380-123519-1
SDG: Weekly

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

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDaA (50-200)
380-123497-B-1-A MS	Matrix Spike	77	89	83	85	89	87	94	92
380-123497-B-1-B MSD	Matrix Spike Duplicate	74	86	81	80	85	82	90	91
380-123519-3	HALAWA SHAFT VIEW POOL	96	90	98	95	94	88	95	99
380-123519-3 MS	HALAWA SHAFT VIEW POOL	98	100	100	100	99	100	103	102
380-123519-3 MSD	HALAWA SHAFT VIEW POOL	93	90	95	95	94	92	96	100
380-123519-4	FB: HALAWA SHAFT VIEW POOL	79	91	90	96	96	92	92	92
LCS 380-120552/22-A	Lab Control Sample	106	108	106	110	108	108	110	105
LCS 380-120791/22-A	Lab Control Sample	103	109	110	111	112	106	104	105
MBL 380-120552/20-A	Method Blank	105	106	113	114	111	109	107	108
MBL 380-120791/20-A	Method Blank	89	98	102	103	103	100	96	96
MRL 380-120552/21-A	Lab Control Sample	100	106	110	111	111	108	106	106
MRL 380-120791/21-A	Lab Control Sample	90	97	104	100	101	102	94	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)
380-123497-B-1-A MS	Matrix Spike	79	81	113	114	110	114	106	92
380-123497-B-1-B MSD	Matrix Spike Duplicate	78	80	113	114	113	114	108	97
380-123519-3	HALAWA SHAFT VIEW POOL	100	105	107	107	107	146	131	119
380-123519-3 MS	HALAWA SHAFT VIEW POOL	102	106	107	106	106	141	126	117
380-123519-3 MSD	HALAWA SHAFT VIEW POOL	99	105	108	108	108	140	128	118
380-123519-4	FB: HALAWA SHAFT VIEW POOL	95	97	116	116	115	117	112	95
LCS 380-120552/22-A	Lab Control Sample	112	114	111	109	112	130	129	115
LCS 380-120791/22-A	Lab Control Sample	104	108	112	117	112	111	108	93
MBL 380-120552/20-A	Method Blank	109	109	109	110	110	133	126	118
MBL 380-120791/20-A	Method Blank	98	100	105	105	110	113	103	90
MRL 380-120552/21-A	Lab Control Sample	109	115	109	107	109	134	128	114
MRL 380-120791/21-A	Lab Control Sample	94	98	109	111	108	104	102	89

Surrogate Legend

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

QC Sample Results

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

Job ID: 380-123519-1
 SDG: Weekly

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

Lab Sample ID: MB 380-120635/21-A
Matrix: Water
Analysis Batch: 120827

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 120635

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
1-Methylnaphthalene	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
2,4'-DDD	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
2,4'-DDE	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
2,4'-DDT	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
2,4-Dinitrotoluene	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
2,6-Dinitrotoluene	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
2-Methylnaphthalene	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
4,4'-DDD	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
4,4'-DDE	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
4,4'-DDT	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Acenaphthene	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Acenaphthylene	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Acetochlor	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Alachlor	<0.049		0.049	ug/L		11/25/24 10:43	11/26/24 12:34	1
alpha-BHC	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
alpha-Chlordane	<0.049		0.049	ug/L		11/25/24 10:43	11/26/24 12:34	1
Anthracene	<0.020		0.020	ug/L		11/25/24 10:43	11/26/24 12:34	1
Atrazine	<0.049		0.049	ug/L		11/25/24 10:43	11/26/24 12:34	1
Benz(a)anthracene	<0.049		0.049	ug/L		11/25/24 10:43	11/26/24 12:34	1
Benzo[a]pyrene	<0.020		0.020	ug/L		11/25/24 10:43	11/26/24 12:34	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		11/25/24 10:43	11/26/24 12:34	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		11/25/24 10:43	11/26/24 12:34	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		11/25/24 10:43	11/26/24 12:34	1
beta-BHC	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		11/25/24 10:43	11/26/24 12:34	1
Bromacil	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Butachlor	<0.049		0.049	ug/L		11/25/24 10:43	11/26/24 12:34	1
Butylbenzylphthalate	<0.49		0.49	ug/L		11/25/24 10:43	11/26/24 12:34	1
Chlorobenzilate	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Chloroneb	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Chlorothalonil (Draconil, Bravo)	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Chlorpyrifos	<0.049		0.049	ug/L		11/25/24 10:43	11/26/24 12:34	1
Chrysene	<0.020		0.020	ug/L		11/25/24 10:43	11/26/24 12:34	1
delta-BHC	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Di(2-ethylhexyl)adipate	<0.59		0.59	ug/L		11/25/24 10:43	11/26/24 12:34	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		11/25/24 10:43	11/26/24 12:34	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		11/25/24 10:43	11/26/24 12:34	1
Dieldrin	<0.0098		0.0098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Diethylphthalate	<0.49		0.49	ug/L		11/25/24 10:43	11/26/24 12:34	1
Dimethylphthalate	<0.49		0.49	ug/L		11/25/24 10:43	11/26/24 12:34	1
Di-n-butyl phthalate	<0.98		0.98	ug/L		11/25/24 10:43	11/26/24 12:34	1
Di-n-octyl phthalate	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Endosulfan I (Alpha)	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Endosulfan II (Beta)	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Endosulfan sulfate	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Endrin	<0.0098		0.0098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Endrin aldehyde	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
EPTC	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1

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QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

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

Lab Sample ID: MB 380-120635/21-A
Matrix: Water
Analysis Batch: 120827

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 120635

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Fluorene	<0.049		0.049	ug/L		11/25/24 10:43	11/26/24 12:34	1
gamma-Chlordane	<0.049		0.049	ug/L		11/25/24 10:43	11/26/24 12:34	1
Heptachlor	<0.0098		0.0098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Heptachlor epoxide (isomer B)	<0.0098		0.0098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Hexachlorobenzene	<0.049		0.049	ug/L		11/25/24 10:43	11/26/24 12:34	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		11/25/24 10:43	11/26/24 12:34	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		11/25/24 10:43	11/26/24 12:34	1
Isophorone	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Lindane	<0.0098		0.0098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Malathion	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Methoxychlor	<0.049		0.049	ug/L		11/25/24 10:43	11/26/24 12:34	1
Metolachlor	<0.049		0.049	ug/L		11/25/24 10:43	11/26/24 12:34	1
Molinate	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Naphthalene	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Parathion	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Pendimethalin (Penoxaline)	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Phenanthrene	<0.039		0.039	ug/L		11/25/24 10:43	11/26/24 12:34	1
Propachlor	<0.049		0.049	ug/L		11/25/24 10:43	11/26/24 12:34	1
Pyrene	<0.049		0.049	ug/L		11/25/24 10:43	11/26/24 12:34	1
Simazine	<0.049		0.049	ug/L		11/25/24 10:43	11/26/24 12:34	1
Terbacil	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Terbutylazine	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Thiobencarb	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		11/25/24 10:43	11/26/24 12:34	1
trans-Nonachlor	<0.049		0.049	ug/L		11/25/24 10:43	11/26/24 12:34	1
Trifluralin	<0.098		0.098	ug/L		11/25/24 10:43	11/26/24 12:34	1

<i>Tentatively Identified Compound</i>	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
<i>Cyclopentasiloxane, decamethyl-</i>	0.664	T J N	ug/L		3.24	541-02-6	11/25/24 10:43	11/26/24 12:34	1
<i>Cyclohexasiloxane, dodecamethyl-</i>	0.729	T J N	ug/L		3.85	540-97-6	11/25/24 10:43	11/26/24 12:34	1
<i>9-Octadecenamamide, (Z)-</i>	2.01	T J N	ug/L		7.85	301-02-0	11/25/24 10:43	11/26/24 12:34	1
<i>Unknown</i>	1.62	T J	ug/L		10.45	N/A	11/25/24 10:43	11/26/24 12:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>2-Nitro-m-xylene</i>	99		70 - 130	11/25/24 10:43	11/26/24 12:34	1
<i>Perylene-d12</i>	99		70 - 130	11/25/24 10:43	11/26/24 12:34	1
<i>Triphenylphosphate</i>	103		70 - 130	11/25/24 10:43	11/26/24 12:34	1

Lab Sample ID: LCS 380-120635/23-A
Matrix: Water
Analysis Batch: 120827

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120635

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	1.94	1.87		ug/L		96	70 - 130
2,4'-DDD	1.94	2.08		ug/L		107	70 - 130
2,4'-DDE	1.94	2.04		ug/L		105	70 - 130
2,4'-DDT	1.94	2.10		ug/L		108	70 - 130

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QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

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

Lab Sample ID: LCS 380-120635/23-A
Matrix: Water
Analysis Batch: 120827

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120635

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4-Dinitrotoluene	1.94	1.62		ug/L		83	70 - 130
2,6-Dinitrotoluene	1.94	1.65		ug/L		85	70 - 130
2-Methylnaphthalene	1.94	1.92		ug/L		99	70 - 130
4,4'-DDD	1.94	2.16		ug/L		111	70 - 130
4,4'-DDE	1.94	1.98		ug/L		102	70 - 130
4,4'-DDT	1.94	2.17		ug/L		112	70 - 130
Acenaphthene	1.94	1.86		ug/L		96	70 - 130
Acenaphthylene	1.94	1.95		ug/L		100	70 - 130
Acetochlor	1.94	2.07		ug/L		106	70 - 130
Alachlor	1.94	2.12		ug/L		109	70 - 130
alpha-BHC	1.94	2.03		ug/L		104	70 - 130
alpha-Chlordane	1.94	2.11		ug/L		109	70 - 130
Anthracene	1.94	1.85		ug/L		95	70 - 130
Atrazine	1.94	2.11		ug/L		109	70 - 130
Benz(a)anthracene	1.94	1.95		ug/L		100	70 - 130
Benzo[a]pyrene	1.94	2.04		ug/L		105	70 - 130
Benzo[b]fluoranthene	1.94	2.16		ug/L		111	70 - 130
Benzo[g,h,i]perylene	1.94	2.14		ug/L		110	70 - 130
Benzo[k]fluoranthene	1.94	2.15		ug/L		111	70 - 130
beta-BHC	1.94	2.04		ug/L		105	70 - 130
Bis(2-ethylhexyl) phthalate	1.94	2.15		ug/L		110	70 - 130
Bromacil	1.94	1.92		ug/L		99	70 - 130
Butachlor	1.94	2.26		ug/L		116	70 - 130
Butylbenzylphthalate	1.94	2.36		ug/L		121	70 - 130
Chlorobenzilate	1.94	1.83		ug/L		94	70 - 130
Chloroneb	1.94	2.35		ug/L		121	70 - 130
Chlorothalonil (Draconil, Bravo)	1.94	2.34		ug/L		120	70 - 130
Chlorpyrifos	1.94	2.11		ug/L		108	70 - 130
Chrysene	1.94	1.91		ug/L		98	70 - 130
delta-BHC	1.94	1.99		ug/L		103	70 - 130
Di(2-ethylhexyl)adipate	1.94	2.34		ug/L		121	70 - 130
Dibenz(a,h)anthracene	1.94	1.92		ug/L		99	70 - 130
Diclorvos (DDVP)	1.94	2.07		ug/L		107	70 - 130
Dieldrin	1.94	2.05		ug/L		105	70 - 130
Diethylphthalate	1.94	2.07		ug/L		107	70 - 130
Dimethylphthalate	1.94	2.04		ug/L		105	70 - 130
Di-n-butyl phthalate	3.89	4.21		ug/L		108	70 - 130
Di-n-octyl phthalate	1.94	1.93		ug/L		99	70 - 130
Endosulfan I (Alpha)	1.94	1.99		ug/L		102	70 - 130
Endosulfan II (Beta)	1.94	2.12		ug/L		109	70 - 130
Endosulfan sulfate	1.94	2.16		ug/L		111	70 - 130
Endrin	1.94	2.06		ug/L		106	70 - 130
Endrin aldehyde	1.94	1.79		ug/L		92	60 - 130
EPTC	1.94	2.02		ug/L		104	70 - 130
Fluoranthene	1.94	2.11		ug/L		109	70 - 130
Fluorene	1.94	2.00		ug/L		103	70 - 130
gamma-Chlordane	1.94	2.09		ug/L		108	70 - 130
Heptachlor	1.94	1.96		ug/L		101	70 - 130
Heptachlor epoxide (isomer B)	1.94	2.00		ug/L		103	70 - 130

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QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

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

Lab Sample ID: LCS 380-120635/23-A
Matrix: Water
Analysis Batch: 120827

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120635

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexachlorobenzene	1.94	1.84		ug/L		95	70 - 130
Hexachlorocyclopentadiene	1.94	2.07		ug/L		107	70 - 130
Indeno[1,2,3-cd]pyrene	1.94	1.96		ug/L		101	70 - 130
Isophorone	1.94	2.01		ug/L		103	70 - 130
Lindane	1.94	2.02		ug/L		104	70 - 130
Malathion	1.94	2.20		ug/L		113	70 - 130
Methoxychlor	1.94	1.98		ug/L		102	70 - 130
Metolachlor	1.94	2.16		ug/L		111	70 - 130
Molinate	1.94	2.06		ug/L		106	70 - 130
Naphthalene	1.94	1.99		ug/L		102	70 - 130
Parathion	1.94	2.08		ug/L		107	70 - 130
Pendimethalin (Penoxaline)	1.94	1.87		ug/L		96	70 - 130
Phenanthrene	1.94	1.89		ug/L		97	70 - 130
Propachlor	1.94	2.08		ug/L		107	70 - 130
Pyrene	1.94	2.09		ug/L		108	70 - 130
Simazine	1.94	2.19		ug/L		112	70 - 130
Terbacil	1.94	2.12		ug/L		109	70 - 130
Terbutylazine	1.94	2.15		ug/L		111	70 - 130
Thiobencarb	1.94	2.10		ug/L		108	70 - 130
trans-Nonachlor	1.94	2.07		ug/L		107	70 - 130
Trifluralin	1.94	1.73		ug/L		89	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	99		70 - 130
Perylene-d12	96		70 - 130
Triphenylphosphate	104		70 - 130

