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ANALYTICAL REPORT

PREPARED FOR

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

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JOB DESCRIPTION

RED-HILL
RUSH Weekly Red Hill

JOB NUMBER

380-42066-1

Eurofins Eaton Analytical Pomona

Job Notes

Laboratory certifies that the test results meet all TNI 2016 and ISO/IEC 17025:2017 requirements unless noted under the individual analysis.

Following the cover page are State Certification List, ISO 17025 Accredited Method List, Acknowledgement of Samples Received, Comments, Hits Report, Data Report, QC Summary, QC Report and Regulatory Forms, as applicable.

Test results relate only to the sample(s) tested.

Test results apply to the sample(s) as received, unless otherwise noted in the comments report (ISO/IEC 17025:2017).

This report shall not be reproduced except in full, without the written approval of the laboratory.

This report includes ISO/IEC 17025 and non-ISO 17025 accredited methods.

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



Authorized for release by
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Revision 1



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Definitions/Glossary

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

Job ID: 380-42066-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
^3+	Reporting Limit Check Standard is outside acceptance limits, high biased
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
T	Result is a tentatively identified compound (TIC) and an estimated value.

LCMS

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

Subcontract

Qualifier	Qualifier Description
U	This analyte was not detected.

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/Site: RED-HILL

Job ID: 380-42066-1

Job ID: 380-42066-1

Laboratory: Eurofins Eaton Analytical Pomona

Narrative

Job Narrative 380-42066-1

Revision

The report being provided is a revision of the original report sent on 5/25/2023. The report (revision 1) is being revised to: remove Method 533 results with QC failures that deemed the data unreportable.

Comments

No additional comments.

Receipt

The samples were received on 3/30/2023 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.1° C.

Receipt Exceptions

Method Subcontract: One or more containers for the following sample was received broken or leaking: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400) (380-42066-2). 1 of 2 bottles for 625.

GC/MS Semi VOA

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

LCMS

Method 533: IDA 13C3 HFPO-DA and 13C4 PFHpA failed outside of method limits for sample: MOANALUA WELLS (331-223-TP202) (380-42066-1) and AIEA WELLS PUMPS 1&2 (260) (331-203-TP400) (380-42066-2). Analyzed samples twice to confirm QC failures. Results are not acceptable per method. Samples have already passed holding time to re-extract. Please refer to flags.

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

Subcontract non-Sister

See attached subcontract report.

Organic Prep

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

Subcontract Work

Methods 8015 Gas (Purgeable) LL (EAL), 8015 LL DRO/MRO/JP5/JP8: These methods were subcontracted to EMAX Laboratories Inc. The subcontract laboratory certifications are different from that of the facility issuing the final report.

Method 625 PAH Physis LL (EAL) + TICs: This method was subcontracted to Physis Environmental Laboratories. The subcontract laboratory certification is different from that of the facility issuing the final report.

Detection Summary

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

Job ID: 380-42066-1

Client Sample ID: MOANALUA WELLS (331-223-TP202)
PWSID Number: HI0000331

Lab Sample ID: 380-42066-1

No Detections.

Client Sample ID: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)
PWSID Number: HI0000331

Lab Sample ID: 380-42066-2

No Detections.

Client Sample ID: HALAWA WELLS UNITS 1 & 2
(331-206-TP065)
PWSID Number: HI0000331

Lab Sample ID: 380-42066-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	2.2		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.2		2.0	ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	2.1		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	2.4		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.2		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanoic acid (PFHxA)	2.0		2.0	ng/L	1		537.1	Total/NA
Perfluorooctanoic acid (PFOA)	2.1		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.7		2.0	ng/L	1		537.1	Total/NA

Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)
PWSID Number: HI0000331

Lab Sample ID: 380-42066-4

No Detections.

Client Sample ID: TB:MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-42066-5

No Detections.

Client Sample ID: TB: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)

Lab Sample ID: 380-42066-6

No Detections.

Client Sample ID: TB: HALAWA WELLS UNITS 1&2
(331-206-TP065)

Lab Sample ID: 380-42066-7

No Detections.

Client Sample ID: TB:AIEA GULCH WELLS P2 (331-202-TP072)

Lab Sample ID: 380-42066-8

No Detections.

Client Sample ID: FB:MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-42066-9

No Detections.

Client Sample ID: FB: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)

Lab Sample ID: 380-42066-10

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Eaton Analytical Pomona

Detection Summary

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

Job ID: 380-42066-1

**Client Sample ID: FB: HALAWA WELLS UNITS 1&2
(331-206-TP065)**

Lab Sample ID: 380-42066-11

No Detections.

Client Sample ID: FB:AIEA GULCH WELLS P2 (331-202-TP072)

Lab Sample ID: 380-42066-12

No Detections.

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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: 380-42066-1

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-42066-1

Date Collected: 03/28/23 10:13

Matrix: Drinking Water

Date Received: 03/30/23 09:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
2,4'-DDE	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
2,4'-DDT	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
2,4-Dinitrotoluene	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
2,6-Dinitrotoluene	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
4,4'-DDD	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
4,4'-DDE	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
4,4'-DDT	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Acenaphthene	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Acenaphthylene	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Acetochlor	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Alachlor	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:35	1
alpha-BHC	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
alpha-Chlordane	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:35	1
Anthracene	ND		0.020	ug/L		03/31/23 10:30	04/03/23 15:35	1
Atrazine	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:35	1
Benz(a)anthracene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:35	1
Benzo[a]pyrene	ND		0.020	ug/L		03/31/23 10:30	04/03/23 15:35	1
Benzo[b]fluoranthene	ND		0.020	ug/L		03/31/23 10:30	04/03/23 15:35	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:35	1
Benzo[k]fluoranthene	ND		0.020	ug/L		03/31/23 10:30	04/03/23 15:35	1
beta-BHC	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Bromacil	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Butachlor	ND	^3+	0.049	ug/L		03/31/23 10:30	04/03/23 15:35	1
Butylbenzylphthalate	ND		0.49	ug/L		03/31/23 10:30	04/03/23 15:35	1
Caffeine	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:35	1
Chlorobenzilate	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Chloroneb	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Chlorothalonil (Draconil, Bravo)	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Chlorpyrifos	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:35	1
Chrysene	ND		0.020	ug/L		03/31/23 10:30	04/03/23 15:35	1
delta-BHC	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Di(2-ethylhexyl)adipate	ND		0.59	ug/L		03/31/23 10:30	04/03/23 15:35	1
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		03/31/23 10:30	04/03/23 15:35	1
Diazinon (Qualitative)	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Dibenz(a,h)anthracene	ND	^3+	0.049	ug/L		03/31/23 10:30	04/03/23 15:35	1
Diclorvos (DDVP)	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:35	1
Dieldrin	ND		0.20	ug/L		03/31/23 10:30	04/03/23 15:35	1
Diethylphthalate	ND		0.49	ug/L		03/31/23 10:30	04/03/23 15:35	1
Dimethoate	ND	*1	0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Dimethylphthalate	ND		0.49	ug/L		03/31/23 10:30	04/03/23 15:35	1
Di-n-butyl phthalate	ND		0.98	ug/L		03/31/23 10:30	04/03/23 15:35	1
Di-n-octyl phthalate	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Endosulfan I (Alpha)	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Endosulfan II (Beta)	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Endosulfan sulfate	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Endrin	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Endrin aldehyde	ND	^3+	0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
EPTC	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-42066-1

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-42066-1

Date Collected: 03/28/23 10:13

Matrix: Drinking Water

Date Received: 03/30/23 09:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Fluorene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:35	1
gamma-Chlordane	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:35	1
Heptachlor	ND		0.039	ug/L		03/31/23 10:30	04/03/23 15:35	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:35	1
Hexachlorobenzene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:35	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:35	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:35	1
Isophorone	ND		0.49	ug/L		03/31/23 10:30	04/03/23 15:35	1
Lindane	ND		0.039	ug/L		03/31/23 10:30	04/03/23 15:35	1
Malathion	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Methoxychlor	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Metolachlor	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:35	1
Metribuzin	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:35	1
Molinate	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Naphthalene	ND		0.29	ug/L		03/31/23 10:30	04/03/23 15:35	1
Parathion	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Pendimethalin (Penoxaline)	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Total Permethrin (mixed isomers)	ND	^3+	0.20	ug/L		03/31/23 10:30	04/03/23 15:35	1
Phenanthrene	ND		0.039	ug/L		03/31/23 10:30	04/03/23 15:35	1
Propachlor	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:35	1
Pyrene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:35	1
Simazine	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:35	1
Terbacil	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Terbutylazine	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1
Thiobencarb	ND		0.20	ug/L		03/31/23 10:30	04/03/23 15:35	1
trans-Nonachlor	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:35	1
Trifluralin	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:35	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	0.54	T J	ug/L		5.88	N/A	03/31/23 10:30	04/03/23 15:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	94		70 - 130	03/31/23 10:30	04/03/23 15:35	1
Triphenylphosphate	118		70 - 130	03/31/23 10:30	04/03/23 15:35	1
Perylene-d12	104		70 - 130	03/31/23 10:30	04/03/23 15:35	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)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:37	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:37	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:37	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:37	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:37	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:37	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:37	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:37	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:37	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-42066-1

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-42066-1

Date Collected: 03/28/23 10:13

Matrix: Drinking Water

Date Received: 03/30/23 09:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:37	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:37	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:37	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:37	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:37	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:37	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:37	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:37	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	87		70 - 130	04/06/23 11:00	04/08/23 21:37	1
13C2 PFHxA	102		70 - 130	04/06/23 11:00	04/08/23 21:37	1
13C2 PFDA	96		70 - 130	04/06/23 11:00	04/08/23 21:37	1
13C3-GenX	95		70 - 130	04/06/23 11:00	04/08/23 21:37	1

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
Acenaphthene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
Acenaphthylene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
Anthracene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
Biphenyl	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
Chrysene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
Dibenzothiophene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		03/31/23 00:00	04/09/23 12:20	1
Fluoranthene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
Fluorene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
Naphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
Perylene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
Phenanthrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1
Pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 12:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	66		27 - 133	03/31/23 00:00	04/09/23 12:20	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-42066-1

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-42066-1

Date Collected: 03/28/23 10:13

Matrix: Drinking Water

Date Received: 03/30/23 09:00

PWSID Number: HI0000331

Method: 625 PAH Physys LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Phenanthrene)	70		43 - 129	03/31/23 00:00	04/09/23 12:20	1
(d12-Chrysene)	71		52 - 144	03/31/23 00:00	04/09/23 12:20	1
(d12-Perylene)	91		36 - 161	03/31/23 00:00	04/09/23 12:20	1
(d8-Naphthalene)	63		25 - 125	03/31/23 00:00	04/09/23 12:20	1

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			04/03/23 16:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	91		60 - 140		04/03/23 16:04	1

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.029		mg/L			04/07/23 18:01	1
JP5	ND	U	0.058		mg/L			04/07/23 18:01	1
JP8	ND	U	0.058		mg/L			04/07/23 18:01	1
MOTOR OIL	ND	U	0.058		mg/L			04/07/23 18:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	86		60 - 130		04/07/23 18:01	1
HEXACOSANE	100		60 - 130		04/07/23 18:01	1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)

Lab Sample ID: 380-42066-2

Date Collected: 03/28/23 11:15

Matrix: Drinking Water

Date Received: 03/30/23 09:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
2,4'-DDE	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
2,4'-DDT	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
2,4-Dinitrotoluene	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
2,6-Dinitrotoluene	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
4,4'-DDD	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
4,4'-DDE	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
4,4'-DDT	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Acenaphthene	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Acenaphthylene	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Acetochlor	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Alachlor	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:55	1
alpha-BHC	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
alpha-Chlordane	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:55	1
Anthracene	ND		0.020	ug/L		03/31/23 10:30	04/03/23 15:55	1
Atrazine	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:55	1
Benz(a)anthracene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:55	1
Benzo[a]pyrene	ND		0.020	ug/L		03/31/23 10:30	04/03/23 15:55	1
Benzo[b]fluoranthene	ND		0.020	ug/L		03/31/23 10:30	04/03/23 15:55	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:55	1

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Client Sample Results

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

Job ID: 380-42066-1

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)**

Lab Sample ID: 380-42066-2

Date Collected: 03/28/23 11:15

Matrix: Drinking Water

Date Received: 03/30/23 09:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	ND		0.020	ug/L		03/31/23 10:30	04/03/23 15:55	1
beta-BHC	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Bromacil	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Butachlor	ND	^3+	0.049	ug/L		03/31/23 10:30	04/03/23 15:55	1
Butylbenzylphthalate	ND		0.49	ug/L		03/31/23 10:30	04/03/23 15:55	1
Caffeine	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:55	1
Chlorobenzilate	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Chloroneb	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Chlorothalonil (Draconil, Bravo)	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Chlorpyrifos	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:55	1
Chrysene	ND		0.020	ug/L		03/31/23 10:30	04/03/23 15:55	1
delta-BHC	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Di(2-ethylhexyl)adipate	ND		0.59	ug/L		03/31/23 10:30	04/03/23 15:55	1
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		03/31/23 10:30	04/03/23 15:55	1
Diazinon (Qualitative)	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Dibenz(a,h)anthracene	ND	^3+	0.049	ug/L		03/31/23 10:30	04/03/23 15:55	1
Diclorvos (DDVP)	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:55	1
Dieldrin	ND		0.20	ug/L		03/31/23 10:30	04/03/23 15:55	1
Diethylphthalate	ND		0.49	ug/L		03/31/23 10:30	04/03/23 15:55	1
Dimethoate	ND	*1	0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Dimethylphthalate	ND		0.49	ug/L		03/31/23 10:30	04/03/23 15:55	1
Di-n-butyl phthalate	ND		0.98	ug/L		03/31/23 10:30	04/03/23 15:55	1
Di-n-octyl phthalate	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Endosulfan I (Alpha)	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Endosulfan II (Beta)	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Endosulfan sulfate	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Endrin	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Endrin aldehyde	ND	^3+	0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
EPTC	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Fluoranthene	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Fluorene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:55	1
gamma-Chlordane	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:55	1
Heptachlor	ND		0.039	ug/L		03/31/23 10:30	04/03/23 15:55	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:55	1
Hexachlorobenzene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:55	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:55	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:55	1
Isophorone	ND		0.49	ug/L		03/31/23 10:30	04/03/23 15:55	1
Lindane	ND		0.039	ug/L		03/31/23 10:30	04/03/23 15:55	1
Malathion	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Methoxychlor	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Metolachlor	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:55	1
Metribuzin	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:55	1
Molinate	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Naphthalene	ND		0.29	ug/L		03/31/23 10:30	04/03/23 15:55	1
Parathion	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Pendimethalin (Penoxaline)	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Total Permethrin (mixed isomers)	ND	^3+	0.20	ug/L		03/31/23 10:30	04/03/23 15:55	1

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Client Sample Results

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

Job ID: 380-42066-1

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)**

Lab Sample ID: 380-42066-2

Date Collected: 03/28/23 11:15

Matrix: Drinking Water

Date Received: 03/30/23 09:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		0.039	ug/L		03/31/23 10:30	04/03/23 15:55	1
Propachlor	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:55	1
Pyrene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:55	1
Simazine	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:55	1
Terbacil	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Terbutylazine	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1
Thiobencarb	ND		0.20	ug/L		03/31/23 10:30	04/03/23 15:55	1
trans-Nonachlor	ND		0.049	ug/L		03/31/23 10:30	04/03/23 15:55	1
Trifluralin	ND		0.098	ug/L		03/31/23 10:30	04/03/23 15:55	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	03/31/23 10:30	04/03/23 15:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	96		70 - 130	03/31/23 10:30	04/03/23 15:55	1
Triphenylphosphate	112		70 - 130	03/31/23 10:30	04/03/23 15:55	1
Perylene-d12	109		70 - 130	03/31/23 10:30	04/03/23 15:55	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)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:58	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:58	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:58	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:58	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:58	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:58	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:58	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:58	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:58	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:58	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:58	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:58	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:58	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:58	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:58	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	91		70 - 130	04/06/23 11:00	04/08/23 20:58	1
13C2 PFHxA	102		70 - 130	04/06/23 11:00	04/08/23 20:58	1
13C2 PFDA	98		70 - 130	04/06/23 11:00	04/08/23 20:58	1
13C3-GenX	98		70 - 130	04/06/23 11:00	04/08/23 20:58	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-42066-1

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)**

Lab Sample ID: 380-42066-2

Date Collected: 03/28/23 11:15

Matrix: Drinking Water

Date Received: 03/30/23 09:00

PWSID Number: HI0000331

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
Acenaphthene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
Acenaphthylene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
Anthracene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
Biphenyl	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
Chrysene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
Dibenzothiophene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		03/31/23 00:00	04/09/23 14:04	1
Fluoranthene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
Fluorene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
Naphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
Perylene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
Phenanthrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1
Pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 14:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	70		27 - 133	03/31/23 00:00	04/09/23 14:04	1
(d10-Phenanthrene)	72		43 - 129	03/31/23 00:00	04/09/23 14:04	1
(d12-Chrysene)	73		52 - 144	03/31/23 00:00	04/09/23 14:04	1
(d12-Perylene)	91		36 - 161	03/31/23 00:00	04/09/23 14:04	1
(d8-Naphthalene)	64		25 - 125	03/31/23 00:00	04/09/23 14:04	1

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			04/03/23 18:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	90		60 - 140		04/03/23 18:33	1

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.026		mg/L			04/07/23 18:20	1
JP5	ND	U	0.052		mg/L			04/07/23 18:20	1
JP8	ND	U	0.052		mg/L			04/07/23 18:20	1
MOTOR OIL	ND	U	0.052		mg/L			04/07/23 18:20	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-42066-1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)

Lab Sample ID: 380-42066-2

Date Collected: 03/28/23 11:15

Matrix: Drinking Water

Date Received: 03/30/23 09:00

PWSID Number: HI0000331

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	85		60 - 130		04/07/23 18:20	1
HEXACOSANE	109		60 - 130		04/07/23 18:20	1

Client Sample ID: HALAWA WELLS UNITS 1 & 2
(331-206-TP065)

Lab Sample ID: 380-42066-3

Date Collected: 03/28/23 10:42

Matrix: Drinking Water

Date Received: 03/30/23 09:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
2,4'-DDE	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
2,4'-DDT	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
2,4-Dinitrotoluene	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
2,6-Dinitrotoluene	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
4,4'-DDD	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
4,4'-DDE	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
4,4'-DDT	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Acenaphthene	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Acenaphthylene	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Acetochlor	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Alachlor	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:15	1
alpha-BHC	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
alpha-Chlordane	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:15	1
Anthracene	ND		0.020	ug/L		03/31/23 10:30	04/03/23 16:15	1
Atrazine	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:15	1
Benz(a)anthracene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:15	1
Benzo[a]pyrene	ND		0.020	ug/L		03/31/23 10:30	04/03/23 16:15	1
Benzo[b]fluoranthene	ND		0.020	ug/L		03/31/23 10:30	04/03/23 16:15	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:15	1
Benzo[k]fluoranthene	ND		0.020	ug/L		03/31/23 10:30	04/03/23 16:15	1
beta-BHC	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Bromacil	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Butachlor	ND	^3+	0.049	ug/L		03/31/23 10:30	04/03/23 16:15	1
Butylbenzylphthalate	ND		0.49	ug/L		03/31/23 10:30	04/03/23 16:15	1
Caffeine	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:15	1
Chlorobenzilate	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Chloroneb	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Chlorothalonil (Draconil, Bravo)	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Chlorpyrifos	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:15	1
Chrysene	ND		0.020	ug/L		03/31/23 10:30	04/03/23 16:15	1
delta-BHC	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Di(2-ethylhexyl)adipate	ND		0.59	ug/L		03/31/23 10:30	04/03/23 16:15	1
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		03/31/23 10:30	04/03/23 16:15	1
Diazinon (Qualitative)	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Dibenz(a,h)anthracene	ND	^3+	0.049	ug/L		03/31/23 10:30	04/03/23 16:15	1
Diclorvos (DDVP)	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:15	1
Dieldrin	ND		0.20	ug/L		03/31/23 10:30	04/03/23 16:15	1
Diethylphthalate	ND		0.49	ug/L		03/31/23 10:30	04/03/23 16:15	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-42066-1

**Client Sample ID: HALAWA WELLS UNITS 1 & 2
(331-206-TP065)**

Lab Sample ID: 380-42066-3

Date Collected: 03/28/23 10:42

Matrix: Drinking Water

Date Received: 03/30/23 09:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	ND	*1	0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Dimethylphthalate	ND		0.49	ug/L		03/31/23 10:30	04/03/23 16:15	1
Di-n-butyl phthalate	ND		0.99	ug/L		03/31/23 10:30	04/03/23 16:15	1
Di-n-octyl phthalate	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Endosulfan I (Alpha)	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Endosulfan II (Beta)	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Endosulfan sulfate	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Endrin	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Endrin aldehyde	ND	^3+	0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
EPTC	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Fluoranthene	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Fluorene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:15	1
gamma-Chlordane	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:15	1
Heptachlor	ND		0.039	ug/L		03/31/23 10:30	04/03/23 16:15	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:15	1
Hexachlorobenzene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:15	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:15	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:15	1
Isophorone	ND		0.49	ug/L		03/31/23 10:30	04/03/23 16:15	1
Lindane	ND		0.039	ug/L		03/31/23 10:30	04/03/23 16:15	1
Malathion	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Methoxychlor	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Metolachlor	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:15	1
Metribuzin	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:15	1
Molinate	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Naphthalene	ND		0.30	ug/L		03/31/23 10:30	04/03/23 16:15	1
Parathion	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Pendimethalin (Penoxaline)	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Total Permethrin (mixed isomers)	ND	^3+	0.20	ug/L		03/31/23 10:30	04/03/23 16:15	1
Phenanthrene	ND		0.039	ug/L		03/31/23 10:30	04/03/23 16:15	1
Propachlor	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:15	1
Pyrene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:15	1
Simazine	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:15	1
Terbacil	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Terbutylazine	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1
Thiobencarb	ND		0.20	ug/L		03/31/23 10:30	04/03/23 16:15	1
trans-Nonachlor	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:15	1
Trifluralin	ND		0.099	ug/L		03/31/23 10:30	04/03/23 16:15	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	0.93	T J	ug/L		7.10	N/A	03/31/23 10:30	04/03/23 16:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	91		70 - 130	03/31/23 10:30	04/03/23 16:15	1
Triphenylphosphate	106		70 - 130	03/31/23 10:30	04/03/23 16:15	1
Perylene-d12	100		70 - 130	03/31/23 10:30	04/03/23 16:15	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-42066-1

**Client Sample ID: HALAWA WELLS UNITS 1 & 2
(331-206-TP065)**

Lab Sample ID: 380-42066-3

Date Collected: 03/28/23 10:42

Matrix: Drinking Water

Date Received: 03/30/23 09:00

PWSID Number: HI0000331

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)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
Perfluorohexanesulfonic acid (PFHxS)	2.2		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
Perfluorooctanesulfonic acid (PFOS)	2.2		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
Perfluorooctanoic acid (PFOA)	2.1		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
Perfluorobutanoic acid (PFBA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
Perfluoropentanoic acid (PFPeA)	2.4		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 09:08	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	70		50 - 200			04/21/23 14:18	04/25/23 09:08	1
13C6 PFDA	73		50 - 200			04/21/23 14:18	04/25/23 09:08	1
13C5 PFHxA	76		50 - 200			04/21/23 14:18	04/25/23 09:08	1
13C4 PFHpA	75		50 - 200			04/21/23 14:18	04/25/23 09:08	1
13C8 PFOA	70		50 - 200			04/21/23 14:18	04/25/23 09:08	1
13C9 PFNA	73		50 - 200			04/21/23 14:18	04/25/23 09:08	1
13C7 PFUnA	77		50 - 200			04/21/23 14:18	04/25/23 09:08	1
13C2 PFDoA	85		50 - 200			04/21/23 14:18	04/25/23 09:08	1
13C4 PFBA	91		50 - 200			04/21/23 14:18	04/25/23 09:08	1
13C5 PFPeA	84		50 - 200			04/21/23 14:18	04/25/23 09:08	1
13C3 PFBS	112		50 - 200			04/21/23 14:18	04/25/23 09:08	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-42066-1

**Client Sample ID: HALAWA WELLS UNITS 1 & 2
(331-206-TP065)**

Lab Sample ID: 380-42066-3

Date Collected: 03/28/23 10:42

Matrix: Drinking Water

Date Received: 03/30/23 09:00

PWSID Number: HI0000331

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	103		50 - 200	04/21/23 14:18	04/25/23 09:08	1
13C8 PFOS	102		50 - 200	04/21/23 14:18	04/25/23 09:08	1
13C2-4:2-FTS	117		50 - 200	04/21/23 14:18	04/25/23 09:08	1
13C2-6:2-FTS	111		50 - 200	04/21/23 14:18	04/25/23 09:08	1
13C2-8:2-FTS	118		50 - 200	04/21/23 14:18	04/25/23 09:08	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)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:17	1
Perfluorooctanesulfonic acid (PFOS)	2.2		2.0	ng/L		04/06/23 11:00	04/08/23 21:17	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:17	1
Perfluorohexanoic acid (PFHxA)	2.0		2.0	ng/L		04/06/23 11:00	04/08/23 21:17	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:17	1
Perfluorooctanoic acid (PFOA)	2.1		2.0	ng/L		04/06/23 11:00	04/08/23 21:17	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:17	1
Perfluorohexanesulfonic acid (PFHxS)	2.7		2.0	ng/L		04/06/23 11:00	04/08/23 21:17	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:17	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:17	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:17	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:17	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:17	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:17	1
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	88		70 - 130	04/06/23 11:00	04/08/23 21:17	1
13C2 PFHxA	106		70 - 130	04/06/23 11:00	04/08/23 21:17	1
13C2 PFDA	100		70 - 130	04/06/23 11:00	04/08/23 21:17	1
13C3-GenX	105		70 - 130	04/06/23 11:00	04/08/23 21:17	1

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics I

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1
Acenaphthene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1
Acenaphthylene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1
Anthracene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-42066-1

**Client Sample ID: HALAWA WELLS UNITS 1 & 2
(331-206-TP065)**

Lab Sample ID: 380-42066-3

Date Collected: 03/28/23 10:42

Matrix: Drinking Water

Date Received: 03/30/23 09:00

PWSID Number: HI0000331

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benz[a]anthracene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1
Biphenyl	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1
Chrysene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1
Dibenzothiophene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		03/31/23 00:00	04/09/23 15:49	1
Fluoranthene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1
Fluorene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1
Naphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1
Perylene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1
Phenanthrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1
Pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 15:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	66		27 - 133	03/31/23 00:00	04/09/23 15:49	1
(d10-Phenanthrene)	67		43 - 129	03/31/23 00:00	04/09/23 15:49	1
(d12-Chrysene)	72		52 - 144	03/31/23 00:00	04/09/23 15:49	1
(d12-Perylene)	91		36 - 161	03/31/23 00:00	04/09/23 15:49	1
(d8-Naphthalene)	61		25 - 125	03/31/23 00:00	04/09/23 15:49	1

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			04/03/23 19:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	94		60 - 140		04/03/23 19:10	1

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.025		mg/L			04/07/23 18:39	1
JP5	ND	U	0.050		mg/L			04/07/23 18:39	1
JP8	ND	U	0.050		mg/L			04/07/23 18:39	1
MOTOR OIL	ND	U	0.050		mg/L			04/07/23 18:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	85		60 - 130		04/07/23 18:39	1
HEXACOSANE	94		60 - 130		04/07/23 18:39	1

Client Sample Results

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

Job ID: 380-42066-1

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-42066-4

Date Collected: 03/28/23 11:47

Matrix: Drinking Water

Date Received: 03/30/23 09:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
2,4'-DDE	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
2,4'-DDT	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
2,4-Dinitrotoluene	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
2,6-Dinitrotoluene	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
4,4'-DDD	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
4,4'-DDE	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
4,4'-DDT	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Acenaphthene	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Acenaphthylene	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Acetochlor	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Alachlor	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:35	1
alpha-BHC	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
alpha-Chlordane	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:35	1
Anthracene	ND		0.020	ug/L		03/31/23 10:30	04/03/23 16:35	1
Atrazine	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:35	1
Benz(a)anthracene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:35	1
Benzo[a]pyrene	ND		0.020	ug/L		03/31/23 10:30	04/03/23 16:35	1
Benzo[b]fluoranthene	ND		0.020	ug/L		03/31/23 10:30	04/03/23 16:35	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:35	1
Benzo[k]fluoranthene	ND		0.020	ug/L		03/31/23 10:30	04/03/23 16:35	1
beta-BHC	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Bromacil	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Butachlor	ND	^3+	0.049	ug/L		03/31/23 10:30	04/03/23 16:35	1
Butylbenzylphthalate	ND		0.49	ug/L		03/31/23 10:30	04/03/23 16:35	1
Caffeine	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:35	1
Chlorobenzilate	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Chloroneb	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Chlorothalonil (Draconil, Bravo)	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Chlorpyrifos	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:35	1
Chrysene	ND		0.020	ug/L		03/31/23 10:30	04/03/23 16:35	1
delta-BHC	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Di(2-ethylhexyl)adipate	ND		0.59	ug/L		03/31/23 10:30	04/03/23 16:35	1
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		03/31/23 10:30	04/03/23 16:35	1
Diazinon (Qualitative)	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Dibenz(a,h)anthracene	ND	^3+	0.049	ug/L		03/31/23 10:30	04/03/23 16:35	1
Diclorvos (DDVP)	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:35	1
Dieldrin	ND		0.20	ug/L		03/31/23 10:30	04/03/23 16:35	1
Diethylphthalate	ND		0.49	ug/L		03/31/23 10:30	04/03/23 16:35	1
Dimethoate	ND	*1	0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Dimethylphthalate	ND		0.49	ug/L		03/31/23 10:30	04/03/23 16:35	1
Di-n-butyl phthalate	ND		0.98	ug/L		03/31/23 10:30	04/03/23 16:35	1
Di-n-octyl phthalate	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Endosulfan I (Alpha)	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Endosulfan II (Beta)	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Endosulfan sulfate	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Endrin	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Endrin aldehyde	ND	^3+	0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1

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Client Sample Results

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

Job ID: 380-42066-1

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-42066-4

Date Collected: 03/28/23 11:47

Matrix: Drinking Water

Date Received: 03/30/23 09:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
EPTC	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Fluoranthene	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Fluorene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:35	1
gamma-Chlordane	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:35	1
Heptachlor	ND		0.039	ug/L		03/31/23 10:30	04/03/23 16:35	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:35	1
Hexachlorobenzene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:35	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:35	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:35	1
Isophorone	ND		0.49	ug/L		03/31/23 10:30	04/03/23 16:35	1
Lindane	ND		0.039	ug/L		03/31/23 10:30	04/03/23 16:35	1
Malathion	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Methoxychlor	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Metolachlor	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:35	1
Metribuzin	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:35	1
Molinate	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Naphthalene	ND		0.30	ug/L		03/31/23 10:30	04/03/23 16:35	1
Parathion	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Pendimethalin (Penoxaline)	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Total Permethrin (mixed isomers)	ND	^3+	0.20	ug/L		03/31/23 10:30	04/03/23 16:35	1
Phenanthrene	ND		0.039	ug/L		03/31/23 10:30	04/03/23 16:35	1
Propachlor	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:35	1
Pyrene	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:35	1
Simazine	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:35	1
Terbacil	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Terbutylazine	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1
Thiobencarb	ND		0.20	ug/L		03/31/23 10:30	04/03/23 16:35	1
trans-Nonachlor	ND		0.049	ug/L		03/31/23 10:30	04/03/23 16:35	1
Trifluralin	ND		0.098	ug/L		03/31/23 10:30	04/03/23 16:35	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	1.0	T J	ug/L		7.11	N/A	03/31/23 10:30	04/03/23 16:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	92		70 - 130	03/31/23 10:30	04/03/23 16:35	1
Triphenylphosphate	115		70 - 130	03/31/23 10:30	04/03/23 16:35	1
Perylene-d12	104		70 - 130	03/31/23 10:30	04/03/23 16:35	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-42066-1

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-42066-4

Date Collected: 03/28/23 11:47

Matrix: Drinking Water

Date Received: 03/30/23 09:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1
Perfluorobutanoic acid (PFBA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 10:24	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>			<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	50		50 - 200			04/21/23 14:18	04/25/23 10:24	1
13C6 PFDA	59		50 - 200			04/21/23 14:18	04/25/23 10:24	1
13C5 PFHxA	56		50 - 200			04/21/23 14:18	04/25/23 10:24	1
13C4 PFHpA	53		50 - 200			04/21/23 14:18	04/25/23 10:24	1
13C8 PFOA	51		50 - 200			04/21/23 14:18	04/25/23 10:24	1
13C9 PFNA	56		50 - 200			04/21/23 14:18	04/25/23 10:24	1
13C7 PFUnA	63		50 - 200			04/21/23 14:18	04/25/23 10:24	1
13C2 PFDoA	73		50 - 200			04/21/23 14:18	04/25/23 10:24	1
13C4 PFBA	64		50 - 200			04/21/23 14:18	04/25/23 10:24	1
13C5 PFPeA	61		50 - 200			04/21/23 14:18	04/25/23 10:24	1
13C3 PFBS	109		50 - 200			04/21/23 14:18	04/25/23 10:24	1
13C3 PFHxS	100		50 - 200			04/21/23 14:18	04/25/23 10:24	1
13C8 PFOS	101		50 - 200			04/21/23 14:18	04/25/23 10:24	1
13C2-4:2-FTS	116		50 - 200			04/21/23 14:18	04/25/23 10:24	1
13C2-6:2-FTS	106		50 - 200			04/21/23 14:18	04/25/23 10:24	1
13C2-8:2-FTS	110		50 - 200			04/21/23 14:18	04/25/23 10:24	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)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 04:50	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 04:50	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-42066-1

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-42066-4

Date Collected: 03/28/23 11:47

Matrix: Drinking Water

Date Received: 03/30/23 09:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 04:50	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 04:50	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 04:50	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 04:50	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 04:50	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 04:50	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 04:50	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 04:50	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 04:50	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 04:50	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 04:50	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 04:50	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 04:50	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 04:50	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 04:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 04:50	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	110		70 - 130			04/11/23 05:00	04/13/23 04:50	1
13C2 PFHxA	120		70 - 130			04/11/23 05:00	04/13/23 04:50	1
13C2 PFDA	115		70 - 130			04/11/23 05:00	04/13/23 04:50	1
13C3-GenX	115		70 - 130			04/11/23 05:00	04/13/23 04:50	1

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
Acenaphthene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
Acenaphthylene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
Anthracene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
Biphenyl	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
Chrysene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
Dibenzothiophene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		03/31/23 00:00	04/09/23 17:33	1

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Client Sample Results

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

Job ID: 380-42066-1

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-42066-4

Date Collected: 03/28/23 11:47

Matrix: Drinking Water

Date Received: 03/30/23 09:00

PWSID Number: HI0000331

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
Fluorene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
Naphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
Perylene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
Phenanthrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1
Pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 17:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	70		27 - 133	03/31/23 00:00	04/09/23 17:33	1
(d10-Phenanthrene)	73		43 - 129	03/31/23 00:00	04/09/23 17:33	1
(d12-Chrysene)	74		52 - 144	03/31/23 00:00	04/09/23 17:33	1
(d12-Perylene)	95		36 - 161	03/31/23 00:00	04/09/23 17:33	1
(d8-Naphthalene)	66		25 - 125	03/31/23 00:00	04/09/23 17:33	1

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			04/03/23 19:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	94		60 - 140		04/03/23 19:48	1

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.026		mg/L			04/07/23 18:57	1
JP5	ND	U	0.052		mg/L			04/07/23 18:57	1
JP8	ND	U	0.052		mg/L			04/07/23 18:57	1
MOTOR OIL	ND	U	0.052		mg/L			04/07/23 18:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	92		60 - 130		04/07/23 18:57	1
HEXACOSANE	104		60 - 130		04/07/23 18:57	1

Client Sample ID: TB:MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-42066-5

Date Collected: 03/28/23 10:13

Matrix: Water

Date Received: 03/30/23 09:00

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			04/03/23 20:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	88		60 - 140		04/03/23 20:25	1

Client Sample Results

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

Job ID: 380-42066-1

Client Sample ID: TB: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)

Lab Sample ID: 380-42066-6

Date Collected: 03/28/23 11:15

Matrix: Water

Date Received: 03/30/23 09:00

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			04/03/23 21:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	93		60 - 140					04/03/23 21:02	1

Client Sample ID: TB: HALAWA WELLS UNITS 1&2
(331-206-TP065)

Lab Sample ID: 380-42066-7

Date Collected: 03/28/23 10:42

Matrix: Water

Date Received: 03/30/23 09:00

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			04/03/23 21:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	91		60 - 140					04/03/23 21:40	1

Client Sample ID: TB:AIEA GULCH WELLS P2 (331-202-TP072)

Lab Sample ID: 380-42066-8

Date Collected: 03/28/23 11:47

Matrix: Water

Date Received: 03/30/23 09:00

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			04/03/23 22:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	93		60 - 140					04/03/23 22:17	1

Client Sample ID: FB:MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-42066-9

Date Collected: 03/28/23 10:13

Matrix: Water

Date Received: 03/30/23 09:00

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)	ND		2.1	ng/L		04/11/23 05:00	04/13/23 05:00	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.1	ng/L		04/11/23 05:00	04/13/23 05:00	1
Perfluoroundecanoic acid (PFUnA)	ND		2.1	ng/L		04/11/23 05:00	04/13/23 05:00	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	ng/L		04/11/23 05:00	04/13/23 05:00	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	ng/L		04/11/23 05:00	04/13/23 05:00	1
Perfluorohexanoic acid (PFHxA)	ND		2.1	ng/L		04/11/23 05:00	04/13/23 05:00	1
Perfluorododecanoic acid (PFDoA)	ND		2.1	ng/L		04/11/23 05:00	04/13/23 05:00	1
Perfluorooctanoic acid (PFOA)	ND		2.1	ng/L		04/11/23 05:00	04/13/23 05:00	1
Perfluorodecanoic acid (PFDA)	ND		2.1	ng/L		04/11/23 05:00	04/13/23 05:00	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.1	ng/L		04/11/23 05:00	04/13/23 05:00	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.1	ng/L		04/11/23 05:00	04/13/23 05:00	1
Perfluoroheptanoic acid (PFHpA)	ND		2.1	ng/L		04/11/23 05:00	04/13/23 05:00	1
Perfluorononanoic acid (PFNA)	ND		2.1	ng/L		04/11/23 05:00	04/13/23 05:00	1
Perfluorotetradecanoic acid (PFTA)	ND		2.1	ng/L		04/11/23 05:00	04/13/23 05:00	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-42066-1

Client Sample ID: FB:MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-42066-9

Date Collected: 03/28/23 10:13

Matrix: Water

Date Received: 03/30/23 09:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTrDA)	ND		2.1	ng/L		04/11/23 05:00	04/13/23 05:00	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	ND		2.1	ng/L		04/11/23 05:00	04/13/23 05:00	1
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.1	ng/L		04/11/23 05:00	04/13/23 05:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.1	ng/L		04/11/23 05:00	04/13/23 05:00	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	103		70 - 130			04/11/23 05:00	04/13/23 05:00	1
13C2 PFHxA	114		70 - 130			04/11/23 05:00	04/13/23 05:00	1
13C2 PFDA	111		70 - 130			04/11/23 05:00	04/13/23 05:00	1
13C3-GenX	107		70 - 130			04/11/23 05:00	04/13/23 05:00	1

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

Lab Sample ID: 380-42066-10

(331-203-TP400)

Date Collected: 03/28/23 11:15

Matrix: Water

Date Received: 03/30/23 09:00

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)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:09	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:09	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:09	1
N-methylperfluorooctanesulfonamidoac etic acid (NMeFOSAA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:09	1
N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:09	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:09	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:09	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:09	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:09	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:09	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:09	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:09	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:09	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:09	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:09	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:09	1
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:09	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:09	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	103		70 - 130			04/11/23 05:00	04/13/23 05:09	1
13C2 PFHxA	118		70 - 130			04/11/23 05:00	04/13/23 05:09	1
13C2 PFDA	115		70 - 130			04/11/23 05:00	04/13/23 05:09	1
13C3-GenX	108		70 - 130			04/11/23 05:00	04/13/23 05:09	1