Lab Sample ID: MRL 380-120635/22-A
Matrix: Water
Analysis Batch: 120827

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120635

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.0973	0.106		ug/L		109	50 - 150
2,4'-DDD	0.0973	0.0908	J	ug/L		93	50 - 150
2,4'-DDE	0.0973	0.102		ug/L		105	50 - 150
2,4'-DDT	0.0973	0.0946	J	ug/L		97	50 - 150
2,4-Dinitrotoluene	0.0973	0.0949	J	ug/L		98	50 - 150
2,6-Dinitrotoluene	0.0973	0.0958	J	ug/L		99	50 - 150
2-Methylnaphthalene	0.0973	0.101		ug/L		103	50 - 150
4,4'-DDD	0.0973	0.107		ug/L		110	50 - 150
4,4'-DDE	0.0973	0.103		ug/L		106	50 - 150
4,4'-DDT	0.0973	0.0981		ug/L		101	50 - 150
Acenaphthene	0.0973	0.0961	J	ug/L		99	50 - 150
Acenaphthylene	0.0973	0.0914	J	ug/L		94	50 - 150
Acetochlor	0.0973	0.117		ug/L		120	50 - 150
Alachlor	0.0486	0.0524		ug/L		108	50 - 150
alpha-BHC	0.0973	0.107		ug/L		110	50 - 150
alpha-Chlordane	0.0243	<0.028		ug/L		102	50 - 150

QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

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

Lab Sample ID: MRL 380-120635/22-A
Matrix: Water
Analysis Batch: 120827

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120635

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Anthracene	0.0195	0.0196		ug/L		101	50 - 150
Atrazine	0.0486	0.0501		ug/L		103	50 - 150
Benz(a)anthracene	0.0486	0.0553		ug/L		114	50 - 150
Benzo[a]pyrene	0.0195	0.0187	J	ug/L		96	50 - 150
Benzo[b]fluoranthene	0.0195	0.0196		ug/L		101	50 - 150
Benzo[g,h,i]perylene	0.0486	0.0392	J	ug/L		81	50 - 150
Benzo[k]fluoranthene	0.0195	0.0193		ug/L		99	50 - 150
beta-BHC	0.0973	0.106		ug/L		109	50 - 150
Bis(2-ethylhexyl) phthalate	0.584	0.591		ug/L		101	50 - 150
Bromacil	0.0973	0.109		ug/L		112	50 - 150
Butachlor	0.0486	0.0567		ug/L		117	50 - 150
Butylbenzylphthalate	0.486	0.616		ug/L		127	50 - 150
Chlorobenzilate	0.0973	0.0843	J	ug/L		87	50 - 150
Chloroneb	0.0973	0.0965	J	ug/L		99	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0973	0.0897	J	ug/L		92	50 - 150
Chlorpyrifos	0.0486	0.0501		ug/L		103	50 - 150
Chrysene	0.0195	0.0195		ug/L		100	50 - 150
delta-BHC	0.0973	0.114		ug/L		117	50 - 150
Di(2-ethylhexyl)adipate	0.584	0.727		ug/L		125	50 - 150
Dibenz(a,h)anthracene	0.0486	0.0503		ug/L		104	50 - 150
Diclorvos (DDVP)	0.0486	0.0566		ug/L		116	50 - 150
Dieldrin	0.00973	0.0131		ug/L		134	50 - 150
Diethylphthalate	0.486	0.523		ug/L		108	50 - 150
Dimethylphthalate	0.486	0.519		ug/L		107	50 - 150
Di-n-butyl phthalate	0.486	0.536	J	ug/L		110	49 - 243
Di-n-octyl phthalate	0.0973	0.0987		ug/L		102	50 - 150
Endosulfan I (Alpha)	0.0973	0.0973		ug/L		100	50 - 150
Endosulfan II (Beta)	0.0973	0.114		ug/L		117	50 - 150
Endosulfan sulfate	0.0973	0.104		ug/L		107	50 - 150
Endrin	0.00973	0.0102		ug/L		105	50 - 150
Endrin aldehyde	0.0973	0.117		ug/L		120	50 - 150
EPTC	0.0973	0.0928	J	ug/L		95	50 - 150
Fluoranthene	0.0973	0.0960	J	ug/L		99	50 - 150
Fluorene	0.0486	0.0503		ug/L		103	50 - 150
gamma-Chlordane	0.0243	0.0221	J	ug/L		91	50 - 150
Heptachlor	0.00973	0.0104		ug/L		107	50 - 150
Heptachlor epoxide (isomer B)	0.00973	0.00941	J	ug/L		97	50 - 150
Hexachlorobenzene	0.0486	0.0425	J	ug/L		87	50 - 150
Hexachlorocyclopentadiene	0.0486	0.0427	J	ug/L		88	50 - 150
Indeno[1,2,3-cd]pyrene	0.0486	0.0482	J	ug/L		99	50 - 150
Isophorone	0.0973	0.120		ug/L		124	50 - 150
Lindane	0.00973	0.0140		ug/L		144	50 - 150
Malathion	0.0973	0.0925	J	ug/L		95	50 - 150
Methoxychlor	0.0486	0.0454	J	ug/L		93	50 - 150
Metolachlor	0.0486	0.0568		ug/L		117	50 - 150
Molinate	0.0973	0.100		ug/L		103	50 - 150
Naphthalene	0.0973	0.124		ug/L		127	50 - 150
Parathion	0.0973	0.0775	J	ug/L		80	50 - 150
Pendimethalin (Penoxaline)	0.0973	0.0825	J	ug/L		85	50 - 150

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QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

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

Lab Sample ID: MRL 380-120635/22-A
Matrix: Water
Analysis Batch: 120827

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120635

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Phenanthrene	0.0389	0.0428		ug/L		110	50 - 150
Propachlor	0.0486	0.0558		ug/L		115	50 - 150
Pyrene	0.0486	0.0480	J	ug/L		99	50 - 150
Simazine	0.0486	0.0532		ug/L		109	50 - 150
Terbacil	0.0973	0.0924	J	ug/L		95	50 - 150
Terbutylazine	0.0973	0.101		ug/L		103	50 - 150
Thiobencarb	0.0973	0.103		ug/L		106	50 - 150
trans-Nonachlor	0.0243	<0.025		ug/L		96	50 - 150
Trifluralin	0.0973	0.0870	J	ug/L		89	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	98		70 - 130
Perylene-d12	85		70 - 130
Triphenylphosphate	104		70 - 130

Lab Sample ID: 380-123576-G-1-B MSD
Matrix: Water
Analysis Batch: 120827

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 120635

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	<0.098		1.95	1.87		ug/L		95	70 - 130	0	20
2,4'-DDD	<0.098		1.95	2.09		ug/L		107	70 - 130	0	20
2,4'-DDE	<0.098		1.95	2.03		ug/L		104	70 - 130	1	20
2,4'-DDT	<0.098		1.95	2.07		ug/L		106	70 - 130	0	20
2,4-Dinitrotoluene	<0.098		1.95	1.81		ug/L		93	70 - 130	2	20
2,6-Dinitrotoluene	<0.098		1.95	1.82		ug/L		93	70 - 130	1	20
2-Methylnaphthalene	<0.098		1.95	1.90		ug/L		97	70 - 130	0	20
4,4'-DDD	<0.098		1.95	2.17		ug/L		111	70 - 130	1	20
4,4'-DDE	<0.098		1.95	1.95		ug/L		100	70 - 130	1	20
4,4'-DDT	<0.098		1.95	2.12		ug/L		109	70 - 130	1	20
Acenaphthene	<0.098		1.95	1.85		ug/L		95	70 - 130	1	20
Acenaphthylene	<0.098		1.95	1.98		ug/L		102	70 - 130	1	20
Acetochlor	<0.098		1.95	2.12		ug/L		109	70 - 130	3	20
Alachlor	<0.049		1.95	2.15		ug/L		110	70 - 130	2	20
alpha-BHC	<0.098		1.95	2.04		ug/L		104	70 - 130	0	20
alpha-Chlordane	<0.049		1.95	2.13		ug/L		109	70 - 130	3	20
Anthracene	<0.020		1.95	1.45		ug/L		74	70 - 130	6	20
Atrazine	<0.049		1.95	2.16		ug/L		111	70 - 130	1	20
Benz(a)anthracene	<0.049		1.95	1.92		ug/L		99	70 - 130	1	20
Benzo[a]pyrene	<0.020		1.95	2.00		ug/L		103	70 - 130	3	20
Benzo[b]fluoranthene	<0.020		1.95	2.22		ug/L		114	70 - 130	1	20
Benzo[g,h,i]perylene	<0.049		1.95	2.17		ug/L		111	70 - 130	2	20
Benzo[k]fluoranthene	<0.020		1.95	2.13		ug/L		109	70 - 130	2	20
beta-BHC	<0.098		1.95	2.08		ug/L		107	70 - 130	2	20
Bis(2-ethylhexyl) phthalate	<0.59		1.95	2.06		ug/L		105	70 - 130	3	20
Bromacil	<0.098		1.95	2.06		ug/L		106	70 - 130	1	20
Butachlor	<0.049		1.95	2.30		ug/L		118	70 - 130	1	20
Butylbenzylphthalate	<0.49		1.95	2.41		ug/L		123	70 - 130	2	20

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-123519-1
 SDG: Weekly

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

Lab Sample ID: 380-123576-G-1-B MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 120827

Prep Batch: 120635

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Chlorobenzilate	<0.098		1.95	1.92		ug/L		98	70 - 130	3	20
Chloroneb	<0.098		1.95	2.35		ug/L		120	70 - 130	3	20
Chlorothalonil (Draconil, Bravo)	<0.098		1.95	2.35		ug/L		121	70 - 130	7	20
Chlorpyrifos	<0.049		1.95	2.14		ug/L		110	70 - 130	0	20
Chrysene	<0.020		1.95	1.90		ug/L		97	70 - 130	2	20
delta-BHC	<0.098		1.95	2.02		ug/L		103	70 - 130	1	20
Di(2-ethylhexyl)adipate	<0.59		1.95	2.25		ug/L		115	70 - 130	4	20
Dibenz(a,h)anthracene	<0.049		1.95	1.98		ug/L		101	70 - 130	2	20
Diclorvos (DDVP)	<0.049		1.95	2.15		ug/L		110	70 - 130	1	20
Dieldrin	<0.0098		1.95	2.09		ug/L		107	70 - 130	5	20
Diethylphthalate	<0.49		1.95	2.12		ug/L		109	70 - 130	0	20
Dimethylphthalate	<0.49		1.95	2.07		ug/L		106	70 - 130	1	20
Di-n-butyl phthalate	<0.98		3.90	4.32		ug/L		111	70 - 130	1	20
Di-n-octyl phthalate	<0.098		1.95	1.82		ug/L		93	70 - 130	5	20
Endosulfan I (Alpha)	<0.098		1.95	2.04		ug/L		105	70 - 130	2	20
Endosulfan II (Beta)	<0.098		1.95	2.16		ug/L		111	70 - 130	2	20
Endosulfan sulfate	<0.098		1.95	2.21		ug/L		113	70 - 130	3	20
Endrin	<0.0098		1.95	2.10		ug/L		108	70 - 130	2	20
Endrin aldehyde	<0.098		1.95	1.67		ug/L		86	60 - 130	14	20
EPTC	<0.098		1.95	2.03		ug/L		104	70 - 130	2	20
Fluoranthene	<0.098		1.95	2.14		ug/L		110	70 - 130	0	20
Fluorene	<0.049		1.95	1.99		ug/L		102	70 - 130	1	20
gamma-Chlordane	<0.049		1.95	2.13		ug/L		109	70 - 130	3	20
Heptachlor	<0.0098		1.95	1.97		ug/L		101	70 - 130	2	20
Heptachlor epoxide (isomer B)	<0.0098		1.95	2.07		ug/L		106	70 - 130	4	20
Hexachlorobenzene	<0.049		1.95	1.85		ug/L		95	70 - 130	1	20
Hexachlorocyclopentadiene	<0.049		1.95	2.05		ug/L		105	70 - 130	5	20
Indeno[1,2,3-cd]pyrene	<0.049		1.95	2.02		ug/L		103	70 - 130	1	20
Isophorone	<0.098		1.95	2.03		ug/L		104	70 - 130	2	20
Lindane	<0.0098		1.95	2.06		ug/L		106	70 - 130	0	20
Malathion	<0.098		1.95	2.28		ug/L		117	70 - 130	1	20
Methoxychlor	<0.049		1.95	2.11		ug/L		108	70 - 130	1	20
Metolachlor	<0.049		1.95	2.18		ug/L		112	70 - 130	2	20
Molinate	<0.098		1.95	2.08		ug/L		106	70 - 130	1	20
Naphthalene	<0.098		1.95	1.96		ug/L		101	70 - 130	1	20
Parathion	<0.098		1.95	2.21		ug/L		113	70 - 130	3	20
Pendimethalin (Penoxaline)	<0.098		1.95	2.00		ug/L		102	70 - 130	0	20
Phenanthrene	<0.039		1.95	1.89		ug/L		97	70 - 130	1	20
Propachlor	<0.049		1.95	2.12		ug/L		109	70 - 130	0	20
Pyrene	<0.049		1.95	2.11		ug/L		108	70 - 130	1	20
Simazine	<0.049		1.95	2.26		ug/L		116	70 - 130	3	20
Terbacil	<0.098		1.95	2.21		ug/L		113	70 - 130	2	20
Terbutylazine	<0.098		1.95	2.21		ug/L		113	70 - 130	1	20
Thiobencarb	<0.098		1.95	2.15		ug/L		110	70 - 130	0	20
trans-Nonachlor	<0.049		1.95	2.08		ug/L		107	70 - 130	4	20
Trifluralin	<0.098		1.95	1.89		ug/L		97	70 - 130	4	20

QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

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

Lab Sample ID: 380-123576-G-1-B MSD
Matrix: Water
Analysis Batch: 120827

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 120635

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD Qualifier</i>	<i>MSD Limits</i>
2-Nitro-m-xylene	100		70 - 130
Perylene-d12	98		70 - 130
Triphenylphosphate	106		70 - 130

Lab Sample ID: 380-123576-H-1-A MS
Matrix: Water
Analysis Batch: 120827

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 120635

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	<0.098		1.94	1.86		ug/L		95	70 - 130
2,4'-DDD	<0.098		1.94	2.08		ug/L		107	70 - 130
2,4'-DDE	<0.098		1.94	2.01		ug/L		103	70 - 130
2,4'-DDT	<0.098		1.94	2.08		ug/L		107	70 - 130
2,4-Dinitrotoluene	<0.098		1.94	1.86		ug/L		95	70 - 130
2,6-Dinitrotoluene	<0.098		1.94	1.83		ug/L		94	70 - 130
2-Methylnaphthalene	<0.098		1.94	1.90		ug/L		97	70 - 130
4,4'-DDD	<0.098		1.94	2.14		ug/L		110	70 - 130
4,4'-DDE	<0.098		1.94	1.97		ug/L		101	70 - 130
4,4'-DDT	<0.098		1.94	2.14		ug/L		110	70 - 130
Acenaphthene	<0.098		1.94	1.87		ug/L		96	70 - 130
Acenaphthylene	<0.098		1.94	2.00		ug/L		103	70 - 130
Acetochlor	<0.098		1.94	2.07		ug/L		106	70 - 130
Alachlor	<0.049		1.94	2.11		ug/L		108	70 - 130
alpha-BHC	<0.098		1.94	2.04		ug/L		105	70 - 130
alpha-Chlordane	<0.049		1.94	2.07		ug/L		106	70 - 130
Anthracene	<0.020		1.94	1.54		ug/L		79	70 - 130
Atrazine	<0.049		1.94	2.18		ug/L		112	70 - 130
Benz(a)anthracene	<0.049		1.94	1.94		ug/L		100	70 - 130
Benzo[a]pyrene	<0.020		1.94	2.05		ug/L		106	70 - 130
Benzo[b]fluoranthene	<0.020		1.94	2.25		ug/L		116	70 - 130
Benzo[g,h,i]perylene	<0.049		1.94	2.12		ug/L		109	70 - 130
Benzo[k]fluoranthene	<0.020		1.94	2.17		ug/L		112	70 - 130
beta-BHC	<0.098		1.94	2.05		ug/L		105	70 - 130
Bis(2-ethylhexyl) phthalate	<0.59		1.94	1.99		ug/L		102	70 - 130
Bromacil	<0.098		1.94	2.09		ug/L		107	70 - 130
Butachlor	<0.049		1.94	2.27		ug/L		117	70 - 130
Butylbenzylphthalate	<0.49		1.94	2.36		ug/L		121	70 - 130
Chlorobenzilate	<0.098		1.94	1.87		ug/L		96	70 - 130
Chloroneb	<0.098		1.94	2.28		ug/L		117	70 - 130
Chlorothalonil (Draconil, Bravo)	<0.098		1.94	2.52		ug/L		130	70 - 130
Chlorpyrifos	<0.049		1.94	2.15		ug/L		110	70 - 130
Chrysene	<0.020		1.94	1.94		ug/L		100	70 - 130
delta-BHC	<0.098		1.94	2.00		ug/L		103	70 - 130
Di(2-ethylhexyl)adipate	<0.59		1.94	2.17		ug/L		112	70 - 130
Dibenz(a,h)anthracene	<0.049		1.94	1.94		ug/L		100	70 - 130
Diclorvos (DDVP)	<0.049		1.94	2.13		ug/L		109	70 - 130
Dieldrin	<0.0098		1.94	1.99		ug/L		103	70 - 130
Diethylphthalate	<0.49		1.94	2.11		ug/L		108	70 - 130

QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

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

Lab Sample ID: 380-123576-H-1-A MS
Matrix: Water
Analysis Batch: 120827

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 120635

Analyte	Sample	Sample Qualifier	Spike Added	MS	MS Qualifier	Unit	D	%Rec	%Rec Limits
	Result			Result					
Dimethylphthalate	<0.49		1.94	2.09		ug/L		108	70 - 130
Di-n-butyl phthalate	<0.98		3.89	4.28		ug/L		110	70 - 130
Di-n-octyl phthalate	<0.098		1.94	1.74		ug/L		89	70 - 130
Endosulfan I (Alpha)	<0.098		1.94	2.00		ug/L		103	70 - 130
Endosulfan II (Beta)	<0.098		1.94	2.12		ug/L		109	70 - 130
Endosulfan sulfate	<0.098		1.94	2.14		ug/L		110	70 - 130
Endrin	<0.0098		1.94	2.05		ug/L		105	70 - 130
Endrin aldehyde	<0.098		1.94	1.46		ug/L		75	60 - 130
EPTC	<0.098		1.94	2.00		ug/L		103	70 - 130
Fluoranthene	<0.098		1.94	2.15		ug/L		110	70 - 130
Fluorene	<0.049		1.94	2.02		ug/L		104	70 - 130
gamma-Chlordane	<0.049		1.94	2.08		ug/L		107	70 - 130
Heptachlor	<0.0098		1.94	1.93		ug/L		99	70 - 130
Heptachlor epoxide (isomer B)	<0.0098		1.94	1.99		ug/L		102	70 - 130
Hexachlorobenzene	<0.049		1.94	1.87		ug/L		96	70 - 130
Hexachlorocyclopentadiene	<0.049		1.94	2.15		ug/L		111	70 - 130
Indeno[1,2,3-cd]pyrene	<0.049		1.94	2.00		ug/L		103	70 - 130
Isophorone	<0.098		1.94	1.99		ug/L		103	70 - 130
Lindane	<0.0098		1.94	2.07		ug/L		106	70 - 130
Malathion	<0.098		1.94	2.25		ug/L		116	70 - 130
Methoxychlor	<0.049		1.94	2.14		ug/L		110	70 - 130
Metolachlor	<0.049		1.94	2.15		ug/L		110	70 - 130
Molinate	<0.098		1.94	2.10		ug/L		108	70 - 130
Naphthalene	<0.098		1.94	1.95		ug/L		100	70 - 130
Parathion	<0.098		1.94	2.15		ug/L		110	70 - 130
Pendimethalin (Penoxaline)	<0.098		1.94	2.00		ug/L		103	70 - 130
Phenanthrene	<0.039		1.94	1.91		ug/L		98	70 - 130
Propachlor	<0.049		1.94	2.12		ug/L		109	70 - 130
Pyrene	<0.049		1.94	2.09		ug/L		107	70 - 130
Simazine	<0.049		1.94	2.32		ug/L		119	70 - 130
Terbacil	<0.098		1.94	2.25		ug/L		116	70 - 130
Terbutylazine	<0.098		1.94	2.24		ug/L		115	70 - 130
Thiobencarb	<0.098		1.94	2.16		ug/L		111	70 - 130
trans-Nonachlor	<0.049		1.94	2.00		ug/L		103	70 - 130
Trifluralin	<0.098		1.94	1.82		ug/L		94	70 - 130
				MS	MS				
Surrogate				%Recovery	Qualifier				Limits
2-Nitro-m-xylene				98					70 - 130
Perylene-d12				98					70 - 130
Triphenylphosphate				105					70 - 130

QC Sample Results

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

Job ID: 380-123519-1
 SDG: Weekly

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-507118/1-A
Matrix: Water
Analysis Batch: 512557

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 507118

<i>Tentatively Identified Compound</i>	<i>Est. Result</i>	<i>MB MB Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>RT</i>	<i>CAS No.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Tentatively Identified Compound</i>	<i>None</i>		<i>ug/L</i>			<i>N/A</i>	<i>11/25/24 06:08</i>	<i>12/11/24 11:44</i>	<i>1</i>
<i>Surrogate</i>	<i>%Recovery</i>	<i>MB MB Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>2,4,6-Tribromophenol (Surr)</i>	60		33 - 139				<i>11/25/24 06:08</i>	<i>12/11/24 11:44</i>	<i>1</i>
<i>2-Fluorobiphenyl (Surr)</i>	79		33 - 126				<i>11/25/24 06:08</i>	<i>12/11/24 11:44</i>	<i>1</i>
<i>2-Fluorophenol (Surr)</i>	45		12 - 120				<i>11/25/24 06:08</i>	<i>12/11/24 11:44</i>	<i>1</i>
<i>Nitrobenzene-d5 (Surr)</i>	77		36 - 120				<i>11/25/24 06:08</i>	<i>12/11/24 11:44</i>	<i>1</i>
<i>Phenol-d6 (Surr)</i>	25		10 - 120				<i>11/25/24 06:08</i>	<i>12/11/24 11:44</i>	<i>1</i>
<i>p-Terphenyl-d14 (Surr)</i>	77		47 - 131				<i>11/25/24 06:08</i>	<i>12/11/24 11:44</i>	<i>1</i>

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-507118/1-A
Matrix: Water
Analysis Batch: 510911

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 507118

<i>Analyte</i>	<i>Result</i>	<i>MB MB Qualifier</i>	<i>RL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>1-Methylnaphthalene</i>	<0.20		0.20	ug/L		<i>11/25/24 06:08</i>	<i>12/06/24 13:36</i>	<i>1</i>
<i>2-Methylnaphthalene</i>	<0.20		0.20	ug/L		<i>11/25/24 06:08</i>	<i>12/06/24 13:36</i>	<i>1</i>
<i>Acenaphthene</i>	<0.20		0.20	ug/L		<i>11/25/24 06:08</i>	<i>12/06/24 13:36</i>	<i>1</i>
<i>Acenaphthylene</i>	<0.20		0.20	ug/L		<i>11/25/24 06:08</i>	<i>12/06/24 13:36</i>	<i>1</i>
<i>Anthracene</i>	<0.20		0.20	ug/L		<i>11/25/24 06:08</i>	<i>12/06/24 13:36</i>	<i>1</i>
<i>Benzo[a]anthracene</i>	<0.20		0.20	ug/L		<i>11/25/24 06:08</i>	<i>12/06/24 13:36</i>	<i>1</i>
<i>Benzo[a]pyrene</i>	<0.20		0.20	ug/L		<i>11/25/24 06:08</i>	<i>12/06/24 13:36</i>	<i>1</i>
<i>Benzo[b]fluoranthene</i>	<0.20		0.20	ug/L		<i>11/25/24 06:08</i>	<i>12/06/24 13:36</i>	<i>1</i>
<i>Benzo[g,h,i]perylene</i>	<0.20		0.20	ug/L		<i>11/25/24 06:08</i>	<i>12/06/24 13:36</i>	<i>1</i>
<i>Benzo[k]fluoranthene</i>	<0.20		0.20	ug/L		<i>11/25/24 06:08</i>	<i>12/06/24 13:36</i>	<i>1</i>
<i>Chrysene</i>	<0.20		0.20	ug/L		<i>11/25/24 06:08</i>	<i>12/06/24 13:36</i>	<i>1</i>
<i>Dibenz(a,h)anthracene</i>	<0.20		0.20	ug/L		<i>11/25/24 06:08</i>	<i>12/06/24 13:36</i>	<i>1</i>
<i>Fluoranthene</i>	<0.20		0.20	ug/L		<i>11/25/24 06:08</i>	<i>12/06/24 13:36</i>	<i>1</i>
<i>Fluorene</i>	<0.20		0.20	ug/L		<i>11/25/24 06:08</i>	<i>12/06/24 13:36</i>	<i>1</i>
<i>Indeno[1,2,3-cd]pyrene</i>	<0.20		0.20	ug/L		<i>11/25/24 06:08</i>	<i>12/06/24 13:36</i>	<i>1</i>
<i>Naphthalene</i>	<0.20		0.20	ug/L		<i>11/25/24 06:08</i>	<i>12/06/24 13:36</i>	<i>1</i>
<i>Phenanthrene</i>	<0.20		0.20	ug/L		<i>11/25/24 06:08</i>	<i>12/06/24 13:36</i>	<i>1</i>
<i>Pyrene</i>	<0.20		0.20	ug/L		<i>11/25/24 06:08</i>	<i>12/06/24 13:36</i>	<i>1</i>
<i>Surrogate</i>	<i>%Recovery</i>	<i>MB MB Qualifier</i>	<i>Limits</i>			<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>2,4,6-Tribromophenol (Surr)</i>	69		28 - 127			<i>11/25/24 06:08</i>	<i>12/06/24 13:36</i>	<i>1</i>
<i>2-Fluorobiphenyl (Surr)</i>	72		31 - 120			<i>11/25/24 06:08</i>	<i>12/06/24 13:36</i>	<i>1</i>
<i>2-Fluorophenol (Surr)</i>	54		17 - 120			<i>11/25/24 06:08</i>	<i>12/06/24 13:36</i>	<i>1</i>
<i>Nitrobenzene-d5 (Surr)</i>	82		27 - 120			<i>11/25/24 06:08</i>	<i>12/06/24 13:36</i>	<i>1</i>
<i>Phenol-d6 (Surr)</i>	34		10 - 120			<i>11/25/24 06:08</i>	<i>12/06/24 13:36</i>	<i>1</i>
<i>p-Terphenyl-d14 (Surr)</i>	80		45 - 120			<i>11/25/24 06:08</i>	<i>12/06/24 13:36</i>	<i>1</i>

QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCS 570-507118/2-A
Matrix: Water
Analysis Batch: 510911