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Client Sample Results

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

Job ID: 380-42066-1

**Client Sample ID: FB: HALAWA WELLS UNITS 1&2
(331-206-TP065)**

Lab Sample ID: 380-42066-11

Date Collected: 03/28/23 10:42

Matrix: Water

Date Received: 03/30/23 09:00

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)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
Perfluorobutanoic acid (PFBA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:05	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>			<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	79		50 - 200			04/21/23 14:18	04/25/23 11:05	1
13C6 PFDA	89		50 - 200			04/21/23 14:18	04/25/23 11:05	1
13C5 PFHxA	92		50 - 200			04/21/23 14:18	04/25/23 11:05	1
13C4 PFHpA	89		50 - 200			04/21/23 14:18	04/25/23 11:05	1
13C8 PFOA	98		50 - 200			04/21/23 14:18	04/25/23 11:05	1
13C9 PFNA	93		50 - 200			04/21/23 14:18	04/25/23 11:05	1
13C7 PFUnA	87		50 - 200			04/21/23 14:18	04/25/23 11:05	1
13C2 PFDoA	90		50 - 200			04/21/23 14:18	04/25/23 11:05	1
13C4 PFBA	106		50 - 200			04/21/23 14:18	04/25/23 11:05	1
13C5 PFPeA	107		50 - 200			04/21/23 14:18	04/25/23 11:05	1
13C3 PFBS	109		50 - 200			04/21/23 14:18	04/25/23 11:05	1
13C3 PFHxS	99		50 - 200			04/21/23 14:18	04/25/23 11:05	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-42066-1

**Client Sample ID: FB: HALAWA WELLS UNITS 1&2
(331-206-TP065)**

Lab Sample ID: 380-42066-11

Date Collected: 03/28/23 10:42

Matrix: Water

Date Received: 03/30/23 09:00

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	99		50 - 200	04/21/23 14:18	04/25/23 11:05	1
13C2-4:2-FTS	110		50 - 200	04/21/23 14:18	04/25/23 11:05	1
13C2-6:2-FTS	156		50 - 200	04/21/23 14:18	04/25/23 11:05	1
13C2-8:2-FTS	105		50 - 200	04/21/23 14:18	04/25/23 11:05	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:19	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:19	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:19	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:19	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:19	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:19	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:19	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:19	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:19	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:19	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:19	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:19	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:19	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:19	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:19	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:19	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	101		70 - 130	04/11/23 05:00	04/13/23 05:19	1
13C2 PFHxA	118		70 - 130	04/11/23 05:00	04/13/23 05:19	1
13C2 PFDA	118		70 - 130	04/11/23 05:00	04/13/23 05:19	1
13C3-GenX	108		70 - 130	04/11/23 05:00	04/13/23 05:19	1

Client Sample ID: FB:AIEA GULCH WELLS P2 (331-202-TP072)

Lab Sample ID: 380-42066-12

Date Collected: 03/28/23 11:47

Matrix: Water

Date Received: 03/30/23 09:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-42066-1

Client Sample ID: FB:AIEA GULCH WELLS P2 (331-202-TP072)

Lab Sample ID: 380-42066-12

Date Collected: 03/28/23 11:47

Matrix: Water

Date Received: 03/30/23 09:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1
Perfluorobutanoic acid (PFBA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 11:15	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	80		50 - 200	04/21/23 14:18	04/25/23 11:15	1
13C6 PFDA	92		50 - 200	04/21/23 14:18	04/25/23 11:15	1
13C5 PFHxA	95		50 - 200	04/21/23 14:18	04/25/23 11:15	1
13C4 PFHpA	93		50 - 200	04/21/23 14:18	04/25/23 11:15	1
13C8 PFOA	103		50 - 200	04/21/23 14:18	04/25/23 11:15	1
13C9 PFNA	94		50 - 200	04/21/23 14:18	04/25/23 11:15	1
13C7 PFUnA	86		50 - 200	04/21/23 14:18	04/25/23 11:15	1
13C2 PFDoA	90		50 - 200	04/21/23 14:18	04/25/23 11:15	1
13C4 PFBA	109		50 - 200	04/21/23 14:18	04/25/23 11:15	1
13C5 PFPeA	104		50 - 200	04/21/23 14:18	04/25/23 11:15	1
13C3 PFBS	112		50 - 200	04/21/23 14:18	04/25/23 11:15	1
13C3 PFHxS	105		50 - 200	04/21/23 14:18	04/25/23 11:15	1
13C8 PFOS	103		50 - 200	04/21/23 14:18	04/25/23 11:15	1
13C2-4:2-FTS	112		50 - 200	04/21/23 14:18	04/25/23 11:15	1
13C2-6:2-FTS	148		50 - 200	04/21/23 14:18	04/25/23 11:15	1
13C2-8:2-FTS	108		50 - 200	04/21/23 14:18	04/25/23 11:15	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)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:28	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-42066-1

Client Sample ID: FB:AIEA GULCH WELLS P2 (331-202-TP072)

Lab Sample ID: 380-42066-12

Date Collected: 03/28/23 11:47

Matrix: Water

Date Received: 03/30/23 09:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:28	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:28	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:28	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:28	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:28	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:28	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:28	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:28	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:28	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:28	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:28	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:28	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:28	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:28	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:28	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:28	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 05:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	91		70 - 130	04/11/23 05:00	04/13/23 05:28	1
13C2 PFHxA	106		70 - 130	04/11/23 05:00	04/13/23 05:28	1
13C2 PFDA	100		70 - 130	04/11/23 05:00	04/13/23 05:28	1
13C3-GenX	97		70 - 130	04/11/23 05:00	04/13/23 05:28	1

Action Limit Summary

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

Job ID: 380-42066-1

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-42066-1

PWSID Number: HI0000331

Compliance Check

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

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

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

Lab Sample ID: 380-42066-2

(331-203-TP400)

PWSID Number: HI0000331

Compliance Check

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

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

Action Limit Summary

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

Job ID: 380-42066-1

Client Sample ID: HALAWA WELLS UNITS 1 & 2
(331-206-TP065)
PWSID Number: HI0000331

Lab Sample ID: 380-42066-3

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Alachlor	ND		ug/L	2	0.049	525.2	Total/NA
Atrazine	ND		ug/L	3	0.049	525.2	Total/NA
Benzo[a]pyrene	ND		ug/L	0.2	0.020	525.2	Total/NA
Di(2-ethylhexyl)adipate	ND		ug/L	400	0.59	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	ND		ug/L	6	0.59	525.2	Total/NA
Endrin	ND		ug/L	2	0.099	525.2	Total/NA
Heptachlor	ND		ug/L	0.4	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	ND		ug/L	0.2	0.049	525.2	Total/NA
Hexachlorobenzene	ND		ug/L	1	0.049	525.2	Total/NA
Hexachlorocyclopentadiene	ND		ug/L	50	0.049	525.2	Total/NA
Lindane	ND		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	ND		ug/L	40	0.099	525.2	Total/NA
Simazine	ND		ug/L	4	0.049	525.2	Total/NA

Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)
PWSID Number: HI0000331

Lab Sample ID: 380-42066-4

Compliance Check

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

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

Surrogate Summary

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

Job ID: 380-42066-1

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	TPP (70-130)	PRY (70-130)
380-42066-1	MOANALUA WELLS (331-223-T	94	118	104
380-42066-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	96	112	109
380-42066-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	91	106	100
380-42066-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	92	115	104

Surrogate Legend

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

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)	TPP (70-130)	PRY (70-130)
380-41937-AH-1-A MS	Matrix Spike	93	117	107
380-41939-AI-1-A DU	Duplicate	94	112	102
LCS 380-35288/3-A	Lab Control Sample	96	105	101
LCSD 380-35288/4-A	Lab Control Sample Dup	94	109	103
MB 380-35288/1-A	Method Blank	95	110	101
MRL 380-35288/2-A	Lab Control Sample	94	109	101

Surrogate Legend

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

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-42066-1	MOANALUA WELLS (331-223-T	87	102	96	95
380-42066-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	91	102	98	98
380-42066-2 LMS	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	84	101	98	100
380-42066-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	88	106	100	105
380-42066-3 DU	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	90	111	102	101
380-42066-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	110	120	115	115

Surrogate Legend

d5NEFOS = d5-NEtFOSAA
PFHxA = 13C2 PFHxA
PFDA = 13C2 PFDA
GenX = 13C3-GenX

Surrogate Summary

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

Job ID: 380-42066-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-42066-9	FB:MOANALUA WELLS (331-22	103	114	111	107
380-42066-10	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	103	118	115	108
380-42066-11	FB: HALAWA WELLS UNITS 1&2 (331-206-TP065)	101	118	118	108
380-42066-12	FB:AIEA GULCH WELLS P2 (331-202-TP072)	91	106	100	97
380-42317-B-3-B MS	Matrix Spike	100	114	115	108
380-42317-C-4-A DU	Duplicate	87	105	101	100
LCS 380-35858/23-A	Lab Control Sample	85	100	96	97
LCS 380-36290/23-A	Lab Control Sample	98	117	114	109
LCSD 380-35858/24-A	Lab Control Sample Dup	86	103	100	101
LCSD 380-36290/24-A	Lab Control Sample Dup	97	109	109	99
MBL 380-35858/21-A	Method Blank	94	97	95	95
MBL 380-36290/21-A	Method Blank	99	102	110	98
MRL 380-35858/22-A	Lab Control Sample	87	98	98	95
MRL 380-36290/22-A	Lab Control Sample	97	104	107	101

Surrogate Legend

d5NEFOS = d5-NEtFOSAA

PFHxA = 13C2 PFHxA

PFDA = 13C2 PFDA

GenX = 13C3-GenX

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Matrix: BlankMatrix

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		Acenaphtl (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PRY (36-161)
104842-B1	Method Blank	75	72	72	71	91
104842-BS1	Lab Control Sample	70	72	73	68	96
104842-BS2	Lab Control Sample Dup	72	74	75	64	100

Surrogate Legend

(d10-Acenaphthene) = (d10-Acenaphthene)

(d10-Phenanthrene) = (d10-Phenanthrene)

CRY = (d12-Chrysene)

NPT = (d8-Naphthalene)

PRY = (d12-Perylene)

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		Acenaphtl (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PRY (36-161)
380-42066-1	MOANALUA WELLS (331-223-T	66	70	71	63	91
380-42066-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	70	72	73	64	91
380-42066-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	66	67	72	61	91

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Surrogate Summary

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

Job ID: 380-42066-1

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i (Continued)

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		Acenaphtl (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PRY (36-161)
380-42066-4	AIEA GULCH WELLS PUMP 2 (	70	73	74	66	95

Surrogate Legend

(d10-Acenaphthene) = (d10-Acenaphthene)

(d10-Phenanthrene) = (d10-Phenanthrene)

CRY = (d12-Chrysene)

NPT = (d8-Naphthalene)

PRY = (d12-Perylene)

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		BFB (60-140)
380-42066-1	MOANALUA WELLS (331-223-T	91
380-42066-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	90
380-42066-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	94
380-42066-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	94

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Matrix: WATER

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		BFB (60-140)
23C688-01M	Matrix Spike	114
23C688-01S	Matrix Spike Duplicate	113

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Matrix: WATER

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		BFB
23VGH7D01B	Method Blank	

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Surrogate Summary

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

Job ID: 380-42066-1

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (70-130)
23VGH7D01C	LCD	105
23VGH7D01L	Lab Control Sample	107

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (60-140)
380-42066-5	TB:MOANALUA WELLS (331-223-1)	88
380-42066-6	TB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	93
380-42066-7	TB: HALAWA WELLS UNITS 1&2 (331-206-TP065)	91
380-42066-8	TB:AIEA GULCH WELLS P2 (331-202-TP072)	93

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Matrix: Drinking Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB (60-130)	XACOSAI (60-130)
380-42066-1	MOANALUA WELLS (331-223-1)	86	100
380-42066-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	85	109
380-42066-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	85	94
380-42066-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	92	104

Surrogate Legend

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB (60-130)	XACOSAI (60-130)
23DSD007WC	LCD	73	103
23DSD007WL	Lab Control Sample	69	94
23J5D007WC	LCD	90	94
23J5D007WL	Lab Control Sample	77	94
23J8D007WC	LCD	101	106
23J8D007WL	Lab Control Sample	104	107

Surrogate Legend

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Surrogate Summary

Client: City & County of Honolulu

Job ID: 380-42066-1

Project/Site: RED-HILL

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

BB .XACOSAI

Lab Sample ID

Client Sample ID

23DSD007WB

Method Blank

Surrogate Legend

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18

Isotope Dilution Summary

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

Job ID: 380-42066-1

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

Matrix: Drinking Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-42066-3	HALAWA WELLS UNITS 1 & 2 (	70	73	76	75	70	73	77	85
380-42066-3 DU	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	53	53	62	57	51	52	58	68
380-42066-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	50	59	56	53	51	56	63	73
380-42066-J-2-A MS	380-42066-J-2-A MS	52	61	56	55	51	56	67	75

		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)
380-42066-3	HALAWA WELLS UNITS 1 & 2 (	91	84	112	103	102	117	111	118
380-42066-3 DU	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	75	69	106	99	99	116	106	110
380-42066-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	64	61	109	100	101	116	106	110
380-42066-J-2-A MS	380-42066-J-2-A MS	65	60	104	100	100	110	104	115

Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-42066-11	FB: HALAWA WELLS UNITS 1&	79	89	92	89	98	93	87	90
380-42066-12	FB:AIEA GULCH WELLS P2 (331-202-TP072)	80	92	95	93	103	94	86	90
LCS 380-37593/23-A	Lab Control Sample	93	97	101	101	99	105	98	100
LCSD 380-37593/24-A	Lab Control Sample Dup	82	87	95	96	102	93	88	89
MBL 380-37593/21-A	Method Blank	79	96	94	93	99	92	87	91
MRL 380-37593/22-A	Lab Control Sample	90	87	95	100	97	99	85	84

		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)
380-42066-11	FB: HALAWA WELLS UNITS 1&	106	107	109	99	99	110	156	105

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Isotope Dilution Summary

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

Job ID: 380-42066-1

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

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-42066-12	FB:AIEA GULCH WELLS P2 (33	109	104	112	105	103	112	148	108
LCS 380-37593/23-A	Lab Control Sample	105	102	106	98	99	104	101	100
LCSD 380-37593/24-A	Lab Control Sample Dup	107	108	105	101	97	104	141	99
MBL 380-37593/21-A	Method Blank	103	99	107	100	102	108	148	132
MRL 380-37593/22-A	Lab Control Sample	99	93	101	97	95	97	100	99

Surrogate Legend

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

QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: MB 380-35288/1-A
Matrix: Water
Analysis Batch: 35494

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35288

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
2,4'-DDE	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
2,4'-DDT	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
2,4-Dinitrotoluene	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
2,6-Dinitrotoluene	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
4,4'-DDD	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
4,4'-DDE	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
4,4'-DDT	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Acenaphthene	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Acenaphthylene	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Acetochlor	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Alachlor	ND		0.050	ug/L		03/31/23 08:00	04/03/23 09:13	1
alpha-BHC	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
alpha-Chlordane	ND		0.050	ug/L		03/31/23 08:00	04/03/23 09:13	1
Anthracene	ND		0.020	ug/L		03/31/23 08:00	04/03/23 09:13	1
Atrazine	ND		0.050	ug/L		03/31/23 08:00	04/03/23 09:13	1
Benz(a)anthracene	ND		0.050	ug/L		03/31/23 08:00	04/03/23 09:13	1
Benzo[a]pyrene	ND		0.020	ug/L		03/31/23 08:00	04/03/23 09:13	1
Benzo[b]fluoranthene	ND		0.020	ug/L		03/31/23 08:00	04/03/23 09:13	1
Benzo[g,h,i]perylene	ND		0.050	ug/L		03/31/23 08:00	04/03/23 09:13	1
Benzo[k]fluoranthene	ND		0.020	ug/L		03/31/23 08:00	04/03/23 09:13	1
beta-BHC	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Bromacil	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Butachlor	ND		0.050	ug/L		03/31/23 08:00	04/03/23 09:13	1
Butylbenzylphthalate	ND		0.50	ug/L		03/31/23 08:00	04/03/23 09:13	1
Caffeine	ND		0.050	ug/L		03/31/23 08:00	04/03/23 09:13	1
Chlorobenzilate	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Chloroneb	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Chlorothalonil (Draconil, Bravo)	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Chlorpyrifos	ND		0.050	ug/L		03/31/23 08:00	04/03/23 09:13	1
Chrysene	ND		0.020	ug/L		03/31/23 08:00	04/03/23 09:13	1
delta-BHC	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Di(2-ethylhexyl)adipate	ND		0.60	ug/L		03/31/23 08:00	04/03/23 09:13	1
Bis(2-ethylhexyl) phthalate	ND		0.60	ug/L		03/31/23 08:00	04/03/23 09:13	1
Diazinon (Qualitative)	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Dibenz(a,h)anthracene	ND		0.050	ug/L		03/31/23 08:00	04/03/23 09:13	1
Diclorvos (DDVP)	ND		0.050	ug/L		03/31/23 08:00	04/03/23 09:13	1
Dieldrin	ND		0.20	ug/L		03/31/23 08:00	04/03/23 09:13	1
Diethylphthalate	ND		0.50	ug/L		03/31/23 08:00	04/03/23 09:13	1
Dimethoate	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Dimethylphthalate	ND		0.50	ug/L		03/31/23 08:00	04/03/23 09:13	1
Di-n-butyl phthalate	ND		1.0	ug/L		03/31/23 08:00	04/03/23 09:13	1
Di-n-octyl phthalate	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Endosulfan I (Alpha)	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Endosulfan II (Beta)	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Endosulfan sulfate	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Endrin	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Endrin aldehyde	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1

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QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: MB 380-35288/1-A
Matrix: Water
Analysis Batch: 35494

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35288

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
EPTC	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Fluoranthene	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Fluorene	ND		0.050	ug/L		03/31/23 08:00	04/03/23 09:13	1
gamma-Chlordane	ND		0.050	ug/L		03/31/23 08:00	04/03/23 09:13	1
Heptachlor	ND		0.040	ug/L		03/31/23 08:00	04/03/23 09:13	1
Heptachlor epoxide (isomer B)	ND		0.050	ug/L		03/31/23 08:00	04/03/23 09:13	1
Hexachlorobenzene	ND		0.050	ug/L		03/31/23 08:00	04/03/23 09:13	1
Hexachlorocyclopentadiene	ND		0.050	ug/L		03/31/23 08:00	04/03/23 09:13	1
Indeno[1,2,3-cd]pyrene	ND		0.050	ug/L		03/31/23 08:00	04/03/23 09:13	1
Isophorone	ND		0.50	ug/L		03/31/23 08:00	04/03/23 09:13	1
Lindane	ND		0.040	ug/L		03/31/23 08:00	04/03/23 09:13	1
Malathion	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Methoxychlor	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Metolachlor	ND		0.050	ug/L		03/31/23 08:00	04/03/23 09:13	1
Metribuzin	ND		0.050	ug/L		03/31/23 08:00	04/03/23 09:13	1
Molinate	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Naphthalene	ND		0.30	ug/L		03/31/23 08:00	04/03/23 09:13	1
Parathion	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Pendimethalin (Penoxaline)	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		03/31/23 08:00	04/03/23 09:13	1
Phenanthrene	ND		0.040	ug/L		03/31/23 08:00	04/03/23 09:13	1
Propachlor	ND		0.050	ug/L		03/31/23 08:00	04/03/23 09:13	1
Pyrene	ND		0.050	ug/L		03/31/23 08:00	04/03/23 09:13	1
Simazine	ND		0.050	ug/L		03/31/23 08:00	04/03/23 09:13	1
Terbacil	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Terbutylazine	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1
Thiobencarb	ND		0.20	ug/L		03/31/23 08:00	04/03/23 09:13	1
trans-Nonachlor	ND		0.050	ug/L		03/31/23 08:00	04/03/23 09:13	1
Trifluralin	ND		0.10	ug/L		03/31/23 08:00	04/03/23 09:13	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
unknown	2.09	T J	ug/L		2.42	N/A	03/31/23 08:00	04/03/23 09:13	1
unknown	0.638	T J	ug/L		5.88	N/A	03/31/23 08:00	04/03/23 09:13	1
unknown	0.695	T J	ug/L		7.59	N/A	03/31/23 08:00	04/03/23 09:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	95		70 - 130	03/31/23 08:00	04/03/23 09:13	1
Triphenylphosphate	110		70 - 130	03/31/23 08:00	04/03/23 09:13	1
Perylene-d12	101		70 - 130	03/31/23 08:00	04/03/23 09:13	1

Lab Sample ID: LCS 380-35288/3-A
Matrix: Water
Analysis Batch: 35494

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35288

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	1.99	1.63		ug/L		82	70 - 130
2,4'-DDE	1.99	1.85		ug/L		93	70 - 130
2,4'-DDT	1.99	1.69		ug/L		85	70 - 130

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QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: LCS 380-35288/3-A
Matrix: Water
Analysis Batch: 35494

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35288

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4-Dinitrotoluene	1.99	1.76		ug/L		89	70 - 130
2,6-Dinitrotoluene	1.99	1.73		ug/L		87	70 - 130
4,4'-DDD	1.99	1.63		ug/L		82	70 - 130
4,4'-DDE	1.99	1.98		ug/L		100	70 - 130
4,4'-DDT	1.99	1.65		ug/L		83	70 - 130
Acenaphthene	1.99	1.81		ug/L		91	70 - 130
Acenaphthylene	1.99	1.97		ug/L		99	70 - 130
Acetochlor	1.99	1.96		ug/L		99	70 - 130
Alachlor	1.99	2.02		ug/L		102	70 - 130
alpha-BHC	1.99	1.96		ug/L		99	70 - 130
alpha-Chlordane	1.99	2.07		ug/L		104	70 - 130
Anthracene	1.99	1.94		ug/L		98	70 - 130
Atrazine	1.99	2.11		ug/L		106	70 - 130
Benz(a)anthracene	1.99	1.71		ug/L		86	70 - 130
Benzo[a]pyrene	1.99	2.15		ug/L		108	70 - 130
Benzo[b]fluoranthene	1.99	1.88		ug/L		95	70 - 130
Benzo[g,h,i]perylene	1.99	2.05		ug/L		103	70 - 130
Benzo[k]fluoranthene	1.99	1.74		ug/L		87	70 - 130
beta-BHC	1.99	1.90		ug/L		96	70 - 130
Bromacil	1.99	1.97		ug/L		99	70 - 130
Butachlor	1.99	1.99		ug/L		100	70 - 130
Butylbenzylphthalate	1.99	2.21		ug/L		111	70 - 130
Caffeine	1.99	1.29		ug/L		65	45 - 137
Chlorobenzilate	1.99	2.00		ug/L		101	70 - 130
Chloroneb	1.99	2.04		ug/L		103	70 - 130
Chlorothalonil (Draconil, Bravo)	1.99	2.24		ug/L		113	70 - 130
Chlorpyrifos	1.99	2.02		ug/L		102	70 - 130
Chrysene	1.99	1.86		ug/L		93	70 - 130
delta-BHC	1.99	1.83		ug/L		92	70 - 130
Di(2-ethylhexyl)adipate	1.99	2.31		ug/L		116	70 - 130
Bis(2-ethylhexyl) phthalate	1.99	2.02		ug/L		102	70 - 130
Diazinon (Qualitative)	1.99	1.73		ug/L		87	15 - 132
Dibenz(a,h)anthracene	1.99	2.00		ug/L		101	70 - 130
Diclorvos (DDVP)	1.99	2.05		ug/L		103	70 - 130
Dieldrin	1.99	1.90		ug/L		95	70 - 130
Diethylphthalate	1.99	2.08		ug/L		104	70 - 130
Dimethoate	1.99	1.10		ug/L		55	35 - 100
Dimethylphthalate	1.99	2.08		ug/L		104	70 - 130
Di-n-butyl phthalate	3.97	4.06		ug/L		102	70 - 130
Di-n-octyl phthalate	1.99	1.99		ug/L		100	70 - 130
Endosulfan I (Alpha)	1.99	1.92		ug/L		96	70 - 130
Endosulfan II (Beta)	1.99	1.88		ug/L		95	70 - 130
Endosulfan sulfate	1.99	2.04		ug/L		103	70 - 130
Endrin	1.99	1.79		ug/L		90	70 - 130
Endrin aldehyde	1.99	1.69		ug/L		85	70 - 130
EPTC	1.99	1.99		ug/L		100	70 - 130
Fluoranthene	1.99	1.99		ug/L		100	70 - 130
Fluorene	1.99	2.03		ug/L		102	70 - 130
gamma-Chlordane	1.99	2.06		ug/L		104	70 - 130

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QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: LCS 380-35288/3-A
Matrix: Water
Analysis Batch: 35494

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35288

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Heptachlor	1.99	1.89		ug/L		95	70 - 130
Heptachlor epoxide (isomer B)	1.99	2.26		ug/L		114	70 - 130
Hexachlorobenzene	1.99	2.04		ug/L		103	70 - 130
Hexachlorocyclopentadiene	1.99	1.76		ug/L		88	70 - 130
Indeno[1,2,3-cd]pyrene	1.99	2.01		ug/L		101	70 - 130
Isophorone	1.99	1.92		ug/L		97	70 - 130
Lindane	1.99	1.94		ug/L		98	70 - 130
Malathion	1.99	2.05		ug/L		103	70 - 130
Methoxychlor	1.99	1.93		ug/L		97	70 - 130
Metolachlor	1.99	2.11		ug/L		106	70 - 130
Metribuzin	1.99	1.55		ug/L		78	70 - 130
Molinate	1.99	1.97		ug/L		99	70 - 130
Naphthalene	1.99	1.74		ug/L		87	70 - 130
Parathion	1.99	1.94		ug/L		98	70 - 130
Pendimethalin (Penoxaline)	1.99	1.91		ug/L		96	70 - 130
Phenanthrene	1.99	1.82		ug/L		92	70 - 130
Propachlor	1.99	2.04		ug/L		103	70 - 130
Pyrene	1.99	1.93		ug/L		97	70 - 130
Simazine	1.99	1.91		ug/L		96	70 - 130
Terbacil	1.99	2.10		ug/L		105	70 - 130
Terbutylazine	1.99	1.88		ug/L		95	70 - 130
Thiobencarb	1.99	1.83		ug/L		92	70 - 130
trans-Nonachlor	1.99	1.75		ug/L		88	70 - 130
Trifluralin	1.99	2.04		ug/L		103	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	96		70 - 130
Triphenylphosphate	105		70 - 130
Perylene-d12	101		70 - 130

Lab Sample ID: LCSD 380-35288/4-A
Matrix: Water
Analysis Batch: 35494

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 35288

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4'-DDD	1.99	1.70		ug/L		86	70 - 130	4	20
2,4'-DDE	1.99	1.92		ug/L		97	70 - 130	4	20
2,4'-DDT	1.99	1.80		ug/L		91	70 - 130	6	20
2,4-Dinitrotoluene	1.99	1.76		ug/L		89	70 - 130	0	20
2,6-Dinitrotoluene	1.99	1.77		ug/L		89	70 - 130	2	20
4,4'-DDD	1.99	1.70		ug/L		86	70 - 130	4	20
4,4'-DDE	1.99	2.06		ug/L		104	70 - 130	4	20
4,4'-DDT	1.99	1.72		ug/L		87	70 - 130	4	20
Acenaphthene	1.99	1.84		ug/L		92	70 - 130	1	20
Acenaphthylene	1.99	1.98		ug/L		100	70 - 130	0	20
Acetochlor	1.99	1.98		ug/L		100	70 - 130	1	20
Alachlor	1.99	2.05		ug/L		103	70 - 130	2	20
alpha-BHC	1.99	1.94		ug/L		98	70 - 130	1	20

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: LCSD 380-35288/4-A
Matrix: Water
Analysis Batch: 35494

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 35288

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	RPD Limit
							Limits	RPD		
alpha-Chlordane	1.99	2.17		ug/L		109	70 - 130	4	20	
Anthracene	1.99	1.96		ug/L		99	70 - 130	1	20	
Atrazine	1.99	2.11		ug/L		106	70 - 130	0	20	
Benz(a)anthracene	1.99	1.80		ug/L		91	70 - 130	5	20	
Benzo[a]pyrene	1.99	2.19		ug/L		110	70 - 130	2	20	
Benzo[b]fluoranthene	1.99	1.92		ug/L		97	70 - 130	2	20	
Benzo[g,h,i]perylene	1.99	2.11		ug/L		106	70 - 130	3	20	
Benzo[k]fluoranthene	1.99	1.90		ug/L		96	70 - 130	9	20	
beta-BHC	1.99	1.86		ug/L		94	70 - 130	2	20	
Bromacil	1.99	2.05		ug/L		103	70 - 130	4	20	
Butachlor	1.99	2.07		ug/L		104	70 - 130	4	20	
Butylbenzylphthalate	1.99	2.32		ug/L		117	70 - 130	5	20	
Caffeine	1.99	1.52		ug/L		76	45 - 137	16	20	
Chlorobenzilate	1.99	1.98		ug/L		100	70 - 130	1	20	
Chloroneb	1.99	1.88		ug/L		95	70 - 130	8	20	
Chlorothalonil (Draconil, Bravo)	1.99	2.26		ug/L		114	70 - 130	1	20	
Chlorpyrifos	1.99	2.09		ug/L		105	70 - 130	3	20	
Chrysene	1.99	1.90		ug/L		96	70 - 130	2	20	
delta-BHC	1.99	1.89		ug/L		95	70 - 130	3	20	
Di(2-ethylhexyl)adipate	1.99	2.49		ug/L		125	70 - 130	7	20	
Bis(2-ethylhexyl) phthalate	1.99	2.06		ug/L		104	70 - 130	2	20	
Diazinon (Qualitative)	1.99	1.74		ug/L		88	15 - 132	0	20	
Dibenz(a,h)anthracene	1.99	2.11		ug/L		106	70 - 130	5	20	
Diclorvos (DDVP)	1.99	2.09		ug/L		105	70 - 130	2	20	
Dieldrin	1.99	1.95		ug/L		98	70 - 130	3	20	
Diethylphthalate	1.99	2.07		ug/L		104	70 - 130	0	20	
Dimethoate	1.99	0.714	*1	ug/L		36	35 - 100	42	20	
Dimethylphthalate	1.99	2.02		ug/L		102	70 - 130	3	20	
Di-n-butyl phthalate	3.97	4.22		ug/L		106	70 - 130	4	20	
Di-n-octyl phthalate	1.99	2.07		ug/L		104	70 - 130	4	20	
Endosulfan I (Alpha)	1.99	1.97		ug/L		99	70 - 130	3	20	
Endosulfan II (Beta)	1.99	1.99		ug/L		100	70 - 130	6	20	
Endosulfan sulfate	1.99	2.13		ug/L		107	70 - 130	4	20	
Endrin	1.99	1.83		ug/L		92	70 - 130	2	20	
Endrin aldehyde	1.99	1.90		ug/L		96	70 - 130	12	20	
EPTC	1.99	2.04		ug/L		103	70 - 130	3	20	
Fluoranthene	1.99	2.03		ug/L		102	70 - 130	2	20	
Fluorene	1.99	2.05		ug/L		103	70 - 130	1	20	
gamma-Chlordane	1.99	2.15		ug/L		108	70 - 130	4	20	
Heptachlor	1.99	2.00		ug/L		101	70 - 130	6	20	
Heptachlor epoxide (isomer B)	1.99	2.30		ug/L		116	70 - 130	1	20	
Hexachlorobenzene	1.99	2.08		ug/L		105	70 - 130	2	20	
Hexachlorocyclopentadiene	1.99	1.86		ug/L		94	70 - 130	6	20	
Indeno[1,2,3-cd]pyrene	1.99	2.10		ug/L		106	70 - 130	4	20	
Isophorone	1.99	1.93		ug/L		97	70 - 130	0	20	
Lindane	1.99	1.95		ug/L		98	70 - 130	0	20	
Malathion	1.99	2.13		ug/L		107	70 - 130	4	20	
Methoxychlor	1.99	1.98		ug/L		100	70 - 130	3	20	
Metolachlor	1.99	2.16		ug/L		109	70 - 130	2	20	

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QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: LCSD 380-35288/4-A
Matrix: Water
Analysis Batch: 35494

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 35288

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Metribuzin	1.99	1.61		ug/L		81	70 - 130	4	20
Molinate	1.99	2.05		ug/L		103	70 - 130	4	20
Naphthalene	1.99	1.79		ug/L		90	70 - 130	3	20
Parathion	1.99	1.97		ug/L		99	70 - 130	1	20
Pendimethalin (Penoxaline)	1.99	2.00		ug/L		101	70 - 130	4	20
Phenanthrene	1.99	1.88		ug/L		95	70 - 130	3	20
Propachlor	1.99	2.03		ug/L		102	70 - 130	1	20
Pyrene	1.99	2.00		ug/L		101	70 - 130	3	20
Simazine	1.99	1.89		ug/L		95	70 - 130	1	20
Terbacil	1.99	2.28		ug/L		115	70 - 130	8	20
Terbutylazine	1.99	1.85		ug/L		93	70 - 130	2	20
Thiobencarb	1.99	1.95		ug/L		98	70 - 130	7	20
trans-Nonachlor	1.99	1.79		ug/L		90	70 - 130	3	20
Trifluralin	1.99	2.07		ug/L		105	70 - 130	2	20

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	94		70 - 130
Triphenylphosphate	109		70 - 130
Perylene-d12	103		70 - 130

Lab Sample ID: MRL 380-35288/2-A
Matrix: Water
Analysis Batch: 35494

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35288

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	0.0992	0.128		ug/L		129	50 - 150
2,4'-DDE	0.0992	0.0802	J	ug/L		81	50 - 150
2,4'-DDT	0.0992	0.0987	J	ug/L		99	50 - 150
2,4-Dinitrotoluene	0.0992	0.112		ug/L		113	50 - 150
2,6-Dinitrotoluene	0.0992	0.121		ug/L		122	50 - 150
4,4'-DDD	0.0992	0.118		ug/L		119	50 - 150
4,4'-DDE	0.0992	0.120		ug/L		121	50 - 150
4,4'-DDT	0.0992	0.127		ug/L		128	50 - 150
Acenaphthene	0.0992	0.0945	J	ug/L		95	50 - 150
Acenaphthylene	0.0992	0.0905	J	ug/L		91	50 - 150
Acetochlor	0.0496	0.0674	J	ug/L		136	50 - 150
Alachlor	0.0496	0.0583		ug/L		117	50 - 150
alpha-BHC	0.0992	0.0913	J	ug/L		92	50 - 150
alpha-Chlordane	0.0248	ND		ug/L		104	50 - 150
Anthracene	0.0198	ND		ug/L		88	50 - 150
Atrazine	0.0496	ND		ug/L		95	50 - 150
Benz(a)anthracene	0.0496	0.0371	J	ug/L		75	50 - 150
Benzo[a]pyrene	0.0198	0.0164	J	ug/L		83	50 - 150
Benzo[b]fluoranthene	0.0198	0.0281		ug/L		142	50 - 150
Benzo[g,h,i]perylene	0.0496	0.0641		ug/L		129	50 - 150
Benzo[k]fluoranthene	0.0198	0.0216		ug/L		109	50 - 150
beta-BHC	0.0992	0.0896	J	ug/L		90	50 - 150
Bromacil	0.0992	0.112		ug/L		113	50 - 150

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QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: MRL 380-35288/2-A
Matrix: Water
Analysis Batch: 35494

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35288

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Butachlor	0.0496	0.0785	^3+	ug/L		158	50 - 150
Butylbenzylphthalate	0.149	0.159	J	ug/L		107	50 - 150
Caffeine	0.0496	0.0331	J	ug/L		67	50 - 150
Chlorobenzilate	0.0992	0.128		ug/L		129	50 - 150
Chloroneb	0.0992	0.0987	J	ug/L		99	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0992	0.0800	J	ug/L		81	50 - 150
Chlorpyrifos	0.0496	0.0563		ug/L		114	50 - 150
Chrysene	0.0198	0.0197	J	ug/L		99	50 - 150
delta-BHC	0.0992	0.100		ug/L		101	50 - 150
Di(2-ethylhexyl)adipate	0.298	0.420	J	ug/L		141	50 - 150
Bis(2-ethylhexyl) phthalate	0.595	0.716		ug/L		120	50 - 150
Diazinon (Qualitative)	0.0992	0.109		ug/L		110	15 - 132
Dibenz(a,h)anthracene	0.0496	0.0761	^3+	ug/L		153	50 - 150
Diclorvos (DDVP)	0.0496	0.0489	J	ug/L		99	50 - 150
Dieldrin	0.0992	0.0991	J	ug/L		100	50 - 150
Diethylphthalate	0.149	0.163	J	ug/L		109	50 - 150
Dimethoate	0.0992	0.0567	J	ug/L		57	35 - 100
Dimethylphthalate	0.298	0.289	J	ug/L		97	50 - 150
Di-n-butyl phthalate	0.298	0.380	J	ug/L		128	49 - 243
Di-n-octyl phthalate	0.0992	0.146		ug/L		147	50 - 150
Endosulfan I (Alpha)	0.0992	0.0905	J	ug/L		91	50 - 150
Endosulfan II (Beta)	0.0992	0.0972	J	ug/L		98	50 - 150
Endosulfan sulfate	0.0992	0.0894	J	ug/L		90	50 - 150
Endrin	0.0992	0.104		ug/L		105	50 - 150
Endrin aldehyde	0.0992	0.171	^3+	ug/L		172	50 - 150
EPTC	0.0992	0.103		ug/L		104	50 - 150
Fluoranthene	0.0496	0.0505	J	ug/L		102	50 - 150
Fluorene	0.0496	0.0501		ug/L		101	50 - 150
gamma-Chlordane	0.0248	0.0283	J	ug/L		114	50 - 150
Heptachlor	0.0397	0.0362	J	ug/L		91	50 - 150
Heptachlor epoxide (isomer B)	0.0496	0.0572		ug/L		115	50 - 150
Hexachlorobenzene	0.0496	0.0471	J	ug/L		95	50 - 150
Hexachlorocyclopentadiene	0.0496	0.0394	J	ug/L		79	50 - 150
Indeno[1,2,3-cd]pyrene	0.0496	0.0736		ug/L		148	50 - 150
Isophorone	0.0992	0.0978	J	ug/L		99	50 - 150
Lindane	0.0397	0.0365	J	ug/L		92	50 - 150
Malathion	0.0992	0.121		ug/L		122	50 - 150
Methoxychlor	0.0992	0.137		ug/L		138	50 - 150
Metolachlor	0.0496	0.0530		ug/L		107	50 - 150
Metribuzin	0.0496	0.0726		ug/L		146	50 - 150
Molinate	0.0992	0.0983	J	ug/L		99	50 - 150
Naphthalene	0.0992	0.107	J	ug/L		108	50 - 150
Parathion	0.0992	0.115		ug/L		116	50 - 150
Pendimethalin (Penoxaline)	0.0992	0.110		ug/L		111	50 - 150
Phenanthrene	0.0198	0.0209	J	ug/L		106	50 - 150
Propachlor	0.0496	0.0479	J	ug/L		97	50 - 150
Pyrene	0.0496	0.0504		ug/L		102	50 - 150
Simazine	0.0496	0.0552		ug/L		111	50 - 150
Terbacil	0.0992	0.107		ug/L		108	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: MRL 380-35288/2-A
Matrix: Water
Analysis Batch: 35494

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35288

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Terbutylazine	0.0992	0.0949	J	ug/L		96	50 - 150
Thiobencarb	0.0992	0.0978	J	ug/L		99	50 - 150
trans-Nonachlor	0.0248	ND		ug/L		85	50 - 150
Trifluralin	0.0992	0.102		ug/L		103	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	94		70 - 130
Triphenylphosphate	109		70 - 130
Perylene-d12	101		70 - 130