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 507118

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1-Methylnaphthalene	20.0	14.6		ug/L		73	47 - 120
2-Methylnaphthalene	20.0	16.6		ug/L		83	43 - 120
Acenaphthene	20.0	17.2		ug/L		86	60 - 132
Acenaphthylene	20.0	17.1		ug/L		85	54 - 126
Anthracene	20.0	17.6		ug/L		88	43 - 120
Benzo[a]anthracene	20.0	17.4		ug/L		87	42 - 133
Benzo[a]pyrene	20.0	17.5		ug/L		88	32 - 148
Benzo[b]fluoranthene	20.0	17.6		ug/L		88	42 - 140
Benzo[g,h,i]perylene	20.0	16.3		ug/L		81	1 - 195
Benzo[k]fluoranthene	20.0	17.8		ug/L		89	25 - 146
Chrysene	20.0	16.5		ug/L		82	44 - 140
Dibenz(a,h)anthracene	20.0	17.4		ug/L		87	1 - 200
Fluoranthene	20.0	17.7		ug/L		89	43 - 121
Fluorene	20.0	18.0		ug/L		90	70 - 120
Indeno[1,2,3-cd]pyrene	20.0	17.8		ug/L		89	1 - 151
Naphthalene	20.0	14.2		ug/L		71	36 - 120
Phenanthrene	20.0	17.1		ug/L		85	65 - 120
Pyrene	20.0	17.6		ug/L		88	70 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	84		28 - 127
2-Fluorobiphenyl (Surr)	77		31 - 120
2-Fluorophenol (Surr)	61		17 - 120
Nitrobenzene-d5 (Surr)	70		27 - 120
Phenol-d6 (Surr)	43		10 - 120
p-Terphenyl-d14 (Surr)	81		45 - 120

Lab Sample ID: LCSD 570-507118/3-A
Matrix: Water
Analysis Batch: 510911

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 507118

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1-Methylnaphthalene	20.0	13.4		ug/L		67	47 - 120	8	20
2-Methylnaphthalene	20.0	15.2		ug/L		76	43 - 120	9	20
Acenaphthene	20.0	15.1		ug/L		75	60 - 132	13	29
Acenaphthylene	20.0	14.7		ug/L		73	54 - 126	15	45
Anthracene	20.0	16.0		ug/L		80	43 - 120	10	40
Benzo[a]anthracene	20.0	15.9		ug/L		79	42 - 133	9	32
Benzo[a]pyrene	20.0	16.2		ug/L		81	32 - 148	8	43
Benzo[b]fluoranthene	20.0	16.5		ug/L		83	42 - 140	6	43
Benzo[g,h,i]perylene	20.0	14.8		ug/L		74	1 - 195	9	61
Benzo[k]fluoranthene	20.0	16.0		ug/L		80	25 - 146	10	38
Chrysene	20.0	15.0		ug/L		75	44 - 140	9	53
Dibenz(a,h)anthracene	20.0	15.8		ug/L		79	1 - 200	10	75
Fluoranthene	20.0	15.8		ug/L		79	43 - 121	11	40
Fluorene	20.0	15.7		ug/L		79	70 - 120	13	23
Indeno[1,2,3-cd]pyrene	20.0	16.0		ug/L		80	1 - 151	10	60
Naphthalene	20.0	12.9		ug/L		64	36 - 120	10	39

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCSD 570-507118/3-A
Matrix: Water
Analysis Batch: 510911

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 507118

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Phenanthrene	20.0	15.3		ug/L		76	65 - 120	11	24
Pyrene	20.0	16.0		ug/L		80	70 - 120	9	30

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2,4,6-Tribromophenol (Surr)	75		28 - 127
2-Fluorobiphenyl (Surr)	68		31 - 120
2-Fluorophenol (Surr)	54		17 - 120
Nitrobenzene-d5 (Surr)	64		27 - 120
Phenol-d6 (Surr)	38		10 - 120
p-Terphenyl-d14 (Surr)	74		45 - 120

Lab Sample ID: 380-123576-A-1-B MS
Matrix: Water
Analysis Batch: 510911

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 507118

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	<0.19		19.3	14.8		ug/L		77	36 - 120
2-Methylnaphthalene	<0.19		19.3	16.8		ug/L		87	32 - 124
Acenaphthene	<0.19		19.3	16.7		ug/L		87	47 - 145
Acenaphthylene	<0.19		19.3	16.2		ug/L		84	33 - 145
Anthracene	<0.19		19.3	17.3		ug/L		90	27 - 133
Benzo[a]anthracene	<0.19		19.3	17.4		ug/L		90	33 - 143
Benzo[a]pyrene	<0.19		19.3	17.6		ug/L		91	17 - 163
Benzo[b]fluoranthene	<0.19		19.3	18.0		ug/L		93	24 - 159
Benzo[g,h,i]perylene	<0.19		19.3	16.4		ug/L		85	1 - 219
Benzo[k]fluoranthene	<0.19		19.3	17.6		ug/L		92	11 - 162
Chrysene	<0.19		19.3	16.4		ug/L		85	17 - 168
Dibenz(a,h)anthracene	<0.19		19.3	17.6		ug/L		91	1 - 227
Fluoranthene	<0.19		19.3	17.6		ug/L		91	26 - 137
Fluorene	<0.19		19.3	16.9		ug/L		88	59 - 121
Indeno[1,2,3-cd]pyrene	<0.19		19.3	17.4		ug/L		90	1 - 171
Naphthalene	<0.19		19.3	14.1		ug/L		73	21 - 133
Phenanthrene	<0.19		19.3	16.6		ug/L		86	54 - 120
Pyrene	<0.19		19.3	18.1		ug/L		94	52 - 120

Surrogate	MS %Recovery	MS Qualifier	MS Limits
2,4,6-Tribromophenol (Surr)	87		28 - 127
2-Fluorobiphenyl (Surr)	80		31 - 120
2-Fluorophenol (Surr)	57		17 - 120
Nitrobenzene-d5 (Surr)	73		27 - 120
Phenol-d6 (Surr)	37		10 - 120
p-Terphenyl-d14 (Surr)	87		45 - 120

QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: 380-123576-A-1-C MSD

Matrix: Water

Analysis Batch: 510911

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 507118

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
1-Methylnaphthalene	<0.19		19.4	13.9		ug/L		72	36 - 120	6	30
2-Methylnaphthalene	<0.19		19.4	15.9		ug/L		82	32 - 124	5	30
Acenaphthene	<0.19		19.4	15.5		ug/L		80	47 - 145	8	48
Acenaphthylene	<0.19		19.4	15.2		ug/L		78	33 - 145	6	74
Anthracene	<0.19		19.4	16.3		ug/L		84	27 - 133	6	66
Benzo[a]anthracene	<0.19		19.4	16.6		ug/L		86	33 - 143	5	53
Benzo[a]pyrene	<0.19		19.4	14.9		ug/L		77	17 - 163	17	72
Benzo[b]fluoranthene	<0.19		19.4	15.5		ug/L		80	24 - 159	15	71
Benzo[g,h,i]perylene	<0.19		19.4	14.4		ug/L		74	1 - 219	13	97
Benzo[k]fluoranthene	<0.19		19.4	15.9		ug/L		82	11 - 162	10	63
Chrysene	<0.19		19.4	15.7		ug/L		81	17 - 168	4	87
Dibenz(a,h)anthracene	<0.19		19.4	15.6		ug/L		80	1 - 227	12	126
Fluoranthene	<0.19		19.4	16.4		ug/L		84	26 - 137	7	66
Fluorene	<0.19		19.4	15.9		ug/L		82	59 - 121	6	38
Indeno[1,2,3-cd]pyrene	<0.19		19.4	15.5		ug/L		80	1 - 171	11	99
Naphthalene	<0.19		19.4	13.2		ug/L		68	21 - 133	6	65
Phenanthrene	<0.19		19.4	15.7		ug/L		81	54 - 120	6	39
Pyrene	<0.19		19.4	17.4		ug/L		89	52 - 120	4	49

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	81		28 - 127
2-Fluorobiphenyl (Surr)	74		31 - 120
2-Fluorophenol (Surr)	53		17 - 120
Nitrobenzene-d5 (Surr)	68		27 - 120
Phenol-d6 (Surr)	37		10 - 120
p-Terphenyl-d14 (Surr)	86		45 - 120

Method: 8015B GRO LL - Gasoline Range Organics - (GC)

Lab Sample ID: MB 570-508548/6

Matrix: Water

Analysis Batch: 508548

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			11/29/24 11:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		38 - 134		11/29/24 11:53	1

Lab Sample ID: LCS 570-508548/4

Matrix: Water

Analysis Batch: 508548

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (C4-C13)	400	332		ug/L		83	78 - 120

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

Method: 8015B GRO LL - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: LCS 570-508548/4
Matrix: Water
Analysis Batch: 508548

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

	LCS %Recovery	LCS Qualifier	Limits
Surrogate			
4-Bromofluorobenzene (Surr)	93		38 - 134

Lab Sample ID: LCSD 570-508548/5
Matrix: Water
Analysis Batch: 508548

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	400	330		ug/L		82	78 - 120	1	10
Surrogate									
4-Bromofluorobenzene (Surr)						93	38 - 134		

Lab Sample ID: MRL 570-508548/3
Matrix: Water
Analysis Batch: 508548

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (C4-C13)	10.0	12.2		ug/L		122	50 - 150		
Surrogate									
4-Bromofluorobenzene (Surr)						89	38 - 134		

Lab Sample ID: 380-123126-C-3 MS
Matrix: Water
Analysis Batch: 508548

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (C4-C13)	<10		400	374		ug/L		93	68 - 122		
Surrogate											
4-Bromofluorobenzene (Surr)								94	38 - 134		

Lab Sample ID: 380-123126-C-3 MSD
Matrix: Water
Analysis Batch: 508548

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	<10		400	355		ug/L		89	68 - 122	5	18
Surrogate											
4-Bromofluorobenzene (Surr)								93	38 - 134		

QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Lab Sample ID: MB 570-507978/1-A
Matrix: Water
Analysis Batch: 508534

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 507978

Analyte	MB MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Diesel Range Organics (C10-C24)	<25		25	ug/L		11/26/24 17:51	11/29/24 13:46	1
Motor Oil Range Organics [C24-C36]	<25		25	ug/L		11/26/24 17:51	11/29/24 13:46	1
C8-C18	<25		25	ug/L		11/26/24 17:51	11/29/24 13:46	1
Surrogate	MB MB		Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
<i>n-Octacosane (Surr)</i>	74		60 - 130			11/26/24 17:51	11/29/24 13:46	1

Lab Sample ID: LCS 570-507978/2-A
Matrix: Water
Analysis Batch: 508534

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 507978

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec Limits		
		Result	Qualifier						
C10-C28	1600	1270		ug/L		79	56 - 127		
Surrogate	LCS LCS		Limits			%Rec			
	%Recovery	Qualifier							
<i>n-Octacosane (Surr)</i>	77		60 - 130						

Lab Sample ID: LCSD 570-507978/3-A
Matrix: Water
Analysis Batch: 508534

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 507978

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec Limits	RPD	
		Result	Qualifier					RPD	Limit
C10-C28	1600	1250		ug/L		78	56 - 127	1	23
Surrogate	LCSD LCSD		Limits			%Rec			
	%Recovery	Qualifier							
<i>n-Octacosane (Surr)</i>	73		60 - 130						

Lab Sample ID: MRL 570-507978/4-A
Matrix: Water
Analysis Batch: 508534

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 507978

Analyte	Spike Added	MRL MRL		Unit	D	%Rec	%Rec Limits		
		Result	Qualifier						
C10-C28	0.0200	<0.020		mg/L		76	50 - 150		
Surrogate	MRL MRL		Limits			%Rec			
	%Recovery	Qualifier							
<i>n-Octacosane (Surr)</i>	72		60 - 130						

Lab Sample ID: 380-123576-C-1-B MS
Matrix: Water
Analysis Batch: 508534

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 507978

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec Limits
				Result	Qualifier				
C10-C28	<26		1660	1340		ug/L		81	70 - 130
Surrogate	MS MS		Limits					%Rec	
	%Recovery	Qualifier							
<i>n-Octacosane (Surr)</i>	76		60 - 130						

QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level (Continued)

Lab Sample ID: 380-123576-C-1-C MSD

Matrix: Water

Analysis Batch: 508534

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 507978

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C10-C28	<26		1640	1330		ug/L		81	70 - 130	1	20
Surrogate	%Recovery	Qualifier	Limits								
<i>n</i> -Octacosane (Surr)	76		60 - 130								

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

Lab Sample ID: MBL 380-120552/20-A

Matrix: Water

Analysis Batch: 120640

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 120552

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		11/24/24 18:39	11/25/24 14:54	1

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QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

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

<i>Isotope Dilution</i>	<i>MBL %Recovery</i>	<i>MBL Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	105		50 - 200	11/24/24 18:39	11/25/24 14:54	1
13C6 PFDA	106		50 - 200	11/24/24 18:39	11/25/24 14:54	1
13C5 PFHxA	113		50 - 200	11/24/24 18:39	11/25/24 14:54	1
13C4 PFHpA	114		50 - 200	11/24/24 18:39	11/25/24 14:54	1
13C8 PFOA	111		50 - 200	11/24/24 18:39	11/25/24 14:54	1
13C9 PFNA	109		50 - 200	11/24/24 18:39	11/25/24 14:54	1
13C7 PFUnA	107		50 - 200	11/24/24 18:39	11/25/24 14:54	1
13C2 PFDoA	108		50 - 200	11/24/24 18:39	11/25/24 14:54	1
13C4 PFBA	109		50 - 200	11/24/24 18:39	11/25/24 14:54	1
13C5 PFPeA	109		50 - 200	11/24/24 18:39	11/25/24 14:54	1
13C3 PFBS	109		50 - 200	11/24/24 18:39	11/25/24 14:54	1
13C3 PFHxS	110		50 - 200	11/24/24 18:39	11/25/24 14:54	1
13C8 PFOS	110		50 - 200	11/24/24 18:39	11/25/24 14:54	1
13C2-4:2-FTS	133		50 - 200	11/24/24 18:39	11/25/24 14:54	1
13C2-6:2-FTS	126		50 - 200	11/24/24 18:39	11/25/24 14:54	1
13C2-8:2-FTS	118		50 - 200	11/24/24 18:39	11/25/24 14:54	1