Lab Sample ID: 380-41937-AH-1-A MS
Matrix: Water
Analysis Batch: 35494

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 35288

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	ND		1.98	1.81		ug/L		91	70 - 130
2,4'-DDE	ND		1.98	1.98		ug/L		100	70 - 130
2,4'-DDT	ND		1.98	1.92		ug/L		97	70 - 130
2,4-Dinitrotoluene	ND		1.98	1.88		ug/L		95	70 - 130
2,6-Dinitrotoluene	ND		1.98	1.85		ug/L		94	70 - 130
4,4'-DDD	ND		1.98	1.86		ug/L		94	70 - 130
4,4'-DDE	ND		1.98	2.09		ug/L		105	70 - 130
4,4'-DDT	ND		1.98	1.89		ug/L		96	70 - 130
Acenaphthene	ND		1.98	1.84		ug/L		93	70 - 130
Acenaphthylene	ND		1.98	2.08		ug/L		105	70 - 130
Acetochlor	ND		1.98	2.16		ug/L		109	70 - 130
Alachlor	ND		1.98	2.13		ug/L		108	70 - 130
alpha-BHC	ND		1.98	1.97		ug/L		99	70 - 130
alpha-Chlordane	ND		1.98	2.17		ug/L		110	70 - 130
Anthracene	ND		1.98	1.83		ug/L		92	70 - 130
Atrazine	ND		1.98	2.23		ug/L		113	70 - 130
Benz(a)anthracene	ND		1.98	1.95		ug/L		99	70 - 130
Benzo[a]pyrene	ND		1.98	2.27		ug/L		115	70 - 130
Benzo[b]fluoranthene	ND		1.98	2.08		ug/L		105	70 - 130
Benzo[g,h,i]perylene	ND		1.98	2.07		ug/L		105	70 - 130
Benzo[k]fluoranthene	ND		1.98	1.89		ug/L		96	70 - 130
beta-BHC	ND		1.98	1.89		ug/L		95	70 - 130
Bromacil	ND		1.98	2.19		ug/L		111	70 - 130
Butachlor	ND	^3+	1.98	2.18		ug/L		110	70 - 130
Butylbenzylphthalate	ND		1.98	2.55		ug/L		129	70 - 130
Caffeine	ND		1.98	1.83		ug/L		93	46 - 144
Chlorobenzilate	ND		1.98	2.48		ug/L		125	70 - 130
Chloroneb	ND		1.98	2.01		ug/L		102	70 - 130
Chlorothalonil (Draconil, Bravo)	ND		1.98	2.31		ug/L		116	70 - 130
Chlorpyrifos	ND		1.98	2.15		ug/L		109	70 - 130
Chrysene	ND		1.98	1.85		ug/L		94	70 - 130
delta-BHC	ND		1.98	1.89		ug/L		96	70 - 130
Di(2-ethylhexyl)adipate	ND		1.98	2.58		ug/L		130	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: 380-41937-AH-1-A MS
Matrix: Water
Analysis Batch: 35494

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 35288

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Bis(2-ethylhexyl) phthalate	ND		1.98	2.07		ug/L		105	70 - 130
Diazinon (Qualitative)	ND		1.98	1.88		ug/L		95	15 - 132
Dibenz(a,h)anthracene	ND	^3+	1.98	2.02		ug/L		102	70 - 130
Diclorvos (DDVP)	ND		1.98	2.08		ug/L		105	70 - 130
Dieldrin	ND		1.98	2.06		ug/L		104	70 - 130
Diethylphthalate	ND		1.98	2.16		ug/L		109	70 - 130
Dimethoate	ND	*1	1.98	1.70		ug/L		86	34 - 111
Dimethylphthalate	ND		1.98	2.12		ug/L		107	70 - 130
Di-n-butyl phthalate	ND		3.96	4.76		ug/L		108	70 - 130
Di-n-octyl phthalate	ND		1.98	2.03		ug/L		103	70 - 130
Endosulfan I (Alpha)	ND		1.98	1.95		ug/L		99	70 - 130
Endosulfan II (Beta)	ND		1.98	2.10		ug/L		106	70 - 130
Endosulfan sulfate	ND		1.98	2.33		ug/L		118	70 - 130
Endrin	ND		1.98	2.34		ug/L		118	70 - 130
Endrin aldehyde	ND	^3+	1.98	1.80		ug/L		91	70 - 130
EPTC	ND		1.98	2.09		ug/L		106	70 - 130
Fluoranthene	ND		1.98	2.09		ug/L		105	70 - 130
Fluorene	ND		1.98	2.05		ug/L		104	70 - 130
gamma-Chlordane	ND		1.98	2.18		ug/L		110	70 - 130
Heptachlor	ND		1.98	2.04		ug/L		103	70 - 130
Heptachlor epoxide (isomer B)	ND		1.98	2.33		ug/L		118	70 - 130
Hexachlorobenzene	ND		1.98	2.10		ug/L		106	70 - 130
Hexachlorocyclopentadiene	ND		1.98	1.85		ug/L		93	70 - 130
Indeno[1,2,3-cd]pyrene	ND		1.98	2.09		ug/L		105	70 - 130
Isophorone	ND		1.98	1.91		ug/L		96	70 - 130
Lindane	ND		1.98	1.92		ug/L		97	70 - 130
Malathion	ND		1.98	2.26		ug/L		114	70 - 130
Methoxychlor	ND		1.98	2.09		ug/L		106	70 - 130
Metolachlor	ND		1.98	2.29		ug/L		116	70 - 130
Metribuzin	ND		1.98	1.84		ug/L		93	70 - 130
Molinate	ND		1.98	2.10		ug/L		106	70 - 130
Naphthalene	ND		1.98	1.77		ug/L		88	70 - 130
Parathion	ND		1.98	2.15		ug/L		109	70 - 130
Pendimethalin (Penoxaline)	ND		1.98	2.20		ug/L		111	70 - 130
Phenanthrene	ND		1.98	1.88		ug/L		95	70 - 130
Propachlor	ND		1.98	2.11		ug/L		107	70 - 130
Pyrene	ND		1.98	2.08		ug/L		105	70 - 130
Simazine	ND		1.98	1.92		ug/L		97	70 - 130
Terbacil	ND		1.98	2.25		ug/L		114	70 - 130
Terbutylazine	ND		1.98	1.93		ug/L		98	70 - 130
Thiobencarb	ND		1.98	2.04		ug/L		103	70 - 130
trans-Nonachlor	ND		1.98	1.93		ug/L		97	70 - 130
Trifluralin	ND		1.98	2.23		ug/L		113	70 - 130
		MS MS							
Surrogate		%Recovery	Qualifier	Limits					
2-Nitro-m-xylene		93		70 - 130					
Triphenylphosphate		117		70 - 130					
Perylene-d12		107		70 - 130					

QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: 380-41939-AI-1-A DU
Matrix: Water
Analysis Batch: 35494

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 35288

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
2,4'-DDD	ND		ND		ug/L		NC	20
2,4'-DDE	ND		ND		ug/L		NC	20
2,4'-DDT	ND		ND		ug/L		NC	20
2,4-Dinitrotoluene	ND		ND		ug/L		NC	20
2,6-Dinitrotoluene	ND		ND		ug/L		NC	20
4,4'-DDD	ND		ND		ug/L		NC	20
4,4'-DDE	ND		ND		ug/L		NC	20
4,4'-DDT	ND		ND		ug/L		NC	20
Acenaphthene	ND		ND		ug/L		NC	20
Acenaphthylene	ND		ND		ug/L		NC	20
Acetochlor	ND		ND		ug/L		NC	20
Alachlor	ND		ND		ug/L		NC	20
alpha-BHC	ND		ND		ug/L		NC	20
alpha-Chlordane	ND		ND		ug/L		NC	20
Anthracene	ND		ND		ug/L		NC	20
Atrazine	ND		ND		ug/L		NC	20
Benz(a)anthracene	ND		ND		ug/L		NC	20
Benzo[a]pyrene	ND		ND		ug/L		NC	20
Benzo[b]fluoranthene	ND		ND		ug/L		NC	20
Benzo[g,h,i]perylene	ND		ND		ug/L		NC	20
Benzo[k]fluoranthene	ND		ND		ug/L		NC	20
beta-BHC	ND		ND		ug/L		NC	20
Bromacil	ND		ND		ug/L		NC	20
Butachlor	ND	^3+	ND		ug/L		NC	20
Butylbenzylphthalate	ND		ND		ug/L		NC	20
Caffeine	ND		ND		ug/L		NC	20
Chlorobenzilate	ND		ND		ug/L		NC	20
Chloroneb	ND		ND		ug/L		NC	20
Chlorothalonil (Draconil, Bravo)	ND		ND		ug/L		NC	20
Chlorpyrifos	ND		ND		ug/L		NC	20
Chrysene	ND		ND		ug/L		NC	20
delta-BHC	ND		ND		ug/L		NC	20
Di(2-ethylhexyl)adipate	ND		ND		ug/L		NC	20
Bis(2-ethylhexyl) phthalate	ND		ND		ug/L		NC	20
Diazinon (Qualitative)	ND		ND		ug/L		NC	20
Dibenz(a,h)anthracene	ND	^3+	ND		ug/L		NC	20
Diclorvos (DDVP)	ND		ND		ug/L		NC	20
Dieldrin	ND		ND		ug/L		NC	20
Diethylphthalate	ND		ND		ug/L		NC	20
Dimethoate	ND	*1	ND	*1	ug/L		NC	20
Dimethylphthalate	ND		ND		ug/L		NC	20
Di-n-butyl phthalate	ND		ND		ug/L		NC	20
Di-n-octyl phthalate	ND		ND		ug/L		NC	20
Endosulfan I (Alpha)	ND		ND		ug/L		NC	20
Endosulfan II (Beta)	ND		ND		ug/L		NC	20
Endosulfan sulfate	ND		ND		ug/L		NC	20
Endrin	ND		ND		ug/L		NC	20
Endrin aldehyde	ND	^3+	ND		ug/L		NC	20

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QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: 380-41939-AI-1-A DU
Matrix: Water
Analysis Batch: 35494

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 35288

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
EPTC	ND		ND		ug/L		NC	20
Fluoranthene	ND		ND		ug/L		NC	20
Fluorene	ND		ND		ug/L		NC	20
gamma-Chlordane	ND		ND		ug/L		NC	20
Heptachlor	ND		ND		ug/L		NC	20
Heptachlor epoxide (isomer B)	ND		ND		ug/L		NC	20
Hexachlorobenzene	ND		ND		ug/L		NC	20
Hexachlorocyclopentadiene	ND		ND		ug/L		NC	20
Indeno[1,2,3-cd]pyrene	ND		ND		ug/L		NC	20
Isophorone	ND		ND		ug/L		NC	20
Lindane	ND		ND		ug/L		NC	20
Malathion	ND		ND		ug/L		NC	20
Methoxychlor	ND		ND		ug/L		NC	20
Metolachlor	ND		ND		ug/L		NC	20
Metribuzin	ND		ND		ug/L		NC	20
Molinate	ND		ND		ug/L		NC	20
Naphthalene	ND		ND		ug/L		NC	20
Parathion	ND		ND		ug/L		NC	20
Pendimethalin (Penoxaline)	ND		ND		ug/L		NC	20
Total Permethrin (mixed isomers)	ND	^3+	ND		ug/L		NC	20
Phenanthrene	ND		ND		ug/L		NC	20
Propachlor	ND		ND		ug/L		NC	20
Pyrene	ND		ND		ug/L		NC	20
Simazine	ND		ND		ug/L		NC	20
Terbacil	ND		ND		ug/L		NC	20
Terbutylazine	ND		ND		ug/L		NC	20
Thiobencarb	ND		ND		ug/L		NC	20
trans-Nonachlor	ND		ND		ug/L		NC	20
Trifluralin	ND		ND		ug/L		NC	20
		DU	DU					
Surrogate	%Recovery	Qualifier						
2-Nitro-m-xylene	94							70 - 130
Triphenylphosphate	112							70 - 130
Perylene-d12	102							70 - 130

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

Lab Sample ID: MBL 380-37593/21-A
Matrix: Water
Analysis Batch: 37802

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 37593

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: MBL 380-37593/21-A
Matrix: Water
Analysis Batch: 37802

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 37593

Analyte	MBL	MBL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1
Perfluorooctanoic acid (PFOA)	0.407	J	2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1
Perfluorobutanoic acid (PFBA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	ng/L		04/21/23 14:18	04/25/23 08:09	1
Isotope Dilution	MBL	MBL	Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
13C3 HFPO-DA	79		50 - 200			04/21/23 14:18	04/25/23 08:09	1
13C6 PFDA	96		50 - 200			04/21/23 14:18	04/25/23 08:09	1
13C5 PFHxA	94		50 - 200			04/21/23 14:18	04/25/23 08:09	1
13C4 PFHpA	93		50 - 200			04/21/23 14:18	04/25/23 08:09	1
13C8 PFOA	99		50 - 200			04/21/23 14:18	04/25/23 08:09	1
13C9 PFNA	92		50 - 200			04/21/23 14:18	04/25/23 08:09	1
13C7 PFUnA	87		50 - 200			04/21/23 14:18	04/25/23 08:09	1
13C2 PFDoA	91		50 - 200			04/21/23 14:18	04/25/23 08:09	1
13C4 PFBA	103		50 - 200			04/21/23 14:18	04/25/23 08:09	1
13C5 PFPeA	99		50 - 200			04/21/23 14:18	04/25/23 08:09	1
13C3 PFBS	107		50 - 200			04/21/23 14:18	04/25/23 08:09	1
13C3 PFHxS	100		50 - 200			04/21/23 14:18	04/25/23 08:09	1
13C8 PFOS	102		50 - 200			04/21/23 14:18	04/25/23 08:09	1
13C2-4:2-FTS	108		50 - 200			04/21/23 14:18	04/25/23 08:09	1
13C2-6:2-FTS	148		50 - 200			04/21/23 14:18	04/25/23 08:09	1
13C2-8:2-FTS	132		50 - 200			04/21/23 14:18	04/25/23 08:09	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: LCS 380-37593/23-A
Matrix: Water
Analysis Batch: 37802

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37593

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.1	52.4		ng/L		87	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.1	56.2		ng/L		94	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.1	56.6		ng/L		94	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.1	58.3		ng/L		97	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.1	53.1		ng/L		88	70 - 130
Perfluorodecanoic acid (PFDA)	60.1	58.1		ng/L		97	70 - 130
Perfluorododecanoic acid (PFDoA)	60.1	55.7		ng/L		93	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.1	54.5		ng/L		91	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.1	56.3		ng/L		94	70 - 130
Perfluorohexanoic acid (PFHxA)	60.1	57.7		ng/L		96	70 - 130
Perfluorononanoic acid (PFNA)	60.1	56.7		ng/L		94	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.1	57.0		ng/L		95	70 - 130
Perfluorooctanoic acid (PFOA)	60.1	58.8		ng/L		98	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.1	56.6		ng/L		94	70 - 130
Perfluorobutanoic acid (PFBA)	60.1	55.2		ng/L		92	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.1	57.8		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.1	59.6		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.1	57.1		ng/L		95	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.1	56.1		ng/L		93	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	60.1	52.2		ng/L		87	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.1	56.5		ng/L		94	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.1	59.8		ng/L		100	70 - 130
Perfluoropentanoic acid (PFPeA)	60.1	59.1		ng/L		98	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.1	56.4		ng/L		94	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	60.1	57.5		ng/L		96	70 - 130

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	93		50 - 200
13C6 PFDA	97		50 - 200
13C5 PFHxA	101		50 - 200
13C4 PFHpA	101		50 - 200
13C8 PFOA	99		50 - 200
13C9 PFNA	105		50 - 200

QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: LCS 380-37593/23-A
Matrix: Water
Analysis Batch: 37802

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37593

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
13C7 PFUnA	98		50 - 200
13C2 PFDoA	100		50 - 200
13C4 PFBA	105		50 - 200
13C5 PFPeA	102		50 - 200
13C3 PFBS	106		50 - 200
13C3 PFHxS	98		50 - 200
13C8 PFOS	99		50 - 200
13C2-4:2-FTS	104		50 - 200
13C2-6:2-FTS	101		50 - 200
13C2-8:2-FTS	100		50 - 200

Lab Sample ID: LCSD 380-37593/24-A
Matrix: Water
Analysis Batch: 37802

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 37593

<i>Analyte</i>	<i>Spike Added</i>	<i>LCSD Result</i>	<i>LCSD 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)	60.1	55.2		ng/L		92	70 - 130	5	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.1	57.0		ng/L		95	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.1	56.8		ng/L		95	70 - 130	0	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.1	60.4		ng/L		100	70 - 130	4	30
Perfluorobutanesulfonic acid (PFBS)	60.1	54.2		ng/L		90	70 - 130	2	30
Perfluorodecanoic acid (PFDA)	60.1	58.8		ng/L		98	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	60.1	57.6		ng/L		96	70 - 130	3	30
Perfluoroheptanoic acid (PFHpA)	60.1	56.9		ng/L		95	70 - 130	4	30
Perfluorohexanesulfonic acid (PFHxS)	60.1	57.1		ng/L		95	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	60.1	58.6		ng/L		98	70 - 130	2	30
Perfluorononanoic acid (PFNA)	60.1	57.9		ng/L		96	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	60.1	58.7		ng/L		98	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	60.1	56.5		ng/L		94	70 - 130	4	30
Perfluoroundecanoic acid (PFUnA)	60.1	57.1		ng/L		95	70 - 130	1	30
Perfluorobutanoic acid (PFBA)	60.1	56.9		ng/L		95	70 - 130	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.1	57.6		ng/L		96	70 - 130	0	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.1	63.3		ng/L		105	70 - 130	6	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.1	58.5		ng/L		97	70 - 130	2	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.1	55.9		ng/L		93	70 - 130	0	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	60.1	54.1		ng/L		90	70 - 130	3	30

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QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: LCSD 380-37593/24-A
Matrix: Water
Analysis Batch: 37802

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 37593

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.1	58.5		ng/L		97	70 - 130	3	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.1	55.8		ng/L		93	70 - 130	7	30
Perfluoropentanoic acid (PFPeA)	60.1	57.6		ng/L		96	70 - 130	3	30
Perfluoroheptanesulfonic acid (PFHpS)	60.1	60.9		ng/L		101	70 - 130	8	30
Perfluoropentanesulfonic acid (PFPeS)	60.1	54.3		ng/L		90	70 - 130	6	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	LCSD Limits
13C3 HFPO-DA	82		50 - 200
13C6 PFDA	87		50 - 200
13C5 PFHxA	95		50 - 200
13C4 PFHpA	96		50 - 200
13C8 PFOA	102		50 - 200
13C9 PFNA	93		50 - 200
13C7 PFUnA	88		50 - 200
13C2 PFDoA	89		50 - 200
13C4 PFBA	107		50 - 200
13C5 PFPeA	108		50 - 200
13C3 PFBS	105		50 - 200
13C3 PFHxS	101		50 - 200
13C8 PFOS	97		50 - 200
13C2-4:2-FTS	104		50 - 200
13C2-6:2-FTS	141		50 - 200
13C2-8:2-FTS	99		50 - 200

Lab Sample ID: MRL 380-37593/22-A
Matrix: Water
Analysis Batch: 37802

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37593

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.05		ng/L		102	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.10		ng/L		105	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.24		ng/L		112	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.47		ng/L		123	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.15		ng/L		107	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.42		ng/L		121	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.30		ng/L		115	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.26		ng/L		113	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.26		ng/L		113	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.41		ng/L		120	50 - 150

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QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: MRL 380-37593/22-A
Matrix: Water
Analysis Batch: 37802

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37593

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanoic acid (PFNA)	2.00	2.28		ng/L		114	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.17		ng/L		108	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.47		ng/L		123	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.44		ng/L		122	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.42		ng/L		121	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.18		ng/L		109	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.42		ng/L		121	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.37		ng/L		118	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.35		ng/L		117	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.00	2.18		ng/L		109	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.41		ng/L		120	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	2.56		ng/L		128	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.85		ng/L		142	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.28		ng/L		114	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	2.16		ng/L		108	50 - 150
		MRL	MRL				
Isotope Dilution		%Recovery	Qualifier				Limits
13C3 HFPO-DA		90					50 - 200
13C6 PFDA		87					50 - 200
13C5 PFHxA		95					50 - 200
13C4 PFHpA		100					50 - 200
13C8 PFOA		97					50 - 200
13C9 PFNA		99					50 - 200
13C7 PFUnA		85					50 - 200
13C2 PFDoA		84					50 - 200
13C4 PFBA		99					50 - 200
13C5 PFPeA		93					50 - 200
13C3 PFBS		101					50 - 200
13C3 PFHxS		97					50 - 200
13C8 PFOS		95					50 - 200
13C2-4:2-FTS		97					50 - 200
13C2-6:2-FTS		100					50 - 200
13C2-8:2-FTS		99					50 - 200

QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: 380-42066-J-2-A MS
Matrix: Drinking Water
Analysis Batch: 37802