Lab Sample ID: LCS 380-120552/22-A
Matrix: Water
Analysis Batch: 120640

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120552

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.4	54.1		ng/L		90	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.4	55.6		ng/L		92	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.4	57.6		ng/L		95	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.4	56.4		ng/L		94	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.4	59.5		ng/L		99	70 - 130
Perfluorodecanoic acid (PFDA)	60.4	56.8		ng/L		94	70 - 130
Perfluorododecanoic acid (PFDoA)	60.4	58.4		ng/L		97	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.4	57.3		ng/L		95	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.4	59.2		ng/L		98	70 - 130
Perfluorohexanoic acid (PFHxA)	60.4	57.6		ng/L		95	70 - 130
Perfluorononanoic acid (PFNA)	60.4	56.8		ng/L		94	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.4	56.4		ng/L		93	70 - 130
Perfluorooctanoic acid (PFOA)	60.4	56.3		ng/L		93	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.4	57.7		ng/L		96	70 - 130
Perfluorobutanoic acid (PFBA)	60.4	58.0		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.4	60.2		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.4	58.6		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.4	57.5		ng/L		95	70 - 130

QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

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

Lab Sample ID: LCS 380-120552/22-A
Matrix: Water
Analysis Batch: 120640

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120552

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nonafluoro-3,6-dioxahheptanoic acid (NFDHA)	60.4	56.3		ng/L		93	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	60.4	55.8		ng/L		93	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.4	58.0		ng/L		96	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.4	57.5		ng/L		95	70 - 130
Perfluoropentanoic acid (PFPeA)	60.4	58.7		ng/L		97	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.4	56.3		ng/L		93	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	60.4	59.3		ng/L		98	70 - 130

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	106		50 - 200
13C6 PFDA	108		50 - 200
13C5 PFHxA	106		50 - 200
13C4 PFHpA	110		50 - 200
13C8 PFOA	108		50 - 200
13C9 PFNA	108		50 - 200
13C7 PFUnA	110		50 - 200
13C2 PFDoA	105		50 - 200
13C4 PFBA	112		50 - 200
13C5 PFPeA	114		50 - 200
13C3 PFBS	111		50 - 200
13C3 PFHxS	109		50 - 200
13C8 PFOS	112		50 - 200
13C2-4:2-FTS	130		50 - 200
13C2-6:2-FTS	129		50 - 200
13C2-8:2-FTS	115		50 - 200

Lab Sample ID: MRL 380-120552/21-A
Matrix: Water
Analysis Batch: 120640

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120552

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	2.03	J	ng/L		101	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	2.00	J	ng/L		99	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.11	J	ng/L		105	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	2.07	J	ng/L		103	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.11	J	ng/L		105	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.05	J	ng/L		102	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.15	J	ng/L		107	50 - 150

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QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

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

Lab Sample ID: MRL 380-120552/21-A
Matrix: Water
Analysis Batch: 120640

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120552

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	2.01	2.21	J	ng/L		110	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.25	J	ng/L		112	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	1.97	J	ng/L		98	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.13	J	ng/L		106	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.18	J	ng/L		108	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.08	J	ng/L		103	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.10	J	ng/L		104	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	1.91	J	ng/L		95	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.25	J	ng/L		112	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.28	J	ng/L		113	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.29	J	ng/L		114	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	2.24	J	ng/L		111	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.01	1.98	J	ng/L		98	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	2.11	J	ng/L		105	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.97	J	ng/L		98	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	2.13	J	ng/L		106	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	2.09	J	ng/L		104	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	2.12	J	ng/L		105	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	100		50 - 200
13C6 PFDA	106		50 - 200
13C5 PFHxA	110		50 - 200
13C4 PFHpA	111		50 - 200
13C8 PFOA	111		50 - 200
13C9 PFNA	108		50 - 200
13C7 PFUnA	106		50 - 200
13C2 PFDoA	106		50 - 200
13C4 PFBA	109		50 - 200
13C5 PFPeA	115		50 - 200
13C3 PFBS	109		50 - 200
13C3 PFHxS	107		50 - 200
13C8 PFOS	109		50 - 200
13C2-4:2-FTS	134		50 - 200
13C2-6:2-FTS	128		50 - 200
13C2-8:2-FTS	114		50 - 200

QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

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

Lab Sample ID: 380-123519-3 MS

Client Sample ID: HALAWA SHAFT VIEW POOL

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 120640

Prep Batch: 120552

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.5	56.8		ng/L		94	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.5	57.0		ng/L		94	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.5	55.8		ng/L		92	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.5	55.0		ng/L		91	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.5	61.4		ng/L		101	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.5	56.3		ng/L		93	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.5	58.1		ng/L		96	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.5	59.5		ng/L		97	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	3.5		60.5	63.7		ng/L		99	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.5	59.0		ng/L		95	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.5	58.0		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	3.6		60.5	61.4		ng/L		96	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.5	58.5		ng/L		95	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.5	57.7		ng/L		95	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.5	58.5		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.5	59.6		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.5	56.3		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.5	61.0		ng/L		101	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.5	54.5		ng/L		90	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.5	59.8		ng/L		99	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.5	57.6		ng/L		95	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.5	56.4		ng/L		93	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.5	58.3		ng/L		95	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.5	59.2		ng/L		98	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.5	59.2		ng/L		98	70 - 130

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	98		50 - 200
13C6 PFDA	100		50 - 200
13C5 PFHxA	100		50 - 200
13C4 PFHpA	100		50 - 200
13C8 PFOA	99		50 - 200
13C9 PFNA	100		50 - 200

QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

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

Lab Sample ID: 380-123519-3 MS
Matrix: Water
Analysis Batch: 120640

Client Sample ID: HALAWA SHAFT VIEW POOL
Prep Type: Total/NA
Prep Batch: 120552

<i>Isotope Dilution</i>	<i>MS %Recovery</i>	<i>MS Qualifier</i>	<i>Limits</i>
13C7 PFUnA	103		50 - 200
13C2 PFDoA	102		50 - 200
13C4 PFBA	102		50 - 200
13C5 PFPeA	106		50 - 200
13C3 PFBS	107		50 - 200
13C3 PFHxS	106		50 - 200
13C8 PFOS	106		50 - 200
13C2-4:2-FTS	141		50 - 200
13C2-6:2-FTS	126		50 - 200
13C2-8:2-FTS	117		50 - 200

Lab Sample ID: 380-123519-3 MSD
Matrix: Water
Analysis Batch: 120640

Client Sample ID: HALAWA SHAFT VIEW POOL
Prep Type: Total/NA
Prep Batch: 120552

<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		60.5	55.7		ng/L		92	70 - 130	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.5	55.9		ng/L		92	70 - 130	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.5	55.3		ng/L		91	70 - 130	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.5	58.7		ng/L		97	70 - 130	6	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.5	58.4		ng/L		96	70 - 130	5	30
Perfluorodecanoic acid (PFDA)	<2.0		60.5	60.4		ng/L		100	70 - 130	7	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.5	58.3		ng/L		96	70 - 130	0	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.5	60.6		ng/L		99	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)	3.5		60.5	61.0		ng/L		95	70 - 130	4	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.5	60.8		ng/L		98	70 - 130	3	30
Perfluorononanoic acid (PFNA)	<2.0		60.5	57.4		ng/L		95	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	3.6		60.5	61.6		ng/L		96	70 - 130	0	30
Perfluorooctanoic acid (PFOA)	<2.0		60.5	58.3		ng/L		94	70 - 130	0	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.5	59.1		ng/L		98	70 - 130	2	30
Perfluorobutanoic acid (PFBA)	<2.0		60.5	58.6		ng/L		97	70 - 130	0	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.5	57.5		ng/L		95	70 - 130	4	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.5	58.1		ng/L		96	70 - 130	3	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.5	56.5		ng/L		93	70 - 130	8	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.5	63.6		ng/L		105	70 - 130	15	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.5	56.4		ng/L		93	70 - 130	6	30

QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

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

Lab Sample ID: 380-123519-3 MSD

Client Sample ID: HALAWA SHAFT VIEW POOL

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 120640

Prep Batch: 120552

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier						
Perfluoro-3-methoxypropanoic acid (PFMPa)	<2.0		60.5	59.3		ng/L		98	70 - 130	3	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.5	56.6		ng/L		94	70 - 130	0	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.5	58.1		ng/L		95	70 - 130	0	30
Perfluoroheptanesulfonic acid (PFHpS)	2.0		60.5	57.3		ng/L		95	70 - 130	3	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.5	58.3		ng/L		96	70 - 130	2	30
		MSD	MSD								
Isotope Dilution		%Recovery	Qualifier	Limits							
13C3 HFPO-DA		93		50 - 200							
13C6 PFDA		90		50 - 200							
13C5 PFHxA		95		50 - 200							
13C4 PFHpA		95		50 - 200							
13C8 PFOA		94		50 - 200							
13C9 PFNA		92		50 - 200							
13C7 PFUnA		96		50 - 200							
13C2 PFDoA		100		50 - 200							
13C4 PFBA		99		50 - 200							
13C5 PFPeA		105		50 - 200							
13C3 PFBS		108		50 - 200							
13C3 PFHxS		108		50 - 200							
13C8 PFOS		108		50 - 200							
13C2-4:2-FTS		140		50 - 200							
13C2-6:2-FTS		128		50 - 200							
13C2-8:2-FTS		118		50 - 200							

Lab Sample ID: MBL 380-120791/20-A

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 120951

Prep Batch: 120791

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		11/26/24 06:39	11/26/24 21:57	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		11/26/24 06:39	11/26/24 21:57	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		11/26/24 06:39	11/26/24 21:57	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		11/26/24 06:39	11/26/24 21:57	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		11/26/24 06:39	11/26/24 21:57	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		11/26/24 06:39	11/26/24 21:57	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		11/26/24 06:39	11/26/24 21:57	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		11/26/24 06:39	11/26/24 21:57	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		11/26/24 06:39	11/26/24 21:57	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		11/26/24 06:39	11/26/24 21:57	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		11/26/24 06:39	11/26/24 21:57	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		11/26/24 06:39	11/26/24 21:57	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		11/26/24 06:39	11/26/24 21:57	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		11/26/24 06:39	11/26/24 21:57	1

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QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

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

Lab Sample ID: MBL 380-120791/20-A
Matrix: Water
Analysis Batch: 120951

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 120791

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		11/26/24 06:39	11/26/24 21:57	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		11/26/24 06:39	11/26/24 21:57	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		11/26/24 06:39	11/26/24 21:57	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		11/26/24 06:39	11/26/24 21:57	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		11/26/24 06:39	11/26/24 21:57	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		11/26/24 06:39	11/26/24 21:57	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		11/26/24 06:39	11/26/24 21:57	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		11/26/24 06:39	11/26/24 21:57	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		11/26/24 06:39	11/26/24 21:57	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		11/26/24 06:39	11/26/24 21:57	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		11/26/24 06:39	11/26/24 21:57	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	89		50 - 200	11/26/24 06:39	11/26/24 21:57	1
13C6 PFDA	98		50 - 200	11/26/24 06:39	11/26/24 21:57	1
13C5 PFHxA	102		50 - 200	11/26/24 06:39	11/26/24 21:57	1
13C4 PFHpA	103		50 - 200	11/26/24 06:39	11/26/24 21:57	1
13C8 PFOA	103		50 - 200	11/26/24 06:39	11/26/24 21:57	1
13C9 PFNA	100		50 - 200	11/26/24 06:39	11/26/24 21:57	1
13C7 PFUnA	96		50 - 200	11/26/24 06:39	11/26/24 21:57	1
13C2 PFDoA	96		50 - 200	11/26/24 06:39	11/26/24 21:57	1
13C4 PFBA	98		50 - 200	11/26/24 06:39	11/26/24 21:57	1
13C5 PFPeA	100		50 - 200	11/26/24 06:39	11/26/24 21:57	1
13C3 PFBS	105		50 - 200	11/26/24 06:39	11/26/24 21:57	1
13C3 PFHxS	105		50 - 200	11/26/24 06:39	11/26/24 21:57	1
13C8 PFOS	110		50 - 200	11/26/24 06:39	11/26/24 21:57	1
13C2-4:2-FTS	113		50 - 200	11/26/24 06:39	11/26/24 21:57	1
13C2-6:2-FTS	103		50 - 200	11/26/24 06:39	11/26/24 21:57	1
13C2-8:2-FTS	90		50 - 200	11/26/24 06:39	11/26/24 21:57	1

Lab Sample ID: LCS 380-120791/22-A
Matrix: Water
Analysis Batch: 120951

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120791

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.2	60.1		ng/L		100	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.2	61.3		ng/L		102	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.2	56.7		ng/L		94	70 - 130

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QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

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

Lab Sample ID: LCS 380-120791/22-A
Matrix: Water
Analysis Batch: 120951

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120791

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	60.2	60.2		ng/L		100	70 - 130
Dimer Acid (HFPO-DA/GenX)							
Perfluorobutanesulfonic acid (PFBS)	60.2	64.0		ng/L		106	70 - 130
Perfluorodecanoic acid (PFDA)	60.2	59.3		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	60.2	58.6		ng/L		97	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.2	61.2		ng/L		102	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.2	58.9		ng/L		98	70 - 130
Perfluorohexanoic acid (PFHxA)	60.2	60.0		ng/L		100	70 - 130
Perfluorononanoic acid (PFNA)	60.2	60.2		ng/L		100	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.2	59.6		ng/L		99	70 - 130
Perfluorooctanoic acid (PFOA)	60.2	59.0		ng/L		98	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.2	62.4		ng/L		104	70 - 130
Perfluorobutanoic acid (PFBA)	60.2	59.3		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.2	63.7		ng/L		106	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.2	63.2		ng/L		105	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.2	59.1		ng/L		98	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.2	56.7		ng/L		94	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	60.2	59.0		ng/L		98	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.2	58.6		ng/L		97	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.2	54.7		ng/L		91	70 - 130
Perfluoropentanoic acid (PFPeA)	60.2	59.0		ng/L		98	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.2	61.4		ng/L		102	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	60.2	56.3		ng/L		93	70 - 130