Client Sample ID: 380-42066-J-2-A MS
Prep Type: Total/NA
Prep Batch: 37593

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		120	107		ng/L		89	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		120	113		ng/L		94	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	*5-	120	100		ng/L		83	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND	*5-	120	115		ng/L		95	70 - 130
Perfluorobutanesulfonic acid (PFBS)	ND		120	106		ng/L		88	70 - 130
Perfluorodecanoic acid (PFDA)	ND		120	115		ng/L		95	70 - 130
Perfluorododecanoic acid (PFDoA)	ND		120	116		ng/L		96	70 - 130
Perfluoroheptanoic acid (PFHpA)	ND	*5-	120	111		ng/L		91	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	ND		120	114		ng/L		94	70 - 130
Perfluorohexanoic acid (PFHxA)	ND		120	117		ng/L		96	70 - 130
Perfluorononanoic acid (PFNA)	ND		120	116		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	ND		120	114		ng/L		94	70 - 130
Perfluorooctanoic acid (PFOA)	ND		120	112		ng/L		92	70 - 130
Perfluoroundecanoic acid (PFUnA)	ND		120	115		ng/L		96	70 - 130
Perfluorobutanoic acid (PFBA)	ND		120	113		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		120	109		ng/L		91	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		120	116		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		120	115		ng/L		95	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		120	102		ng/L		85	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	ND		120	107		ng/L		88	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		120	105		ng/L		87	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		120	111		ng/L		92	70 - 130
Perfluoropentanoic acid (PFPeA)	ND		120	116		ng/L		95	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	ND		120	112		ng/L		93	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	ND		120	112		ng/L		93	70 - 130
		MS MS							
Isotope Dilution	%Recovery	Qualifier	Limits						
13C3 HFPO-DA	52		50 - 200						
13C6 PFDA	61		50 - 200						
13C5 PFHxA	56		50 - 200						
13C4 PFHpA	55		50 - 200						
13C8 PFOA	51		50 - 200						
13C9 PFNA	56		50 - 200						

QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: 380-42066-J-2-A MS
Matrix: Drinking Water
Analysis Batch: 37802

Client Sample ID: 380-42066-J-2-A MS
Prep Type: Total/NA
Prep Batch: 37593

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C7 PFUnA	67		50 - 200
13C2 PFDoA	75		50 - 200
13C4 PFBA	65		50 - 200
13C5 PFPeA	60		50 - 200
13C3 PFBS	104		50 - 200
13C3 PFHxS	100		50 - 200
13C8 PFOS	100		50 - 200
13C2-4:2-FTS	110		50 - 200
13C2-6:2-FTS	104		50 - 200
13C2-8:2-FTS	115		50 - 200

Lab Sample ID: 380-42066-3 DU
Matrix: Drinking Water
Analysis Batch: 37802

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)
Prep Type: Total/NA
Prep Batch: 37593

Analyte	Sample Result	Sample Qualifier	DU DU		Unit	D	RPD	
			Result	Qualifier			RPD	Limit
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		ND		ng/L		NC	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		ND		ng/L		NC	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		ND		ng/L		NC	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		ND		ng/L		NC	30
Perfluorobutanesulfonic acid (PFBS)	ND		ND		ng/L		NC	30
Perfluorodecanoic acid (PFDA)	ND		ND		ng/L		NC	30
Perfluorododecanoic acid (PFDoA)	ND		ND		ng/L		NC	30
Perfluoroheptanoic acid (PFHpA)	ND		ND		ng/L		NC	30
Perfluorohexanesulfonic acid (PFHxS)	2.2		2.33		ng/L		4	30
Perfluorohexanoic acid (PFHxA)	ND		2.02		ng/L		NC	30
Perfluorononanoic acid (PFNA)	ND		ND		ng/L		NC	30
Perfluorooctanesulfonic acid (PFOS)	2.2		2.18		ng/L		2	30
Perfluorooctanoic acid (PFOA)	2.1		2.21		ng/L		5	30
Perfluoroundecanoic acid (PFUnA)	ND		ND		ng/L		NC	30
Perfluorobutanoic acid (PFBA)	ND		ND		ng/L		NC	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		ND		ng/L		NC	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		ND		ng/L		NC	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		ND		ng/L		NC	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		ND		ng/L		NC	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	ND		ND		ng/L		NC	30

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QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: 380-42066-3 DU
Matrix: Drinking Water
Analysis Batch: 37802

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)
Prep Type: Total/NA
Prep Batch: 37593

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		ND		ng/L		NC	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		ND		ng/L		NC	30
Perfluoropentanoic acid (PFPeA)	2.4		2.36		ng/L		0.2	30
Perfluoroheptanesulfonic acid (PFHpS)	ND		ND		ng/L		NC	30
Perfluoropentanesulfonic acid (PFPeS)	ND		ND		ng/L		NC	30
		DU	DU					
Isotope Dilution	%Recovery	Qualifier	Limits					
13C3 HFPO-DA	53		50 - 200					
13C6 PFDA	53		50 - 200					
13C5 PFHxA	62		50 - 200					
13C4 PFHpA	57		50 - 200					
13C8 PFOA	51		50 - 200					
13C9 PFNA	52		50 - 200					
13C7 PFUnA	58		50 - 200					
13C2 PFDoA	68		50 - 200					
13C4 PFBA	75		50 - 200					
13C5 PFPeA	69		50 - 200					
13C3 PFBS	106		50 - 200					
13C3 PFHxS	99		50 - 200					
13C8 PFOS	99		50 - 200					
13C2-4:2-FTS	116		50 - 200					
13C2-6:2-FTS	106		50 - 200					
13C2-8:2-FTS	110		50 - 200					

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

Lab Sample ID: MBL 380-35858/21-A
Matrix: Water
Analysis Batch: 36069

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35858

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:18	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:18	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:18	1
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:18	1
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:18	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:18	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:18	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:18	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:18	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:18	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:18	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:18	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:18	1

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QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: MBL 380-35858/21-A
Matrix: Water
Analysis Batch: 36069

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35858

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:18	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:18	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:18	1
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:18	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 20:18	1

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	94		70 - 130	04/06/23 11:00	04/08/23 20:18	1
13C2 PFHxA	97		70 - 130	04/06/23 11:00	04/08/23 20:18	1
13C2 PFDA	95		70 - 130	04/06/23 11:00	04/08/23 20:18	1
13C3-GenX	95		70 - 130	04/06/23 11:00	04/08/23 20:18	1

Lab Sample ID: LCS 380-35858/23-A
Matrix: Water
Analysis Batch: 36069

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35858

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	25.1	25.2		ng/L		100	70 - 130
Perfluorooctanesulfonic acid (PFOS)	23.2	23.5		ng/L		101	70 - 130
Perfluoroundecanoic acid (PFUnA)	25.1	25.7		ng/L		102	70 - 130
N-methylperfluorooctanesulfonamide-2,2,6,6-tetrafluoro-1,3-dioxane-5-carboxylic acid (NMeFOSAA)	25.1	24.5		ng/L		98	70 - 130
N-ethylperfluorooctanesulfonamide-2,2,6,6-tetrafluoro-1,3-dioxane-5-carboxylic acid (NEtFOSAA)	25.1	24.2		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	25.1	26.8		ng/L		107	70 - 130
Perfluorododecanoic acid (PFDoA)	25.1	25.1		ng/L		100	70 - 130
Perfluorooctanoic acid (PFOA)	25.1	25.4		ng/L		101	70 - 130
Perfluorodecanoic acid (PFDA)	25.1	25.5		ng/L		102	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	22.9	23.9		ng/L		105	70 - 130
Perfluorobutanesulfonic acid (PFBS)	22.2	23.5		ng/L		106	70 - 130
Perfluoroheptanoic acid (PFHpA)	25.1	26.7		ng/L		107	70 - 130
Perfluorononanoic acid (PFNA)	25.1	26.0		ng/L		104	70 - 130
Perfluorotetradecanoic acid (PFTA)	25.1	23.9		ng/L		95	70 - 130
Perfluorotridecanoic acid (PFTrDA)	25.1	25.2		ng/L		101	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	23.4	24.6		ng/L		105	70 - 130
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	23.7	25.2		ng/L		107	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	23.7	24.6		ng/L		104	70 - 130

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QC Sample Results

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

Job ID: 380-42066-1

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

<i>Surrogate</i>	<i>LCS LCS</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
<i>d5-NEtFOSAA</i>	85		70 - 130
<i>13C2 PFHxA</i>	100		70 - 130
<i>13C2 PFDA</i>	96		70 - 130
<i>13C3-GenX</i>	97		70 - 130

Lab Sample ID: LCSD 380-35858/24-A
Matrix: Water
Analysis Batch: 36069

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 35858

<i>Analyte</i>	<i>Spike Added</i>	<i>LCSD LCSD</i>		<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i>		<i>RPD</i>	<i>Limit</i>
		<i>Result</i>	<i>Qualifier</i>				<i>Limits</i>	<i>RPD</i>		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	25.1	27.2		ng/L		108	70 - 130	8	30	
Perfluorooctanesulfonic acid (PFOS)	23.2	24.3		ng/L		105	70 - 130	3	30	
Perfluoroundecanoic acid (PFUnA)	25.1	26.9		ng/L		107	70 - 130	5	30	
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.1	24.5		ng/L		98	70 - 130	0	30	
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.1	24.7		ng/L		99	70 - 130	2	30	
Perfluorohexanoic acid (PFHxA)	25.1	28.1		ng/L		112	70 - 130	5	30	
Perfluorododecanoic acid (PFDoA)	25.1	28.1		ng/L		112	70 - 130	11	30	
Perfluorooctanoic acid (PFOA)	25.1	28.7		ng/L		114	70 - 130	12	30	
Perfluorodecanoic acid (PFDA)	25.1	28.1		ng/L		112	70 - 130	10	30	
Perfluorohexanesulfonic acid (PFHxS)	22.9	25.4		ng/L		111	70 - 130	6	30	
Perfluorobutanesulfonic acid (PFBS)	22.2	24.4		ng/L		110	70 - 130	4	30	
Perfluoroheptanoic acid (PFHpA)	25.1	28.1		ng/L		112	70 - 130	5	30	
Perfluorononanoic acid (PFNA)	25.1	29.3		ng/L		117	70 - 130	12	30	
Perfluorotetradecanoic acid (PFTA)	25.1	26.0		ng/L		104	70 - 130	8	30	
Perfluorotridecanoic acid (PFTrDA)	25.1	27.0		ng/L		108	70 - 130	7	30	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	23.4	24.8		ng/L		106	70 - 130	1	30	
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	23.7	25.6		ng/L		108	70 - 130	1	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	23.7	26.5		ng/L		112	70 - 130	7	30	

<i>Surrogate</i>	<i>LCSD LCSD</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
<i>d5-NEtFOSAA</i>	86		70 - 130
<i>13C2 PFHxA</i>	103		70 - 130
<i>13C2 PFDA</i>	100		70 - 130
<i>13C3-GenX</i>	101		70 - 130

QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: MRL 380-35858/22-A
Matrix: Water
Analysis Batch: 36069

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35858

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.15		ng/L		107	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.86	1.91	J	ng/L		103	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.13		ng/L		106	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	1.93	J	ng/L		96	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.93	J	ng/L		96	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.13		ng/L		106	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.09		ng/L		104	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.36		ng/L		118	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.22		ng/L		111	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.83	1.99	J	ng/L		109	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.77	1.86	J	ng/L		105	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.32		ng/L		116	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.26		ng/L		113	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.05		ng/L		102	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.12		ng/L		106	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.87	1.99	J	ng/L		106	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.89	1.98	J	ng/L		105	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	2.11		ng/L		112	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	MRL Limits
d5-NEtFOSAA	87		70 - 130
13C2 PFHxA	98		70 - 130
13C2 PFDA	98		70 - 130
13C3-GenX	95		70 - 130

Lab Sample ID: 380-42066-2 LMS
Matrix: Drinking Water
Analysis Batch: 36069

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Prep Type: Total/NA
Prep Batch: 35858

Analyte	Sample Result	Sample Qualifier	Spike Added	LMS Result	LMS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.01	1.96	J	ng/L		98	50 - 150
Perfluorooctanesulfonic acid (PFOS)	ND		1.86	2.62		ng/L		97	50 - 150
Perfluoroundecanoic acid (PFUnA)	ND		2.01	2.03		ng/L		101	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.01	1.84	J	ng/L		92	50 - 150

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QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: 380-42066-2 LMS
Matrix: Drinking Water
Analysis Batch: 36069

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Prep Type: Total/NA
Prep Batch: 35858

Analyte	Sample Result	Sample Qualifier	Spike Added	LMS Result	LMS Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	ND		2.01	1.90	J	ng/L		95	50 - 150
Perfluorohexanoic acid (PFHxA)	ND		2.01	3.03		ng/L		103	50 - 150
Perfluorododecanoic acid (PFDoA)	ND		2.01	2.20		ng/L		110	50 - 150
Perfluorooctanoic acid (PFOA)	ND		2.01	3.10		ng/L		103	50 - 150
Perfluorodecanoic acid (PFDA)	ND		2.01	2.14		ng/L		106	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	ND		1.83	3.00		ng/L		103	50 - 150
Perfluorobutanesulfonic acid (PFBS)	ND		1.78	2.45		ng/L		101	50 - 150
Perfluoroheptanoic acid (PFHpA)	ND		2.01	2.60		ng/L		107	50 - 150
Perfluorononanoic acid (PFNA)	ND		2.01	2.22		ng/L		110	50 - 150
Perfluorotetradecanoic acid (PFTA)	ND		2.01	1.93	J	ng/L		96	50 - 150
Perfluorotridecanoic acid (PFTrDA)	ND		2.01	2.12		ng/L		106	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1.88	1.91	J	ng/L		102	50 - 150
11-Chloroeicosasfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.90	1.87	J	ng/L		99	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.90	2.00		ng/L		105	50 - 150
Surrogate		LMS %Recovery	LMS Qualifier	Limits					
d5-NEtFOSAA		84		70 - 130					
13C2 PFHxA		101		70 - 130					
13C2 PFDA		98		70 - 130					
13C3-GenX		100		70 - 130					

Lab Sample ID: 380-42066-3 DU
Matrix: Drinking Water
Analysis Batch: 36069

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)
Prep Type: Total/NA
Prep Batch: 35858

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		ND		ng/L		NC	30
Perfluorooctanesulfonic acid (PFOS)	2.2		2.04		ng/L		6	30
Perfluoroundecanoic acid (PFUnA)	ND		ND		ng/L		NC	30
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	ND		ND		ng/L		NC	30
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	ND		ND		ng/L		NC	30
Perfluorohexanoic acid (PFHxA)	2.0		2.16		ng/L		7	30
Perfluorododecanoic acid (PFDoA)	ND		ND		ng/L		NC	30
Perfluorooctanoic acid (PFOA)	2.1		2.22		ng/L		6	30
Perfluorodecanoic acid (PFDA)	ND		ND		ng/L		NC	30

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QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: 380-42066-3 DU
Matrix: Drinking Water
Analysis Batch: 36069

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)
Prep Type: Total/NA
Prep Batch: 35858

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)	2.7		2.67		ng/L		2	30
Perfluorobutanesulfonic acid (PFBS)	ND		ND		ng/L		NC	30
Perfluoroheptanoic acid (PFHpA)	ND		ND		ng/L		NC	30
Perfluorononanoic acid (PFNA)	ND		ND		ng/L		NC	30
Perfluorotetradecanoic acid (PFTA)	ND		ND		ng/L		NC	30
Perfluorotridecanoic acid (PFTrDA)	ND		ND		ng/L		NC	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		ND		ng/L		NC	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		ND		ng/L		NC	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		ND		ng/L		NC	30
		DU	DU					
Surrogate	%Recovery	Qualifier	Limits					
d5-NEtFOSAA	90		70 - 130					
13C2 PFHxA	111		70 - 130					
13C2 PFDA	102		70 - 130					
13C3-GenX	101		70 - 130					

Lab Sample ID: MBL 380-36290/21-A
Matrix: Water
Analysis Batch: 36530

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36290

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 03:42	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 03:42	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 03:42	1
N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 03:42	1
N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 03:42	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 03:42	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 03:42	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 03:42	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 03:42	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 03:42	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 03:42	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 03:42	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 03:42	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 03:42	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 03:42	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 03:42	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 03:42	1

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QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: MBL 380-36290/21-A
Matrix: Water
Analysis Batch: 36530

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36290

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		04/11/23 05:00	04/13/23 03:42	1

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	99		70 - 130	04/11/23 05:00	04/13/23 03:42	1
13C2 PFHxA	102		70 - 130	04/11/23 05:00	04/13/23 03:42	1
13C2 PFDA	110		70 - 130	04/11/23 05:00	04/13/23 03:42	1
13C3-GenX	98		70 - 130	04/11/23 05:00	04/13/23 03:42	1

Lab Sample ID: LCS 380-36290/23-A
Matrix: Water
Analysis Batch: 36530

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36290

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	25.1	25.7		ng/L		103	70 - 130
Perfluorooctanesulfonic acid (PFOS)	23.2	26.3		ng/L		113	70 - 130
Perfluoroundecanoic acid (PFUnA)	25.1	27.6		ng/L		110	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.1	26.1		ng/L		104	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.1	25.1		ng/L		100	70 - 130
Perfluorohexanoic acid (PFHxA)	25.1	28.4		ng/L		113	70 - 130
Perfluorododecanoic acid (PFDoA)	25.1	28.2		ng/L		113	70 - 130
Perfluorooctanoic acid (PFOA)	25.1	27.8		ng/L		111	70 - 130
Perfluorodecanoic acid (PFDA)	25.1	27.5		ng/L		110	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	22.9	26.2		ng/L		115	70 - 130
Perfluorobutanesulfonic acid (PFBS)	22.2	24.6		ng/L		111	70 - 130
Perfluoroheptanoic acid (PFHpA)	25.1	26.6		ng/L		106	70 - 130
Perfluorononanoic acid (PFNA)	25.1	28.5		ng/L		114	70 - 130
Perfluorotetradecanoic acid (PFTA)	25.1	26.8		ng/L		107	70 - 130
Perfluorotridecanoic acid (PFTTrDA)	25.1	27.0		ng/L		108	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	23.4	25.8		ng/L		110	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	23.7	25.7		ng/L		109	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	23.7	25.2		ng/L		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	98		70 - 130
13C2 PFHxA	117		70 - 130
13C2 PFDA	114		70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: LCS 380-36290/23-A
Matrix: Water
Analysis Batch: 36530

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36290

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
13C3-GenX	109		70 - 130

Lab Sample ID: LCSD 380-36290/24-A
Matrix: Water
Analysis Batch: 36530

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36290

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	25.1	27.3		ng/L		109	70 - 130	6	30	
Perfluorooctanesulfonic acid (PFOS)	23.2	26.6		ng/L		114	70 - 130	1	30	
Perfluoroundecanoic acid (PFUnA)	25.1	26.5		ng/L		106	70 - 130	4	30	
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.1	28.1		ng/L		112	70 - 130	7	30	
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.1	26.0		ng/L		104	70 - 130	4	30	
Perfluorohexanoic acid (PFHxA)	25.1	28.7		ng/L		114	70 - 130	1	30	
Perfluorododecanoic acid (PFDoA)	25.1	28.7		ng/L		114	70 - 130	2	30	
Perfluorooctanoic acid (PFOA)	25.1	29.1		ng/L		116	70 - 130	5	30	
Perfluorodecanoic acid (PFDA)	25.1	29.2		ng/L		116	70 - 130	6	30	
Perfluorohexanesulfonic acid (PFHxS)	22.9	26.7		ng/L		117	70 - 130	2	30	
Perfluorobutanesulfonic acid (PFBS)	22.2	24.4		ng/L		110	70 - 130	1	30	
Perfluoroheptanoic acid (PFHpA)	25.1	28.6		ng/L		114	70 - 130	7	30	
Perfluorononanoic acid (PFNA)	25.1	29.0		ng/L		116	70 - 130	2	30	
Perfluorotetradecanoic acid (PFTA)	25.1	27.0		ng/L		108	70 - 130	1	30	
Perfluorotridecanoic acid (PFTrDA)	25.1	28.5		ng/L		114	70 - 130	6	30	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	23.4	25.3		ng/L		108	70 - 130	2	30	
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	23.7	24.2		ng/L		102	70 - 130	6	30	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	23.7	26.4		ng/L		111	70 - 130	5	30	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
d5-NEtFOSAA	97		70 - 130
13C2 PFHxA	109		70 - 130
13C2 PFDA	109		70 - 130
13C3-GenX	99		70 - 130

QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: MRL 380-36290/22-A
Matrix: Water
Analysis Batch: 36530

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36290

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.12		ng/L		106	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.86	2.15		ng/L		116	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.31		ng/L		115	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.10		ng/L		105	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.17		ng/L		108	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.33		ng/L		116	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.39		ng/L		119	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.48		ng/L		124	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.47		ng/L		123	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.83	2.15		ng/L		117	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.77	2.10		ng/L		118	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.33		ng/L		116	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.46		ng/L		123	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.25		ng/L		112	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.38		ng/L		119	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.87	2.12		ng/L		113	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.89	2.00		ng/L		105	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	2.08		ng/L		110	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	MRL Limits
d5-NEtFOSAA	97		70 - 130
13C2 PFHxA	104		70 - 130
13C2 PFDA	107		70 - 130
13C3-GenX	101		70 - 130

Lab Sample ID: 380-42317-B-3-B MS
Matrix: Water
Analysis Batch: 36530

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36290

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.00	2.14		ng/L		107	70 - 130
Perfluorooctanesulfonic acid (PFOS)	5.5		1.86	7.85		ng/L		125	70 - 130
Perfluoroundecanoic acid (PFUnA)	ND		2.00	2.43		ng/L		121	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.00	2.27		ng/L		113	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-42066-1

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

Lab Sample ID: 380-42317-C-4-A DU
Matrix: Water
Analysis Batch: 36530

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 36290

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Perfluorohexanesulfonic acid (PFHxS)	ND		ND		ng/L		NC	30
Perfluorobutanesulfonic acid (PFBS)	ND		ND		ng/L		NC	30
Perfluoroheptanoic acid (PFHpA)	ND		ND		ng/L		NC	30
Perfluorononanoic acid (PFNA)	ND		ND		ng/L		NC	30
Perfluorotetradecanoic acid (PFTA)	ND		ND		ng/L		NC	30
Perfluorotridecanoic acid (PFTTrDA)	ND		ND		ng/L		NC	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		ND		ng/L		NC	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		ND		ng/L		NC	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		ND		ng/L		NC	30
		DU DU						
Surrogate	%Recovery	Qualifier	Limits					
d5-NEtFOSAA	87		70 - 130					
13C2 PFHxA	105		70 - 130					
13C2 PFDA	101		70 - 130					
13C3-GenX	100		70 - 130					

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Lab Sample ID: 104842-B1
Matrix: BlankMatrix
Analysis Batch: O-41018

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-41018_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
Acenaphthene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
Acenaphthylene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
Anthracene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
Biphenyl	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
Chrysene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
Dibenzo[a,i]pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
Dibenzothiophene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-42066-1

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i (Continued)

Lab Sample ID: 104842-B1
Matrix: BlankMatrix
Analysis Batch: O-41018

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-41018_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disalicylidenepranediamine	ND		0.1	0.05	µg/L		03/31/23 00:00	04/09/23 07:06	1
Fluoranthene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
Fluorene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
Naphthalene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
Perylene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
Phenanthrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
Pyrene	ND		0.005	0.001	µg/L		03/31/23 00:00	04/09/23 07:06	1
Surrogate	Blank %Recovery	Blank Qualifier	Limits				Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	75		27 - 133				03/31/23 00:00	04/09/23 07:06	1
(d10-Phenanthrene)	72		43 - 129				03/31/23 00:00	04/09/23 07:06	1
(d12-Chrysene)	72		52 - 144				03/31/23 00:00	04/09/23 07:06	1
(d12-Perylene)	91		36 - 161				03/31/23 00:00	04/09/23 07:06	1
(d8-Naphthalene)	71		25 - 125				03/31/23 00:00	04/09/23 07:06	1

Lab Sample ID: 104842-BS1
Matrix: BlankMatrix
Analysis Batch: O-41018

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-41018_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.5	0.4		µg/L		80	31 - 128
1-Methylphenanthrene	0.5	0.432		µg/L		86	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.415		µg/L		83	55 - 122
2,6-Dimethylnaphthalene	0.5	0.407		µg/L		81	48 - 120
2-Methylnaphthalene	0.5	0.393		µg/L		79	47 - 130
Acenaphthene	0.5	0.411		µg/L		82	53 - 131
Acenaphthylene	0.5	0.408		µg/L		82	43 - 140
Anthracene	0.5	0.425		µg/L		85	58 - 135
Benz[a]anthracene	0.5	0.405		µg/L		81	55 - 145
Benzo[a]pyrene	0.5	0.436		µg/L		87	51 - 143
Benzo[b]fluoranthene	0.5	0.422		µg/L		84	46 - 165
Benzo[e]pyrene	0.5	0.406		µg/L		81	42 - 152
Benzo[g,h,i]perylene	0.5	0.438		µg/L		88	63 - 133
Benzo[k]fluoranthene	0.5	0.427		µg/L		85	56 - 145
Biphenyl	0.5	0.417		µg/L		83	56 - 119
Chrysene	0.5	0.418		µg/L		84	56 - 141
Dibenz[a,h]anthracene	0.5	0.41		µg/L		82	55 - 150
Dibenzo[a,l]pyrene	0.5	0.402		µg/L		80	50 - 150
Dibenzothiophene	0.5	0.425		µg/L		85	46 - 126
Disalicylidenepranediamine	50	27.1		µg/L		54	50 - 150
Fluoranthene	0.5	0.437		µg/L		87	60 - 146
Fluorene	0.5	0.422		µg/L		84	58 - 131
Indeno[1,2,3-cd]pyrene	0.5	0.406		µg/L		81	50 - 151
Naphthalene	0.5	0.388		µg/L		78	41 - 126
Perylene	0.5	0.396		µg/L		79	48 - 141
Phenanthrene	0.5	0.427		µg/L		85	67 - 127
Pyrene	0.5	0.438		µg/L		88	54 - 156

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-42066-1

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i (Continued)

Lab Sample ID: 104842-BS1
Matrix: BlankMatrix
Analysis Batch: O-41018

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-41018_P

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
(d10-Acenaphthene)	70		27 - 133
(d10-Phenanthrene)	72		43 - 129
(d12-Chrysene)	73		52 - 144
(d12-Perylene)	96		36 - 161
(d8-Naphthalene)	68		25 - 125

Lab Sample ID: 104842-BS2
Matrix: BlankMatrix
Analysis Batch: O-41018

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-41018_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
1-Methylnaphthalene	0.5	0.393		µg/L		79	31 - 128	1	30	
1-Methylphenanthrene	0.5	0.442		µg/L		88	66 - 127	2	30	
2,3,5-Trimethylnaphthalene	0.5	0.432		µg/L		86	55 - 122	4	30	
2,6-Dimethylnaphthalene	0.5	0.404		µg/L		81	48 - 120	0	30	
2-Methylnaphthalene	0.5	0.384		µg/L		77	47 - 130	3	30	
Acenaphthene	0.5	0.418		µg/L		84	53 - 131	2	30	
Acenaphthylene	0.5	0.418		µg/L		84	43 - 140	2	30	
Anthracene	0.5	0.433		µg/L		87	58 - 135	2	30	
Benz[a]anthracene	0.5	0.429		µg/L		86	55 - 145	6	30	
Benzo[a]pyrene	0.5	0.455		µg/L		91	51 - 143	4	30	
Benzo[b]fluoranthene	0.5	0.439		µg/L		88	46 - 165	5	30	
Benzo[e]pyrene	0.5	0.443		µg/L		89	42 - 152	9	30	
Benzo[g,h,i]perylene	0.5	0.446		µg/L		89	63 - 133	1	30	
Benzo[k]fluoranthene	0.5	0.431		µg/L		86	56 - 145	1	30	
Biphenyl	0.5	0.413		µg/L		83	56 - 119	0	30	
Chrysene	0.5	0.433		µg/L		87	56 - 141	4	30	
Dibenz[a,h]anthracene	0.5	0.427		µg/L		85	55 - 150	4	30	
Dibenzo[a,l]pyrene	0.5	0.408		µg/L		82	50 - 150	2	30	
Dibenzothiophene	0.5	0.433		µg/L		87	46 - 126	2	30	
Disalicylidenepropanediamine	50	30.4		µg/L		61	50 - 150	12	30	
Fluoranthene	0.5	0.446		µg/L		89	60 - 146	2	30	
Fluorene	0.5	0.434		µg/L		87	58 - 131	4	30	
Indeno[1,2,3-cd]pyrene	0.5	0.423		µg/L		85	50 - 151	5	30	
Naphthalene	0.5	0.365		µg/L		73	41 - 126	7	30	
Perylene	0.5	0.418		µg/L		84	48 - 141	6	30	
Phenanthrene	0.5	0.436		µg/L		87	67 - 127	2	30	
Pyrene	0.5	0.45		µg/L		90	54 - 156	2	30	

Surrogate	LCS DUP LCS DUP		Limits
	%Recovery	Qualifier	
(d10-Acenaphthene)	72		27 - 133
(d10-Phenanthrene)	74		43 - 129
(d12-Chrysene)	75		52 - 144
(d12-Perylene)	100		36 - 161
(d8-Naphthalene)	64		25 - 125

QC Sample Results

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

Job ID: 380-42066-1

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Lab Sample ID: 23VGH7D01B
Matrix: WATER
Analysis Batch: 23VGH7D01

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			04/03/23 12:57	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE								04/03/23 12:57	1

Lab Sample ID: 23VGH7D01L
Matrix: WATER
Analysis Batch: 23VGH7D01

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
GASOLINE	0.500	0.440		mg/L		88	60 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
BROMOFLUOROBENZENE	107		70 - 130				

Lab Sample ID: 23C688-01M
Matrix: WATER
Analysis Batch: 23VGH7D01

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	ND		0.500	0.454		mg/L		91	50 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
BROMOFLUOROBENZENE	114		60 - 140						

Lab Sample ID: 23C688-01S
Matrix: WATER
Analysis Batch: 23VGH7D01

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	Limit
GASOLINE	ND		0.500	0.441		mg/L		88	50 - 130	3	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
BROMOFLUOROBENZENE	113		60 - 140								

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Lab Sample ID: 23DSD007WB
Matrix: WATER
Analysis Batch: 23DSD007W

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.025		mg/L			04/07/23 15:51	1
JP5	ND	U	0.050		mg/L			04/07/23 15:51	1
JP8	ND	U	0.050		mg/L			04/07/23 15:51	1
MOTOR OIL	ND	U	0.050		mg/L			04/07/23 15:51	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-42066-1

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO (Continued)

Lab Sample ID: 23DSD007WB
Matrix: WATER
Analysis Batch: 23DSD007W

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

<i>Surrogate</i>	<i>MB MB</i>		<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	<i>%Recovery</i>	<i>Qualifier</i>				
BROMOBENZENE					04/07/23 15:51	1
HEXACOSANE					04/07/23 15:51	1

Lab Sample ID: 23DSD007WL
Matrix: WATER
Analysis Batch: 23DSD007W

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

<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>
DIESEL	2.50	1.85		mg/L		74	50 - 130

<i>Surrogate</i>	<i>LCS %Recovery</i>	<i>LCS Qualifier</i>	<i>Limits</i>
BROMOBENZENE	69		60 - 130
HEXACOSANE	94		60 - 130

Lab Sample ID: 23J5D007WL
Matrix: WATER
Analysis Batch: 23DSD007W

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

<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>
JP5	2.50	1.74		mg/L		70	30 - 160

<i>Surrogate</i>	<i>LCS %Recovery</i>	<i>LCS Qualifier</i>	<i>Limits</i>
BROMOBENZENE	77		60 - 130
HEXACOSANE	94		60 - 130

Lab Sample ID: 23J8D007WL
Matrix: WATER
Analysis Batch: 23DSD007W

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

<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>
JP8	2.50	2.37		mg/L		95	30 - 160

<i>Surrogate</i>	<i>LCS %Recovery</i>	<i>LCS Qualifier</i>	<i>Limits</i>
BROMOBENZENE	104		60 - 130
HEXACOSANE	107		60 - 130

QC Association Summary

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

Job ID: 380-42066-1

GC/MS Semi VOA

Prep Batch: 35288

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-42066-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	525.2	
380-42066-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Total/NA	Drinking Water	525.2	
380-42066-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	525.2	
380-42066-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	525.2	
MB 380-35288/1-A	Method Blank	Total/NA	Water	525.2	
LCS 380-35288/3-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-35288/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-35288/2-A	Lab Control Sample	Total/NA	Water	525.2	
380-41937-AH-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-41939-AI-1-A DU	Duplicate	Total/NA	Water	525.2	

Analysis Batch: 35494

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-42066-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	525.2	35288
380-42066-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Total/NA	Drinking Water	525.2	35288
380-42066-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	525.2	35288
380-42066-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	525.2	35288
MB 380-35288/1-A	Method Blank	Total/NA	Water	525.2	35288
LCS 380-35288/3-A	Lab Control Sample	Total/NA	Water	525.2	35288
LCSD 380-35288/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	35288
MRL 380-35288/2-A	Lab Control Sample	Total/NA	Water	525.2	35288
380-41937-AH-1-A MS	Matrix Spike	Total/NA	Water	525.2	35288
380-41939-AI-1-A DU	Duplicate	Total/NA	Water	525.2	35288

LCMS

Prep Batch: 35858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-42066-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	537.1 DW	
380-42066-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Total/NA	Drinking Water	537.1 DW	
380-42066-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	537.1 DW	
MBL 380-35858/21-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-35858/23-A	Lab Control Sample	Total/NA	Water	537.1 DW	
LCSD 380-35858/24-A	Lab Control Sample Dup	Total/NA	Water	537.1 DW	
MRL 380-35858/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-42066-2 LMS	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Total/NA	Drinking Water	537.1 DW	
380-42066-3 DU	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	537.1 DW	

Analysis Batch: 36069

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-42066-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	537.1	35858
380-42066-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Total/NA	Drinking Water	537.1	35858
380-42066-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	537.1	35858
MBL 380-35858/21-A	Method Blank	Total/NA	Water	537.1	35858
LCS 380-35858/23-A	Lab Control Sample	Total/NA	Water	537.1	35858
LCSD 380-35858/24-A	Lab Control Sample Dup	Total/NA	Water	537.1	35858
MRL 380-35858/22-A	Lab Control Sample	Total/NA	Water	537.1	35858
380-42066-2 LMS	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Total/NA	Drinking Water	537.1	35858
380-42066-3 DU	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	537.1	35858

QC Association Summary

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

Job ID: 380-42066-1

LCMS

Prep Batch: 36290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-42066-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1 DW	
380-42066-9	FB:MOANALUA WELLS (331-223-TP202)	Total/NA	Water	537.1 DW	
380-42066-10	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TF	Total/NA	Water	537.1 DW	
380-42066-11	FB: HALAWA WELLS UNITS 1&2 (331-206-TP06	Total/NA	Water	537.1 DW	
380-42066-12	FB:AIEA GULCH WELLS P2 (331-202-TP072)	Total/NA	Water	537.1 DW	
MBL 380-36290/21-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-36290/23-A	Lab Control Sample	Total/NA	Water	537.1 DW	
LCSD 380-36290/24-A	Lab Control Sample Dup	Total/NA	Water	537.1 DW	
MRL 380-36290/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-42317-B-3-B MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-42317-C-4-A DU	Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 36530

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-42066-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1	36290
380-42066-9	FB:MOANALUA WELLS (331-223-TP202)	Total/NA	Water	537.1	36290
380-42066-10	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TF	Total/NA	Water	537.1	36290
380-42066-11	FB: HALAWA WELLS UNITS 1&2 (331-206-TP06	Total/NA	Water	537.1	36290
380-42066-12	FB:AIEA GULCH WELLS P2 (331-202-TP072)	Total/NA	Water	537.1	36290
MBL 380-36290/21-A	Method Blank	Total/NA	Water	537.1	36290
LCS 380-36290/23-A	Lab Control Sample	Total/NA	Water	537.1	36290
LCSD 380-36290/24-A	Lab Control Sample Dup	Total/NA	Water	537.1	36290
MRL 380-36290/22-A	Lab Control Sample	Total/NA	Water	537.1	36290
380-42317-B-3-B MS	Matrix Spike	Total/NA	Water	537.1	36290
380-42317-C-4-A DU	Duplicate	Total/NA	Water	537.1	36290

Prep Batch: 37593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-42066-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	533	
380-42066-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	
380-42066-11	FB: HALAWA WELLS UNITS 1&2 (331-206-TP06	Total/NA	Water	533	
380-42066-12	FB:AIEA GULCH WELLS P2 (331-202-TP072)	Total/NA	Water	533	
MBL 380-37593/21-A	Method Blank	Total/NA	Water	533	
LCS 380-37593/23-A	Lab Control Sample	Total/NA	Water	533	
LCSD 380-37593/24-A	Lab Control Sample Dup	Total/NA	Water	533	
MRL 380-37593/22-A	Lab Control Sample	Total/NA	Water	533	
380-42066-J-2-A MS	380-42066-J-2-A MS	Total/NA	Drinking Water	533	
380-42066-3 DU	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	533	

Analysis Batch: 37802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-42066-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	533	37593
380-42066-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	37593
380-42066-11	FB: HALAWA WELLS UNITS 1&2 (331-206-TP06	Total/NA	Water	533	37593
380-42066-12	FB:AIEA GULCH WELLS P2 (331-202-TP072)	Total/NA	Water	533	37593
MBL 380-37593/21-A	Method Blank	Total/NA	Water	533	37593
LCS 380-37593/23-A	Lab Control Sample	Total/NA	Water	533	37593
LCSD 380-37593/24-A	Lab Control Sample Dup	Total/NA	Water	533	37593
MRL 380-37593/22-A	Lab Control Sample	Total/NA	Water	533	37593
380-42066-J-2-A MS	380-42066-J-2-A MS	Total/NA	Drinking Water	533	37593
380-42066-3 DU	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	533	37593

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-42066-1

Subcontract

Analysis Batch: O-41018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-42066-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-41018_P
380-42066-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-41018_P
380-42066-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-41018_P
380-42066-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-41018_P
104842-B1	Method Blank	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-41018_P
104842-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-41018_P
104842-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-41018_P

Analysis Batch: 23DSD007W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-42066-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
380-42066-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
380-42066-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
380-42066-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
23DSD007WB	Method Blank	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23DSD007WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23J5D007WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23J8D007WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	

Analysis Batch: 23VGH7D01

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-42066-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-42066-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-42066-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-42066-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-42066-1

Subcontract (Continued)

Analysis Batch: 23VGH7D01 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-42066-5	TB:MOANALUA WELLS (331-223-TP202)	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-42066-6	TB: AIEA WELLS PUMPS 1&2 (260) (331-203-TF	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-42066-7	TB: HALAWA WELLS UNITS 1&2 (331-206-TP06	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-42066-8	TB:AIEA GULCH WELLS P2 (331-202-TP072)	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
23VGH7D01B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23VGH7D01L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23C688-01M	Matrix Spike	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23C688-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Prep Batch: O-41018_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-42066-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	EPA_625	
380-42066-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	EPA_625	
380-42066-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	EPA_625	
380-42066-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	EPA_625	
104842-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
104842-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
104842-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	

Lab Chronicle

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

Job ID: 380-42066-1

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-42066-1

Date Collected: 03/28/23 10:13

Matrix: Drinking Water

Date Received: 03/30/23 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			35288	OTM3	EA POM	03/31/23 10:30
Total/NA	Analysis	525.2		1	35494	Q8LA	EA POM	04/03/23 15:35
Total/NA	Prep	537.1 DW			35858	EE6W	EA POM	04/06/23 11:00
Total/NA	Analysis	537.1		1	36069	UKYM	EA POM	04/08/23 21:37
Total/NA	Prep	EPA_625		1	O-41018_P			03/31/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-41018	YC		04/09/23 12:20
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VGH7D01	SCerva		04/03/23 16:04
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSD007W	SDees		04/07/23 18:01

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)

Lab Sample ID: 380-42066-2

Date Collected: 03/28/23 11:15

Matrix: Drinking Water

Date Received: 03/30/23 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			35288	OTM3	EA POM	03/31/23 10:30
Total/NA	Analysis	525.2		1	35494	Q8LA	EA POM	04/03/23 15:55
Total/NA	Prep	537.1 DW			35858	EE6W	EA POM	04/06/23 11:00
Total/NA	Analysis	537.1		1	36069	UKYM	EA POM	04/08/23 20:58
Total/NA	Prep	EPA_625		1	O-41018_P			03/31/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-41018	YC		04/09/23 14:04
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VGH7D01	SCerva		04/03/23 18:33
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSD007W	SDees		04/07/23 18:20