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C3 HFPO-DA	103		50 - 200
13C6 PFDA	109		50 - 200
13C5 PFHxA	110		50 - 200
13C4 PFHpA	111		50 - 200
13C8 PFOA	112		50 - 200
13C9 PFNA	106		50 - 200
13C7 PFUnA	104		50 - 200
13C2 PFDoA	105		50 - 200
13C4 PFBA	104		50 - 200
13C5 PFPeA	108		50 - 200
13C3 PFBS	112		50 - 200
13C3 PFHxS	117		50 - 200
13C8 PFOS	112		50 - 200

QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

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

Lab Sample ID: LCS 380-120791/22-A
Matrix: Water
Analysis Batch: 120951

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120791

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C2-4:2-FTS	111		50 - 200
13C2-6:2-FTS	108		50 - 200
13C2-8:2-FTS	93		50 - 200

Lab Sample ID: MRL 380-120791/21-A
Matrix: Water
Analysis Batch: 120951

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120791

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.86	J	ng/L		93	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	1.91	J	ng/L		95	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.03	J	ng/L		101	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	2.01	J	ng/L		100	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	1.96	J	ng/L		98	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.06	J	ng/L		102	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.01	J	ng/L		100	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.12	J	ng/L		106	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.00	J	ng/L		100	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.00	J	ng/L		100	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.00	J	ng/L		100	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.13	J	ng/L		106	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.03	J	ng/L		101	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.07	J	ng/L		103	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	2.16	J	ng/L		107	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.08	J	ng/L		104	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.19	J	ng/L		109	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.32	J	ng/L		116	50 - 150
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	1.91	J	ng/L		95	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.01	2.06	J	ng/L		102	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	1.95	J	ng/L		97	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.83	J	ng/L		91	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	1.96	J	ng/L		97	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	1.98	J	ng/L		98	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	1.94	J	ng/L		97	50 - 150

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QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

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

<i>Isotope Dilution</i>	<i>MRL %Recovery</i>	<i>MRL Qualifier</i>	<i>Limits</i>
13C3 HFPO-DA	90		50 - 200
13C6 PFDA	97		50 - 200
13C5 PFHxA	104		50 - 200
13C4 PFHpA	100		50 - 200
13C8 PFOA	101		50 - 200
13C9 PFNA	102		50 - 200
13C7 PFUnA	94		50 - 200
13C2 PFDoA	94		50 - 200
13C4 PFBA	94		50 - 200
13C5 PFPeA	98		50 - 200
13C3 PFBS	109		50 - 200
13C3 PFHxS	111		50 - 200
13C8 PFOS	108		50 - 200
13C2-4:2-FTS	104		50 - 200
13C2-6:2-FTS	102		50 - 200
13C2-8:2-FTS	89		50 - 200

Lab Sample ID: 380-123497-B-1-A MS
Matrix: Water
Analysis Batch: 120951

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 120791

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MS Result</i>	<i>MS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.6	58.5		ng/L		96	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.6	62.1		ng/L		103	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.6	57.3		ng/L		95	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.6	59.0		ng/L		97	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.6	58.7		ng/L		97	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.6	61.8		ng/L		102	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.6	62.3		ng/L		103	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.6	63.8		ng/L		105	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.6	57.0		ng/L		94	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.6	63.1		ng/L		104	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.6	62.9		ng/L		104	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.6	61.2		ng/L		101	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.6	59.9		ng/L		99	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.6	60.8		ng/L		100	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.6	61.2		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.6	63.1		ng/L		104	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.6	62.4		ng/L		103	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.6	61.8		ng/L		102	70 - 130

QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

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

Lab Sample ID: 380-123497-B-1-A MS

Matrix: Water
Analysis Batch: 120951

Client Sample ID: Matrix Spike

Prep Type: Total/NA
Prep Batch: 120791

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nonafluoro-3,6-dioxahheptanoic acid (NFDHA)	<2.0		60.6	52.4		ng/L		87	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.6	61.0		ng/L		101	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.6	57.1		ng/L		94	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.6	53.6		ng/L		88	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.6	61.6		ng/L		102	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.6	62.9		ng/L		104	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.6	57.2		ng/L		94	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3 HFPO-DA	77		50 - 200
13C6 PFDA	89		50 - 200
13C5 PFHxA	83		50 - 200
13C4 PFHpA	85		50 - 200
13C8 PFOA	89		50 - 200
13C9 PFNA	87		50 - 200
13C7 PFUnA	94		50 - 200
13C2 PFDoA	92		50 - 200
13C4 PFBA	79		50 - 200
13C5 PFPeA	81		50 - 200
13C3 PFBS	113		50 - 200
13C3 PFHxS	114		50 - 200
13C8 PFOS	110		50 - 200
13C2-4:2-FTS	114		50 - 200
13C2-6:2-FTS	106		50 - 200
13C2-8:2-FTS	92		50 - 200

Lab Sample ID: 380-123497-B-1-B MSD

Matrix: Water
Analysis Batch: 120951

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA
Prep Batch: 120791

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.5	61.4		ng/L		101	70 - 130	5	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.5	62.4		ng/L		103	70 - 130	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.5	56.5		ng/L		93	70 - 130	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.5	61.4		ng/L		102	70 - 130	4	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.5	63.7		ng/L		105	70 - 130	8	30
Perfluorodecanoic acid (PFDA)	<2.0		60.5	64.2		ng/L		106	70 - 130	4	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.5	63.6		ng/L		105	70 - 130	2	30

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QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

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

Lab Sample ID: 380-123497-B-1-B MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 120951

Prep Batch: 120791

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoroheptanoic acid (PFHpA)	<2.0		60.5	63.6		ng/L		105	70 - 130	0	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.5	60.7		ng/L		100	70 - 130	6	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.5	61.9		ng/L		102	70 - 130	2	30
Perfluorononanoic acid (PFNA)	<2.0		60.5	65.0		ng/L		107	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.5	62.7		ng/L		104	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	<2.0		60.5	60.5		ng/L		100	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.5	64.2		ng/L		106	70 - 130	6	30
Perfluorobutanoic acid (PFBA)	<2.0		60.5	61.6		ng/L		102	70 - 130	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.5	60.3		ng/L		100	70 - 130	5	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.5	60.2		ng/L		100	70 - 130	4	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.5	64.2		ng/L		106	70 - 130	4	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.5	53.1		ng/L		88	70 - 130	1	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.5	58.6		ng/L		97	70 - 130	4	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.5	58.6		ng/L		97	70 - 130	3	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.5	54.3		ng/L		90	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.5	61.8		ng/L		102	70 - 130	0	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.5	63.5		ng/L		105	70 - 130	1	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.5	61.3		ng/L		101	70 - 130	7	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	MSD Limits
13C3 HFPO-DA	74		50 - 200
13C6 PFDA	86		50 - 200
13C5 PFHxA	81		50 - 200
13C4 PFHpA	80		50 - 200
13C8 PFOA	85		50 - 200
13C9 PFNA	82		50 - 200
13C7 PFUnA	90		50 - 200
13C2 PFDoA	91		50 - 200
13C4 PFBA	78		50 - 200
13C5 PFPeA	80		50 - 200
13C3 PFBS	113		50 - 200
13C3 PFHxS	114		50 - 200
13C8 PFOS	113		50 - 200
13C2-4:2-FTS	114		50 - 200
13C2-6:2-FTS	108		50 - 200
13C2-8:2-FTS	97		50 - 200

QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

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

Lab Sample ID: MBL 380-120624/21-A
Matrix: Water
Analysis Batch: 120796

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 120624

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		11/25/24 12:00	11/26/24 09:42	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		11/25/24 12:00	11/26/24 09:42	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		11/25/24 12:00	11/26/24 09:42	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		11/25/24 12:00	11/26/24 09:42	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		11/25/24 12:00	11/26/24 09:42	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		11/25/24 12:00	11/26/24 09:42	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		11/25/24 12:00	11/26/24 09:42	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		11/25/24 12:00	11/26/24 09:42	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		11/25/24 12:00	11/26/24 09:42	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		11/25/24 12:00	11/26/24 09:42	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		11/25/24 12:00	11/26/24 09:42	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		11/25/24 12:00	11/26/24 09:42	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		11/25/24 12:00	11/26/24 09:42	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		11/25/24 12:00	11/26/24 09:42	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		11/25/24 12:00	11/26/24 09:42	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<0.30		2.0	ng/L		11/25/24 12:00	11/26/24 09:42	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		11/25/24 12:00	11/26/24 09:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		11/25/24 12:00	11/26/24 09:42	1

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	111		70 - 130	11/25/24 12:00	11/26/24 09:42	1
13C2 PFHxA	117		70 - 130	11/25/24 12:00	11/26/24 09:42	1
13C2 PFDA	114		70 - 130	11/25/24 12:00	11/26/24 09:42	1
13C3-GenX	112		70 - 130	11/25/24 12:00	11/26/24 09:42	1

Lab Sample ID: LCS 380-120624/23-A
Matrix: Water
Analysis Batch: 120796

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120624

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	50.0	51.5		ng/L		103	70 - 130
Perfluorooctanesulfonic acid (PFOS)	50.0	53.7		ng/L		107	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.0	50.6		ng/L		101	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.0	51.8		ng/L		104	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.0	49.7		ng/L		99	70 - 130
Perfluorohexanoic acid (PFHxA)	50.0	52.4		ng/L		105	70 - 130
Perfluorododecanoic acid (PFDoA)	50.0	51.7		ng/L		103	70 - 130
Perfluorooctanoic acid (PFOA)	50.0	52.5		ng/L		105	70 - 130
Perfluorodecanoic acid (PFDA)	50.0	48.1		ng/L		96	70 - 130

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QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

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

Lab Sample ID: LCS 380-120624/23-A
Matrix: Water
Analysis Batch: 120796

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120624

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanesulfonic acid (PFHxS)	50.0	54.4		ng/L		109	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.0	54.2		ng/L		108	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.0	52.5		ng/L		105	70 - 130
Perfluorononanoic acid (PFNA)	50.0	52.2		ng/L		104	70 - 130
Perfluorotetradecanoic acid (PFTA)	50.0	48.6		ng/L		97	70 - 130
Perfluorotridecanoic acid (PFTTrDA)	50.0	49.0		ng/L		98	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	50.0	54.0		ng/L		108	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.0	50.7		ng/L		101	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.0	51.2		ng/L		102	70 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
d5-NEtFOSAA	111		70 - 130
13C2 PFHxA	118		70 - 130
13C2 PFDA	112		70 - 130
13C3-GenX	117		70 - 130

Lab Sample ID: MRL 380-120624/22-A
Matrix: Water
Analysis Batch: 120796

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120624

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.17	J	ng/L		108	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.27	J	ng/L		113	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.11	J	ng/L		105	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.19	J	ng/L		109	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.16	J	ng/L		108	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.27	J	ng/L		113	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.12	J	ng/L		106	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.25	J	ng/L		112	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.12	J	ng/L		106	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.26	J	ng/L		113	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.28	J	ng/L		114	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.24	J	ng/L		112	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.16	J	ng/L		108	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.10	J	ng/L		105	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

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

Lab Sample ID: MRL 380-120624/22-A
Matrix: Water
Analysis Batch: 120796

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120624

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorotridecanoic acid (PFTTrDA)	2.00	2.11	J	ng/L		105	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.25	J	ng/L		112	50 - 150
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.23	J	ng/L		111	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.26	J	ng/L		113	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	122		70 - 130
13C2 PFHxA	118		70 - 130
13C2 PFDA	114		70 - 130
13C3-GenX	121		70 - 130

Lab Sample ID: 380-123497-A-1-B MS
Matrix: Water
Analysis Batch: 120796

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 120624

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.2	51.0		ng/L		102	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		50.2	53.8		ng/L		107	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		50.2	51.6		ng/L		103	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.2	52.6		ng/L		105	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.2	51.3		ng/L		102	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		50.2	54.5		ng/L		108	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		50.2	52.8		ng/L		105	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		50.2	54.2		ng/L		108	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		50.2	51.5		ng/L		103	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		50.2	55.6		ng/L		111	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		50.2	54.7		ng/L		109	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		50.2	53.2		ng/L		106	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		50.2	53.4		ng/L		106	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		50.2	50.9		ng/L		101	70 - 130
Perfluorotridecanoic acid (PFTTrDA)	<2.0		50.2	51.5		ng/L		103	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.2	54.4		ng/L		108	70 - 130
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.2	53.3		ng/L		106	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

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

Lab Sample ID: 380-123497-A-1-B MS
Matrix: Water
Analysis Batch: 120796

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 120624

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.2	54.8		ng/L		109	70 - 130	
Surrogate	MS MS %Recovery Qualifier		Limits							
d5-NEtFOSAA		111		70 - 130						
13C2 PFHxA		119		70 - 130						
13C2 PFDA		112		70 - 130						
13C3-GenX		117		70 - 130						

Lab Sample ID: 380-123497-A-1-C MSD
Matrix: Water
Analysis Batch: 120796

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 120624

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.2	51.0		ng/L		102	70 - 130	0	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		50.2	55.8		ng/L		111	70 - 130	4	30
Perfluoroundecanoic acid (PFUnA)	<2.0		50.2	54.2		ng/L		108	70 - 130	5	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.2	52.0		ng/L		104	70 - 130	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.2	51.1		ng/L		102	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	<2.0		50.2	55.1		ng/L		110	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	<2.0		50.2	53.5		ng/L		107	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	<2.0		50.2	57.1		ng/L		114	70 - 130	5	30
Perfluorodecanoic acid (PFDA)	<2.0		50.2	52.8		ng/L		105	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		50.2	56.2		ng/L		112	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		50.2	54.6		ng/L		109	70 - 130	0	30
Perfluoroheptanoic acid (PFHpA)	<2.0		50.2	55.7		ng/L		111	70 - 130	5	30
Perfluorononanoic acid (PFNA)	<2.0		50.2	53.2		ng/L		106	70 - 130	0	30
Perfluorotetradecanoic acid (PFTA)	<2.0		50.2	50.8		ng/L		101	70 - 130	0	30
Perfluorotridecanoic acid (PFTTrDA)	<2.0		50.2	53.1		ng/L		106	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.2	53.8		ng/L		107	70 - 130	1	30
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.2	54.1		ng/L		108	70 - 130	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.2	56.6		ng/L		113	70 - 130	3	30
Surrogate	MSD MSD %Recovery Qualifier		Limits								
d5-NEtFOSAA		114		70 - 130							
13C2 PFHxA		122		70 - 130							
13C2 PFDA		121		70 - 130							

QC Sample Results

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

Job ID: 380-123519-1
SDG: Weekly

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

Lab Sample ID: 380-123497-A-1-C MSD
Matrix: Water
Analysis Batch: 120796

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 120624

<i>Surrogate</i>	<i>MSD</i>	<i>MSD</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
13C3-GenX	121		70 - 130

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QC Association Summary

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

Job ID: 380-123519-1
SDG: Weekly

GC/MS Semi VOA

Prep Batch: 120635

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-123519-1	HALAWA SHAFT VIEW POOL	Total/NA	Water	525.2	
MB 380-120635/21-A	Method Blank	Total/NA	Water	525.2	
LCS 380-120635/23-A	Lab Control Sample	Total/NA	Water	525.2	
MRL 380-120635/22-A	Lab Control Sample	Total/NA	Water	525.2	
380-123576-G-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	525.2	
380-123576-H-1-A MS	Matrix Spike	Total/NA	Water	525.2	

Analysis Batch: 120827

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-123519-1	HALAWA SHAFT VIEW POOL	Total/NA	Water	525.2	120635
MB 380-120635/21-A	Method Blank	Total/NA	Water	525.2	120635
LCS 380-120635/23-A	Lab Control Sample	Total/NA	Water	525.2	120635
MRL 380-120635/22-A	Lab Control Sample	Total/NA	Water	525.2	120635
380-123576-G-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	525.2	120635
380-123576-H-1-A MS	Matrix Spike	Total/NA	Water	525.2	120635

Prep Batch: 507118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-123519-1	HALAWA SHAFT VIEW POOL	Total/NA	Water	625.1	
MB 570-507118/1-A	Method Blank	Total/NA	Water	625.1	
LCS 570-507118/2-A	Lab Control Sample	Total/NA	Water	625.1	
LCSD 570-507118/3-A	Lab Control Sample Dup	Total/NA	Water	625.1	
380-123576-A-1-B MS	Matrix Spike	Total/NA	Water	625.1	
380-123576-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	625.1	

Analysis Batch: 510911

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-123519-1	HALAWA SHAFT VIEW POOL	Total/NA	Water	625.1 SIM	507118
MB 570-507118/1-A	Method Blank	Total/NA	Water	625.1 SIM	507118
LCS 570-507118/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	507118
LCSD 570-507118/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	507118
380-123576-A-1-B MS	Matrix Spike	Total/NA	Water	625.1 SIM	507118
380-123576-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	625.1 SIM	507118

Analysis Batch: 512557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-123519-1	HALAWA SHAFT VIEW POOL	Total/NA	Water	625.1	507118
MB 570-507118/1-A	Method Blank	Total/NA	Water	625.1	507118

GC VOA

Analysis Batch: 508548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-123519-1	HALAWA SHAFT VIEW POOL	Total/NA	Water	8015B GRO LL	
380-123519-2	TB: HALAWA SHAFT VIEW POOL	Total/NA	Water	8015B GRO LL	
MB 570-508548/6	Method Blank	Total/NA	Water	8015B GRO LL	
LCS 570-508548/4	Lab Control Sample	Total/NA	Water	8015B GRO LL	
LCSD 570-508548/5	Lab Control Sample Dup	Total/NA	Water	8015B GRO LL	
MRL 570-508548/3	Lab Control Sample	Total/NA	Water	8015B GRO LL	
380-123126-C-3 MS	Matrix Spike	Total/NA	Water	8015B GRO LL	
380-123126-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8015B GRO LL	

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-123519-1
SDG: Weekly

GC Semi VOA

Prep Batch: 507978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-123519-1	HALAWA SHAFT VIEW POOL	Total/NA	Water	3510C	
MB 570-507978/1-A	Method Blank	Total/NA	Water	3510C	
LCS 570-507978/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 570-507978/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MRL 570-507978/4-A	Lab Control Sample	Total/NA	Water	3510C	
380-123576-C-1-B MS	Matrix Spike	Total/NA	Water	3510C	
380-123576-C-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	3510C	

Analysis Batch: 508534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-123519-1	HALAWA SHAFT VIEW POOL	Total/NA	Water	8015B	507978
MB 570-507978/1-A	Method Blank	Total/NA	Water	8015B	507978
LCS 570-507978/2-A	Lab Control Sample	Total/NA	Water	8015B	507978
LCSD 570-507978/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	507978
MRL 570-507978/4-A	Lab Control Sample	Total/NA	Water	8015B	507978
380-123576-C-1-B MS	Matrix Spike	Total/NA	Water	8015B	507978
380-123576-C-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	8015B	507978

LCMS

Prep Batch: 120552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-123519-3	HALAWA SHAFT VIEW POOL	Total/NA	Water	533	
MBL 380-120552/20-A	Method Blank	Total/NA	Water	533	
LCS 380-120552/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-120552/21-A	Lab Control Sample	Total/NA	Water	533	
380-123519-3 MS	HALAWA SHAFT VIEW POOL	Total/NA	Water	533	
380-123519-3 MSD	HALAWA SHAFT VIEW POOL	Total/NA	Water	533	

Prep Batch: 120624

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-123519-3	HALAWA SHAFT VIEW POOL	Total/NA	Water	537.1 DW	
MBL 380-120624/21-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-120624/23-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-120624/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-123497-A-1-B MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-123497-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 120640

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-123519-3	HALAWA SHAFT VIEW POOL	Total/NA	Water	533	120552
MBL 380-120552/20-A	Method Blank	Total/NA	Water	533	120552
LCS 380-120552/22-A	Lab Control Sample	Total/NA	Water	533	120552
MRL 380-120552/21-A	Lab Control Sample	Total/NA	Water	533	120552
380-123519-3 MS	HALAWA SHAFT VIEW POOL	Total/NA	Water	533	120552
380-123519-3 MSD	HALAWA SHAFT VIEW POOL	Total/NA	Water	533	120552

Prep Batch: 120791

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-123519-4	FB: HALAWA SHAFT VIEW POOL	Total/NA	Water	533	
MBL 380-120791/20-A	Method Blank	Total/NA	Water	533	

QC Association Summary

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

Job ID: 380-123519-1
 SDG: Weekly

LCMS (Continued)

Prep Batch: 120791 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 380-120791/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-120791/21-A	Lab Control Sample	Total/NA	Water	533	
380-123497-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-123497-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 120796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-123519-3	HALAWA SHAFT VIEW POOL	Total/NA	Water	537.1	120624
MBL 380-120624/21-A	Method Blank	Total/NA	Water	537.1	120624
LCS 380-120624/23-A	Lab Control Sample	Total/NA	Water	537.1	120624
MRL 380-120624/22-A	Lab Control Sample	Total/NA	Water	537.1	120624
380-123497-A-1-B MS	Matrix Spike	Total/NA	Water	537.1	120624
380-123497-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	120624

Analysis Batch: 120951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-123519-4	FB: HALAWA SHAFT VIEW POOL	Total/NA	Water	533	120791
MBL 380-120791/20-A	Method Blank	Total/NA	Water	533	120791
LCS 380-120791/22-A	Lab Control Sample	Total/NA	Water	533	120791
MRL 380-120791/21-A	Lab Control Sample	Total/NA	Water	533	120791
380-123497-B-1-A MS	Matrix Spike	Total/NA	Water	533	120791
380-123497-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	533	120791

Lab Chronicle

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

Job ID: 380-123519-1
SDG: Weekly

Client Sample ID: HALAWA SHAFT VIEW POOL

Lab Sample ID: 380-123519-1

Date Collected: 11/19/24 10:00

Matrix: Water

Date Received: 11/22/24 09:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			120635	KRD3	EA POM	11/25/24 10:43
Total/NA	Analysis	525.2		1	120827	UPAC	EA POM	11/26/24 18:40
Total/NA	Prep	625.1			507118	H1SH	EET CAL 4	11/25/24 06:08
Total/NA	Analysis	625.1		1	512557	CG	EET CAL 4	12/11/24 12:08
Total/NA	Prep	625.1			507118	H1SH	EET CAL 4	11/25/24 06:08
Total/NA	Analysis	625.1 SIM		1	510911	AX7Z	EET CAL 4	12/06/24 14:43
Total/NA	Analysis	8015B GRO LL		1	508548	A9VE	EET CAL 4	11/29/24 18:19
Total/NA	Prep	3510C			507978	H6FE	EET CAL 4	11/26/24 17:51
Total/NA	Analysis	8015B		1	508534	E5RH	EET CAL 4	11/29/24 15:34

Client Sample ID: TB: HALAWA SHAFT VIEW POOL

Lab Sample ID: 380-123519-2

Date Collected: 11/19/24 10:00

Matrix: Water

Date Received: 11/22/24 09:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	508548	A9VE	EET CAL 4	11/29/24 16:09

Client Sample ID: HALAWA SHAFT VIEW POOL

Lab Sample ID: 380-123519-3

Date Collected: 11/19/24 10:00

Matrix: Water

Date Received: 11/22/24 09:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			120552	HM3M	EA POM	11/24/24 18:39
Total/NA	Analysis	533		1	120640	SZ9R	EA POM	11/25/24 15:32
Total/NA	Prep	537.1 DW			120624	G9MN	EA POM	11/25/24 12:00
Total/NA	Analysis	537.1		1	120796	SZ9R	EA POM	11/26/24 11:46

Client Sample ID: FB: HALAWA SHAFT VIEW POOL

Lab Sample ID: 380-123519-4

Date Collected: 11/19/24 10:00

Matrix: Water

Date Received: 11/22/24 09:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			120791	XTD8	EA POM	11/26/24 06:39
Total/NA	Analysis	533		1	120951	Y5FM	EA POM	11/26/24 22:54

Laboratory References:

EA POM = Eurofins Eaton Analytical Pomona, 941 Corporate Center Drive, Pomona, CA 91768-2642, TEL (626)386-1100
EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

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

Job ID: 380-123519-1
SDG: Weekly

Laboratory: Eurofins Eaton Analytical Pomona

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

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	01-31-25
<p>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.</p>			
Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	Water	1-Methylnaphthalene
525.2	525.2	Water	2,4'-DDD
525.2	525.2	Water	2,4'-DDE
525.2	525.2	Water	2,4'-DDT
525.2	525.2	Water	2,4-Dinitrotoluene
525.2	525.2	Water	2,6-Dinitrotoluene
525.2	525.2	Water	2-Methylnaphthalene
525.2	525.2	Water	4,4'-DDD
525.2	525.2	Water	4,4'-DDE
525.2	525.2	Water	4,4' DDT
525.2	525.2	Water	Acetochlor
525.2	525.2	Water	alpha-BHC
525.2	525.2	Water	alpha-Chlordane
525.2	525.2	Water	beta-BHC
525.2	525.2	Water	Chlorobenzilate
525.2	525.2	Water	Chloroneb
525.2	525.2	Water	Chlorothalonil (Draconil, Bravo)
525.2	525.2	Water	Chlorpyrifos
525.2	525.2	Water	delta-BHC
525.2	525.2	Water	Diclorvos (DDVP)
525.2	525.2	Water	Endosulfan I (Alpha)
525.2	525.2	Water	Endosulfan II (Beta)
525.2	525.2	Water	Endosulfan sulfate
525.2	525.2	Water	Endrin aldehyde
525.2	525.2	Water	EPTC
525.2	525.2	Water	gamma-Chlordane
525.2	525.2	Water	Isophorone
525.2	525.2	Water	Malathion
525.2	525.2	Water	Parathion
525.2	525.2	Water	Pendimethalin (Penoxaline)
525.2	525.2	Water	Terbacil
525.2	525.2	Water	Terbutylazine
525.2	525.2	Water	Total Permethrin (mixed isomers)
525.2	525.2	Water	trans-Nonachlor

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-25
Arkansas DEQ	State	88-0161	07-02-25
California	Los Angeles County Sanitation Districts	9257304	07-31-26
California	State	3082	07-31-26
Kansas	NELAP	E-10420	07-31-25
Nevada	State	CA00111	07-31-25

Accreditation/Certification Summary

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

Job ID: 380-123519-1
SDG: Weekly

Laboratory: Eurofins Calscience (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4175	02-02-25
USDA	US Federal Programs	P330-22-00059	06-08-26
Washington	State	C916-18	10-11-25

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Method Summary

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

Job ID: 380-123519-1
SDG: Weekly

Method	Method Description	Protocol	Laboratory
525.2	Semivolatile Organic Compounds (GC/MS)	EPA	EA POM
625.1	Semivolatile Organic Compounds (GC/MS)	EPA	EET CAL 4
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	EPA	EET CAL 4
8015B GRO LL	Gasoline Range Organics - (GC)	SW846	EET CAL 4
8015B	Diesel Range Organics (DRO) (GC) Low Level	SW846	EET CAL 4
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA POM
537.1	Perfluorinated Alkyl Acids (LC/MS)	EPA	EA POM
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET CAL 4
5030C	Purge and Trap	SW846	EET CAL 4
525.2	Extraction of Semivolatile Compounds	EPA	EA POM
533	Extraction of Perfluorinated and Polyfluorinated Alkyl Acids	EPA	EA POM
537.1 DW	Extraction of Perfluorinated Alkyl Acids	EPA	EA POM
625.1	Liquid-Liquid Extraction	40CFR136A	EET CAL 4

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

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

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

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

Job ID: 380-123519-1
SDG: Weekly

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-123519-1	HALAWA SHAFT VIEW POOL	Water	11/19/24 10:00	11/22/24 09:43
380-123519-2	TB: HALAWA SHAFT VIEW POOL	Water	11/19/24 10:00	11/22/24 09:43
380-123519-3	HALAWA SHAFT VIEW POOL	Water	11/19/24 10:00	11/22/24 09:43
380-123519-4	FB: HALAWA SHAFT VIEW POOL	Water	11/19/24 10:00	11/22/24 09:43

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Chain of Custody Record



Environment Testing

Client Information		Lab PM: Arada, Rachelle		Carrier Tracking No(s): 380-28027-2757 1	
Client Contact: Dr Ron Fenstermacher		E-Mail: Rachelle.Arada@eurofins.com		Page: Page 1 of 4	
City & County of Honolulu		PWSID:		Job #:	
Address: 630 South Beretania Street Chemistry Lab		Due Date Requested:		Preservation Codes: R - NaThioSO4 RA - NaThioHCl Q - Na2SO3 QA - Na2SO3+HCl Y - Trizma I - NH4 Acetate	
City: Honolulu		TAT Requested (days):		Total Number of Containers: XXXX	
State Zip: HI, 96843		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Other:	
Phone: 806-746-5091 (Tel)		PO #: C20525101 exp 05312023		Special Instructions/Note:	
Email: RFENSTEMACHER@hbws.org		WO #:		Special Instructions/Note:	
Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill		Project #: 38001111		Special Instructions/Note:	
Site: Hawaii		SSOW#:		Special Instructions/Note:	
Sample Identification		Field Filtered Sample (Yes or No)		Special Instructions/Note:	
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Sewage, Stormwater, Other)	Preservation Code
KAAMILO WELLS				Water	
AIEA GULCH WELLS PUMP 2				Water	
AIEA WELLS PUMPS 1&2 (260)				Water	
HALAWA WELLS UNITS 1&2				Water	
HALAWA SHAFT VIEWING POOL				Water	
KAAMILO WELLS				Water	
AIEA GULCH WELLS PUMP 2				Water	
AIEA WELLS PUMPS 1&2 (260)				Water	
HALAWA WELLS UNITS 1&2				Water	
HALAWA SHAFT VIEWING POOL	11/19/24	1000	G	Water	380-123519 COC
KAAMILO WELLS TRIP BLANK PK 11/17/24				Water	
Possible Hazard Identification		Return To Client <input type="checkbox"/>		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"/> Unknown <input type="checkbox"/> Radiological		<input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Special Instructions/QC Requirements	
Deliverable Requested I II III, IV Other (specify)		Empty Kit Relinquished by:		Method of Shipment: <u>① F101 0242 5680</u>	
Date/Time: 11/20/24 1300		Date/Time: 11/22/24 09:43		Company: <u>EEAF</u>	
Date/Time: [Redacted]		Date/Time: [Redacted]		Company: [Redacted]	
Date/Time: [Redacted]		Date/Time: [Redacted]		Company: [Redacted]	
Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Custody Seal No		Colder Temperature(s) °C and Other Remarks: <u>(F51A) ① 0.3-0.0-0.3 ② 2.1-0.0-2.1</u>	



Chain of Custody Record



Environment Testing

Client Information		Lab PM: Arada, Rachelle		Carrier Tracking No(s): 380-28027-2757.2	
Client Contact: Dr Ron Fenstermacher		E-Mail: Rachelle.Arada@et.eurofins.com		Page: Page 2 of 4	
City & County of Honolulu		PWSID:		Job #:	
Address: 630 South Beretania Street Chemistry Lab		Due Date Requested		Preservation Codes:	
City: Honolulu		TAT Requested (days):		R - NaThioSO4	
State, Zip: HI, 96843		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		RA - NaThioHCl	
Phone: 808-748-5091 (Tel)		PO #: C20525101 exp 05312023		Q - Na2SO3	
Email: RFENSTEMACHER@hbws.org		WO #:		QA - Na2SO3/HCl	
Project #: 38001111		Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill		Y - Trizma	
Site: Hawaii		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/>		I - NH4 Acetate	
		Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/>		Other	
		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/>		Total Number of Containers	
		Sample Date		Special Instructions/Note:	
		Sample Time			
		Sample Type (C=Comp, G=grab)			
		Matrix (Water, Seawater, Onsite, Other)			
		Preservation Code:			
Sample Identification		625.1, 625.1 SIM		625.1 SIM - (MOD) Extended PAH List	
AIEA GULCH WELLS PUMP 2		Water		53 - All Analytes	
AIEA WELLS PUMPS 1&2 (260)		Water		537.1 DW_PREC - 637.1 Full List	
HALAWA WELLS UNITS 1&2		Water		525.2 PREC - (MOD) 625plus Plus Tics	
HALAWA SHAFT VIEWING POOL		Water		C18	
KAAMILO WELLS		Water		8015B_DRO_LL_CS - HNL Ranges C10-C24/C24-C38/C8-	
AIEA GULCH WELLS PUMP 2		Water		8015B_GRO_LL - (MOD) GRO	
AIEA WELLS PUMPS 1&2 (260)		Water		33	
HALAWA WELLS UNITS 1&2		Water			
HALAWA SHAFT VIEWING POOL		Water			
TB KAAMILO WELLS		Water			
TB AIEA GULCH WELLS PUMP2		Water			
Possible Hazard Identification		Return To Client <input type="checkbox"/>		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Disposal By Lab <input type="checkbox"/>		Archive For _____ Months	
Deliverable Requested I, II, III, IV Other (specify)		Special Instructions/QC Requirements:		Method of Shipment: <input checked="" type="checkbox"/> FEDEX <input type="checkbox"/> Other	
Empty Kit Relinquished by:		Date/Time:		Date/Time:	
Relinquished by: Ryan Greer		11/20/24 1300		11/22/24 09:43	
Relinquished by:		Company: HBWS		Company: EEA	
Relinquished by:		Company:		Company:	
Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Custody Seal No		Cooler Temperature(s) °C and Other Remarks: 2.1°-0.0°-0.3°	



Chain of Custody Record



Client Information		Sampler	Lab PM:	Carrier Tracking No(s):		COC No:
Client Contact Dr Ron Fenstemacher		Arada, Rachelle	Arada, Rachelle	390-28027-2757 3		390-28027-2757 3
Company City & County of Honolulu		Phone:	E-Mail:	State of Origin:		Page: Page 3 of 4
Address: 630 South Beretania Street Chemistry Lab City: Honolulu		PWSID:		Job #:		Preservation Codes: R - NaThioSO4 FA - NaThioHCl Q - Na2SO3 QA - Na2SO3/HCl Y - Trizma I - NH4 Acetate
State, Zip: HI, 96843		Due Date Requested:		Analysis Requested		Other
Phone: 808-748-5091(Tel)		TAT Requested (days):		Total Number of containers		Special Instructions/Note:
Email: RFENSTEMACHER@hbws.org		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Project #: 38001111		PO #: C20525101 exp 05312023				
Event Desc: RUSH Weekly Red Hill		WO #:				
Site: Hawaii		Field Filtered Sample (Yes or No)				
		Perform MS/MSD (Yes or No)				
		625.1, 625.1 SIM				
		8015B_GRO_LL (MOD) GRO				
		8015B_DRO_LL_CS - HNL Ranges C10-C24/C24-C38/C8-				
		C18				
		625.2_PREC - (MOD) 625plus Plus TICs				
		637.1_DW_PREC - 637.1 Full List				
		533 - All Analytes				
		625.1_SIM - (MOD) Extended PAH List				
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Seawater, On-water, BT= tissue, Anal)	Preservation Code	
TB AIEA WELLS PUMPS 1&2 (260)				Water		
TB HALAWA WELLS UNITS 1&2				Water		
TB HALAWA SHAFT VIEWING POOL				Water		
KAAMILO WELLS				Water		
AIEA GULCH WELLS PUMP 2				Water		
AIEA WELLS PUMPS 1&2 (260)				Water		
HALAWA WELLS UNITS 1&2				Water		
HALAWA SHAFT VIEWING POOL				Water		
FB KAAMILO WELLS				Water		
FB AIEA GULCH WELLS PUMP 2				Water		
FB AIEA WELLS PUMPS 1&2 (260)				Water		

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

Deliverable Requested I II III IV Other (specify)

Empty Kit Relinquished by: _____ Date: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: _____ Custody Seal No _____
 Yes No

Special Instructions/QC Requirements
 Return To Client Disposal By Lab Archive For _____ Months
 Method of Shipment: FEDEX Other: _____
 Date/Time: 11/22/24/09:43 Company: ECAF
 Date/Time: _____ Company: _____
 Date/Time: _____ Company: _____

Cooler Temperature(s) °C and Other Remarks: 2.1° 0.0° ± 0.3° (2)



Client Information Client Contact: Dr. Ron Fenstermacher Company: City & County of Honolulu Address: 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: Hawaii		Lab PM: Arada, Rachelle E-Mail: Rachelle.Arada@et.eurofins.com PMSID:		Carrier Tracking No(s): State of Origin:		COC No: 380-28027-2757 4 Page: Page 4 of 4 Job #:			
Due Date Requested: TAT Requested (days): Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No PO #: C20525101 exp 05312023 WO #: Project #: 38001111 SSOV#:		Analysis Requested 8015B_GRO_LL - (MOD) GRO 8015B_DRO_LL_CS - HNL Ranges C10-C24/C24-C36/C8-C18 525.2_PREC - (MOD) 525plus Plus TICs 637 1_DW_PREC - 637 1 Full List 633 All Analytes 625.1_SIM - (MOD) Extended PAH List		Preservation Codes: R - NaThioSO4 RA - NaThio/HCl Q - Na2SO3 QA - Na2SO3/HCl Y - Trizma I - NH4 Acetate Other:		Total Number of Containers:		Special Instructions/Note:	
Sample Identification FB, HALAWA WELLS UNITS 1&2 FB HALAWA SHAFT VIEWING POOL Matrix Spike Matrix Spike Duplicate	Sample Date 11/19/24	Sample Time 1000	Sample Type (C=comp, G=grab) G	Matrix (Water, Swab, Dermal, Other, Tissue, Air) Water Water Water Water	Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/>	Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/>	625.1, 625.1 SIM RA Q 8015B_GRO_LL - (MOD) GRO 8015B_DRO_LL_CS - HNL Ranges C10-C24/C24-C36/C8-C18 525.2_PREC - (MOD) 525plus Plus TICs 637 1_DW_PREC - 637 1 Full List 633 All Analytes 625.1_SIM - (MOD) Extended PAH List	R R Q RA Q Y I R	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For		Method of Shipment: <u>FEDEX</u> <u>0242 5680</u> Date/Time: <u>11/22/24</u> Company: <u>EEAF</u> Date/Time: <u>09/4/3</u> Company:		Date/Time:		Date/Time:	
Empty Kit Relinquished by Relinquished by:		Date/Time:		Date/Time:		Date/Time:		Date/Time:	
Relinquished by:		Date/Time:		Date/Time:		Date/Time:		Date/Time:	
Relinquished by:		Date/Time:		Date/Time:		Date/Time:		Date/Time:	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No		Copier Temperature: <u>21.0-0.0</u> °C and Other Remarks: <u>2.1-0.0-2.1</u> °C <u>FF-Frame</u>		Ver: 10/10/2024			



Chain of Custody Record



Sub Contract Lab		Sampler: N/A		Lab PM: Arada, Rachelle		Carrier Tracking No(s): N/A		COC No: 380-171845.1					
		Phone: N/A		E-Mail: Rachelle.Arada@et.eurofinsus.com		State of Origin: Hawaii		Page: Page 1 of 1					
ing Southwest,				Accreditations Required (See note): State - Hawaii				Job #: 380-123519-1					
OO,		Due Date Requested: 12/9/2024		Analysis Requested Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) 8015B_DRO_LL_CS/510C_LL_HNL_Ranges: C10-C24/C24-C36/C8-C18 8015B_GRO_LL/6030C (MOD) GRO 625.1_SIM/625_Prep (MOD) Extended PAH List 625.1/625_Prep (MOD) Tentatively Identified Compounds (Hold)					Preservation Codes:				
		TAT Requested (days): N/A							Total Number of containers		Other: N/A		
		PO #: N/A											
		WO #: N/A											
		Project #: 38001111											
		SSOW#: N/A											
Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Sewer, Wastewater, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015B_DRO_LL_CS/510C_LL_HNL_Ranges: C10-C24/C24-C36/C8-C18	8015B_GRO_LL/6030C (MOD) GRO	625.1_SIM/625_Prep (MOD) Extended PAH List	625.1/625_Prep (MOD) Tentatively Identified Compounds (Hold)	Total Number of containers	Special Instructions/Note:
				Preservation Code:									
POOL (380-123519-1)		11/19/24	10:00 Hawaiian	G	Water		X	X	X	X		7	MRLs are needed. Confirm any hits >RL.
W POOL (380-123519-2)		11/19/24	10:00 Hawaiian	G	Water			X				2	MRLs are needed.
Methods are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Eaton Analytical, LLC.													
Disposition						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months							
I, III, IV, Other (specify)						Primary Deliverable Rank: 2		Special Instructions/QC Requirements:					
		Date:		Time:		Method of Shipment:							
<i>W</i>		Date/Time: 11/23/24 1005		Company: <i>Exx</i>		Received by: <i>Erin Lerrina</i>		Date/Time: 11/23/24 1005		Company: <i>WPDD</i>			
<i>Lerrina</i>		Date/Time: 11/23/24 1058		Company: <i>WPDD</i>		Received by: <i>Alana</i>		Date/Time: 11/23/2024 1058		Company: <i>PC</i>			
		Date/Time:		Company:		Received by:		Date/Time:		Company:			
Custody Seal No.:						Cooler Temperature(s) °C and Other Remarks: 2.1/2.8 SC12							

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-123519-1

SDG Number: Weekly

Login Number: 123519

List Number: 1

Creator: Ngo, Theodore

List Source: Eurofins Eaton Analytical Pomona

Question	Answer	Comment
The coolers custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler(s) Temperature is acceptable.	True	
Cooler(s) Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and is 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	
CIO4 headspace requirement met (>50% for CA, >30% for other states).	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-123519-1

SDG Number: Weekly

Login Number: 123519

List Number: 2

Creator: Cruise, Noel

List Source: Eurofins Calscience

List Creation: 11/23/24 12:04 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	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	
Is the Field Sampler's name present on COC?	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	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	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	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