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)

Lab Sample ID: 380-42066-3

Date Collected: 03/28/23 10:42

Matrix: Drinking Water

Date Received: 03/30/23 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			35288	OTM3	EA POM	03/31/23 10:30
Total/NA	Analysis	525.2		1	35494	Q8LA	EA POM	04/03/23 16:15
Total/NA	Prep	533			37593	P8ZX	EA POM	04/21/23 14:18
Total/NA	Analysis	533		1	37802	UKYM	EA POM	04/25/23 09:08
Total/NA	Prep	537.1 DW			35858	EE6W	EA POM	04/06/23 11:00
Total/NA	Analysis	537.1		1	36069	UKYM	EA POM	04/08/23 21:17
Total/NA	Prep	EPA_625		1	O-41018_P			03/31/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-41018	YC		04/09/23 15:49
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VGH7D01	SCerva		04/03/23 19:10

Eurofins Eaton Analytical Pomona

Lab Chronicle

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

Job ID: 380-42066-1

**Client Sample ID: HALAWA WELLS UNITS 1 & 2
(331-206-TP065)**

Lab Sample ID: 380-42066-3

Date Collected: 03/28/23 10:42

Matrix: Drinking Water

Date Received: 03/30/23 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSD007W	SDees		04/07/23 18:39

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-42066-4

Date Collected: 03/28/23 11:47

Matrix: Drinking Water

Date Received: 03/30/23 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			35288	OTM3	EA POM	03/31/23 10:30
Total/NA	Analysis	525.2		1	35494	Q8LA	EA POM	04/03/23 16:35
Total/NA	Prep	533			37593	P8ZX	EA POM	04/21/23 14:18
Total/NA	Analysis	533		1	37802	UKYM	EA POM	04/25/23 10:24
Total/NA	Prep	537.1 DW			36290	US1B	EA POM	04/11/23 05:00
Total/NA	Analysis	537.1		1	36530	UKYM	EA POM	04/13/23 04:50
Total/NA	Prep	EPA_625		1	O-41018_P			03/31/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-41018	YC		04/09/23 17:33
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VGH7D01	SCerva		04/03/23 19:48
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSD007W	SDees		04/07/23 18:57

Client Sample ID: TB:MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-42066-5

Date Collected: 03/28/23 10:13

Matrix: Water

Date Received: 03/30/23 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VGH7D01	SCerva		04/03/23 20:25

**Client Sample ID: TB: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)**

Lab Sample ID: 380-42066-6

Date Collected: 03/28/23 11:15

Matrix: Water

Date Received: 03/30/23 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VGH7D01	SCerva		04/03/23 21:02

Lab Chronicle

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

Job ID: 380-42066-1

**Client Sample ID: TB: HALAWA WELLS UNITS 1&2
(331-206-TP065)**

Lab Sample ID: 380-42066-7

Date Collected: 03/28/23 10:42

Matrix: Water

Date Received: 03/30/23 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VGH7D01	SCerva		04/03/23 21:40

Client Sample ID: TB:AIEA GULCH WELLS P2 (331-202-TP072)

Lab Sample ID: 380-42066-8

Date Collected: 03/28/23 11:47

Matrix: Water

Date Received: 03/30/23 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VGH7D01	SCerva		04/03/23 22:17

Client Sample ID: FB:MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-42066-9

Date Collected: 03/28/23 10:13

Matrix: Water

Date Received: 03/30/23 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537.1 DW			36290	US1B	EA POM	04/11/23 05:00
Total/NA	Analysis	537.1		1	36530	UKYM	EA POM	04/13/23 05:00

**Client Sample ID: FB: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)**

Lab Sample ID: 380-42066-10

Date Collected: 03/28/23 11:15

Matrix: Water

Date Received: 03/30/23 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537.1 DW			36290	US1B	EA POM	04/11/23 05:00
Total/NA	Analysis	537.1		1	36530	UKYM	EA POM	04/13/23 05:09

**Client Sample ID: FB: HALAWA WELLS UNITS 1&2
(331-206-TP065)**

Lab Sample ID: 380-42066-11

Date Collected: 03/28/23 10:42

Matrix: Water

Date Received: 03/30/23 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			37593	P8ZX	EA POM	04/21/23 14:18
Total/NA	Analysis	533		1	37802	UKYM	EA POM	04/25/23 11:05
Total/NA	Prep	537.1 DW			36290	US1B	EA POM	04/11/23 05:00
Total/NA	Analysis	537.1		1	36530	UKYM	EA POM	04/13/23 05:19

Lab Chronicle

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

Job ID: 380-42066-1

Client Sample ID: FB:AIEA GULCH WELLS P2 (331-202-TP072)

Lab Sample ID: 380-42066-12

Date Collected: 03/28/23 11:47

Matrix: Water

Date Received: 03/30/23 09:00

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Analyst</u>	<u>Lab</u>	<u>Prepared or Analyzed</u>
Total/NA	Prep	533			37593	P8ZX	EA POM	04/21/23 14:18
Total/NA	Analysis	533		1	37802	UKYM	EA POM	04/25/23 11:15
Total/NA	Prep	537.1 DW			36290	US1B	EA POM	04/11/23 05:00
Total/NA	Analysis	537.1		1	36530	UKYM	EA POM	04/13/23 05:28

Laboratory References:

= Physis Environmental Laboratories, 1904 Wright Circle, Anaheim, CA 92806

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

Accreditation/Certification Summary

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

Job ID: 380-42066-1

Laboratory: Eurofins Eaton Analytical Pomona

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

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	05-29-23

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

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

Accreditation/Certification Summary

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

Job ID: 380-42066-1

Laboratory: Eurofins Eaton Analytical Pomona (Continued)

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

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

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

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

Accreditation/Certification Summary

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

Job ID: 380-42066-1

Laboratory: Eurofins Eaton Analytical Pomona (Continued)

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

Authority	Program	Identification Number	Expiration Date
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
533	533	Water	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)
533	533	Water	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)
533	533	Water	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)
533	533	Water	Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)
533	533	Water	Perfluoro-3-methoxypropanoic acid (PFMPA)
533	533	Water	Perfluoro-4-methoxybutanoic acid (PFMBA)
533	533	Water	Perfluorobutanoic acid (PFBA)
533	533	Water	Perfluoroheptanesulfonic acid (PFHpS)
533	533	Water	Perfluoropentanesulfonic acid (PFPeS)
533	533	Water	Perfluoropentanoic acid (PFPeA)
537.1	537.1 DW	Drinking Water	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)
537.1	537.1 DW	Drinking Water	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
537.1	537.1 DW	Drinking Water	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)
537.1	537.1 DW	Drinking Water	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)
537.1	537.1 DW	Water	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)
537.1	537.1 DW	Water	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
537.1	537.1 DW	Water	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)
537.1	537.1 DW	Water	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)

Method Summary

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

Job ID: 380-42066-1

Method	Method Description	Protocol	Laboratory
525.2	Semivolatile Organic Compounds (GC/MS)	EPA	EA POM
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA POM
537.1	Perfluorinated Alkyl Acids (LC/MS)	EPA	EA POM
625	EPA 625 Base/Neutral and Acid Organics i	EPA	
8015	8015 - TPH DRO/ORO	EPA	
8015B	SW846 8015B Gasoline Range Organics	SW846	
525.2	Extraction of Semivolatile Compounds	EPA	EA POM
533	Extraction of Perfluorinated and Polyfluorinated Alkyl Acids	EPA	EA POM
537.1 DW	Extraction of Perfluorinated Alkyl Acids	EPA	EA POM

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

= Physis Environmental Laboratories, 1904 Wright Circle, Anaheim, CA 92806

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

Sample Summary

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

Job ID: 380-42066-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-42066-1	MOANALUA WELLS (331-223-TP202)	Drinking Water	03/28/23 10:13	03/30/23 09:00	HI0000331
380-42066-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Drinking Water	03/28/23 11:15	03/30/23 09:00	HI0000331
380-42066-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Drinking Water	03/28/23 10:42	03/30/23 09:00	HI0000331
380-42066-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Drinking Water	03/28/23 11:47	03/30/23 09:00	HI0000331
380-42066-5	TB:MOANALUA WELLS (331-223-TP202)	Water	03/28/23 10:13	03/30/23 09:00	
380-42066-6	TB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Water	03/28/23 11:15	03/30/23 09:00	
380-42066-7	TB: HALAWA WELLS UNITS 1&2 (331-206-TP065)	Water	03/28/23 10:42	03/30/23 09:00	
380-42066-8	TB:AIEA GULCH WELLS P2 (331-202-TP072)	Water	03/28/23 11:47	03/30/23 09:00	
380-42066-9	FB:MOANALUA WELLS (331-223-TP202)	Water	03/28/23 10:13	03/30/23 09:00	
380-42066-10	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Water	03/28/23 11:15	03/30/23 09:00	
380-42066-11	FB: HALAWA WELLS UNITS 1&2 (331-206-TP065)	Water	03/28/23 10:42	03/30/23 09:00	
380-42066-12	FB:AIEA GULCH WELLS P2 (331-202-TP072)	Water	03/28/23 11:47	03/30/23 09:00	

- 1
- 2
- 3
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- 5
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- 14
- 15
- 16
- 17
- 18



3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 04-19-2023
EMAX Batch No.: 23C688

Attn: Jackie Contreras

Eurofins Eaton Analytical
750 Royal Oaks Dr., Suite 100
Monrovia, CA 91016-3629

Subject: Laboratory Report
Project: 380-42066

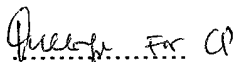
Enclosed is the Laboratory report for samples received on 03/31/23.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-42066-1	C688-01	03/28/23	WATER	TPH GASOLINE TPH
380-42066-2	C688-02	03/28/23	WATER	TPH GASOLINE TPH
380-42066-3	C688-03	03/28/23	WATER	TPH GASOLINE TPH
380-42066-4	C688-04	03/28/23	WATER	TPH GASOLINE TPH
380-42066-5	C688-05	03/28/23	WATER	TPH GASOLINE
380-42066-6	C688-06	03/28/23	WATER	TPH GASOLINE
380-42066-7	C688-07	03/28/23	WATER	TPH GASOLINE
380-42066-8	C688-08	03/28/23	WATER	TPH GASOLINE
380-42066-1MS	C688-01M	03/28/23	WATER	TPH GASOLINE
380-42066-1MSD	C688-01S	03/28/23	WATER	TPH GASOLINE

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,


Caspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912022-24
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

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

23C688



eurofins
 Environment Testing

Chain of Custody Record

Sampler: Arada, Rachelle		Lab Pk#: Arada, Rachelle		Carrier Tracking No(s): 380-45549-1		COC No.: 380-45549-1					
Phone: Rachelle.Arada@et.eurofins.com		E-Mail: Rachelle.Arada@et.eurofins.com		State of Origin: Hawaii		Page: Page 1 of 1					
Company: EMAX Laboratories Inc		Accreditations Required (See note): State - Hawaii		Job #: 380-42066-1		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - EDTA Y - Trizma Z - other (specify) Other:					
Due Date Requested: 4/6/2023		TAT Requested (days): 3		Analysis Requested		Total Number of Containers					
Address: 3051 Fujita Street, City: Torrance State, Zip: CA, 90505 Phone: Email:		PO #:		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)					
Project Name: RED-HILL		Project #: 38001111		SUB (8015 Gas (Purgeable) LL (EAL)) / 8015 Gas		SUB (8015 LL DROM/RO/PS/JPS)					
Site: Honolulu BWS Sites		SSOW#:		SUB (Fungible) LL (EAL) / 8015 Gas		DROM/RO/PS/JPS					
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=on-site)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (8015 Gas (Purgeable) LL (EAL)) / 8015 Gas	SUB (8015 LL DROM/RO/PS/JPS)	Total Number of Containers	Special Instructions/Note:
1 MOANALUA WELLS (331-223-TP202) (380-42066-1)	3/28/23	10:13 Hawaiian		Water		X	X	X		6	See Attached Instructions
2 AIEA WELLS PUMPS 1&2 (260) (331-203-TP400) (380-42066-2)	3/28/23	11:15 Hawaiian		Water		X	X	X		6	See Attached Instructions
3 HALAWA WELLS UNITS 1 & 2 (331-206-TP065) (380-42066-3)	3/28/23	10:42 Hawaiian		Water		X	X	X		6	See Attached Instructions
4 AIEA GULCH WELLS PUMP 2 (331-202-TP072) (380-42066-4)	3/28/23	11:47 Hawaiian		Water		X	X	X		6	See Attached Instructions
5 TB-MOANALUA WELLS (331-223-TP202) (380-42066-5)	3/28/23	10:13 Hawaiian		Water		X	X	X		2	See Attached Instructions
6 TB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400) (380-42066-6)	3/28/23	11:15 Hawaiian		Water		X	X	X		2	See Attached Instructions
7 TB: HALAWA WELLS UNITS 1&2 (331-206-TP065) (380-42066-7)	3/28/23	10:42 Hawaiian		Water		X	X	X		2	See Attached Instructions
8 TB:AIEA GULCH WELLS P2 (331-202-TP072) (380-42066-8)	3/28/23	11:47 Hawaiian		Water		X	X	X		2	See Attached Instructions

Note: Since laboratory accreditations 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 currently maintain accreditation in the State of Origin listed above for analysis/residuals/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to Eurofins Eaton Analytical, LLC.

Possible Hazard Identification
 Unconfirmed
 Deliverable Requested: I, II, III, IV, Other (specify)
 Primary Deliverable Rank: 2
 Date: _____
 Empty Kit Relinquished by: _____ Date: _____
 Relinquished by: *[Signature]* Date: 3/21/23 Company: EMAX
 Relinquished by: _____ Date: _____ Company: _____
 Relinquished by: _____ Date: _____ Company: _____
 Custody Seals Intact: _____
 Custody Seal No.: _____
 Ver: 06/08/2021



Type of Delivery	Airbill / Tracking Number	ECN <u>23C688</u>
<input type="checkbox"/> Fedex <input type="checkbox"/> UPS <input checked="" type="checkbox"/> GSO <input type="checkbox"/> Others		Recipient <u>PEREK SHOL</u>
<input type="checkbox"/> EMAX Courier <input checked="" type="checkbox"/> Client Delivery		Date <u>3/31/23</u> Time <u>1643</u>

QC INSPECTION

<input checked="" type="checkbox"/> Client Name	<input checked="" type="checkbox"/> Client PM/FC	<input type="checkbox"/> Sampler Name	<input checked="" type="checkbox"/> Sampling Date/Time	<input checked="" type="checkbox"/> Sample ID	<input checked="" type="checkbox"/> Matrix
<input checked="" type="checkbox"/> Address	<input type="checkbox"/> Tel # / Fax #	<input type="checkbox"/> Courier Signature	<input checked="" type="checkbox"/> Analysis Required	<input type="checkbox"/> Preservative (if any)	<input checked="" type="checkbox"/> TAT
Safety Issues (if any)	<input type="checkbox"/> High concentrations expected	<input type="checkbox"/> From Superfund Site	<input type="checkbox"/> Rad screening required		

Note: _____

PACKAGING INSPECTION

Container	<input checked="" type="checkbox"/> Cooler	<input type="checkbox"/> Box	<input type="checkbox"/> Other
Condition <u>correction</u>	<input type="checkbox"/> Custody Seal	<input type="checkbox"/> Intact	<input type="checkbox"/> Damaged
Packaging <u>factor: -0.2</u>	<input type="checkbox"/> Bubble Pack	<input type="checkbox"/> Styrofoam	<input type="checkbox"/> Popcorn
Temperatures	<input checked="" type="checkbox"/> Cooler <u>11.3/11</u> °C	<input type="checkbox"/> Cooler 2 _____ °C	<input type="checkbox"/> Cooler 3 _____ °C
(Cool, ≤6 °C but not frozen)	<input type="checkbox"/> Cooler 6 _____ °C	<input type="checkbox"/> Cooler 7 _____ °C	<input type="checkbox"/> Cooler 8 _____ °C
Thermometer:	A - S/N <u>221052760</u>	<u>B</u> - S/N <u>210760237</u>	C - S/N _____

Comments: Temperature is out of range. PM was informed IMMEDIATELY.

Note: _____

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
<u>5-8</u>	<u>25-32</u>	<u>D22</u>		<u>R1</u>
<u>3/31/23</u>				
<u>EA 4/4/23</u>				

pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS:

SAMPLE MATRIX IS DRINKING WATER? YES NO

LEGEND:

- Code Description- Sample Management**
- D1 Analysis is not indicated in _____
 - D2 Analysis mismatch COC vs label
 - D3 Sample ID mismatch COC vs label
 - D4 Sample ID is not indicated in _____
 - D5 Container -[improper] [leaking] [broken]
 - D6 Date/Time is not indicated in _____
 - D7 Date/Time mismatch COC vs label
 - D8 Sample listed in COC is not received
 - D9 Sample received is not listed in COC
 - D10 No initial/date on corrections in COC/label
 - D11 Container count mismatch COC vs received
 - D12 Container size mismatch COC vs received

- Code Description-Sample Management**
- D13 Out of Holding Time
 - D14 Bubble is >6mm
 - D15 No trip blank in cooler
 - D16 Preservation not indicated in _____
 - D17 Preservation mismatch COC vs label
 - D18 Insufficient chemical preservative
 - D19 Insufficient Sample
 - D20 No filtration info for dissolved analysis
 - D21 No sample for moisture determination
 - D22 Two dates 3/17 + 3/28
 - D23 _____
 - D24 _____

- Continue to next page.
- Code Description-Sample Management**
- R1 Proceed as indicated in COC Label
 - R2 Refer to attached instruction
 - R3 Cancel the analysis
 - R4 Use vial with smallest bubble first
 - R5 Log-in with latest sampling date and time+ 1 min
 - R6 Adjust pH as necessary
 - R7 Filter and preserved as necessary
 - R8 _____
 - R9 _____
 - R10 _____
 - R11 _____
 - R12 _____

REVIEWS:

Sample Labeling Nahdeen Nacana

Date 03/31/23

[Signature]

SRF [Signature]

Date 3/31/23

PM EA for RB

Date 4/4/23

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-42066

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

SDG#: 23C688



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-42066

SDG : 23C688

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

A total of eight(8) water samples were received on 03/31/23 to be analyzed for Total Petroleum Hydrocarbons by Purge and Trap in accordance with Method 5030B/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. VGH7D01B - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. VGH7D01L/VGH7D01C were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Gasoline was within MS QC limits in C688-01M/C688-01S. Refer to Matrix QC summary form for details.

Surrogate

Surrogate was added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis

Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

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SAMPLE RESULTS

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/28/23 10:13
Project : 380-42066	Date Received: 03/31/23
Batch No. : 23C688	Date Extracted: 04/03/23 16:04
Sample ID : 380-42066-1	Date Analyzed: 04/03/23 16:04
Lab Samp ID: C688-01	Dilution Factor: 1
Lab File ID: AD03010A	Matrix: WATER
Ext Btch ID: 23VGH7D01	% Moisture: NA
Calib. Ref.: AD03004A	Instrument ID: H7

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
----- GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
----- Bromofluorobenzene	0.0362	0.0400	91	60-140

Notes:

Parameter H-C Range
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml	Final Volume : 5ml
Prepared by : SCerva	Analyzed by : SCerva

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/28/23 11:15
Project	: 380-42066	Date Received:	03/31/23
Batch No.	: 23C688	Date Extracted:	04/03/23 18:33
Sample ID	: 380-42066-2	Date Analyzed:	04/03/23 18:33
Lab Samp ID:	C688-02	Dilution Factor:	1
Lab File ID:	AD03014A	Matrix:	WATER
Ext Btch ID:	23VGH7D01	% Moisture:	NA
Calib. Ref.:	AD03012A	Instrument ID:	H7

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.020	0.010

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0359	0.0400	90	60-140

Notes:

Parameter H-C Range
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml Final Volume : 5ml
Prepared by : SCerva Analyzed by : SCerva

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/28/23 10:42
Project	: 380-42066	Date Received:	03/31/23
Batch No.	: 23C688	Date Extracted:	04/03/23 19:10
Sample ID	: 380-42066-3	Date Analyzed:	04/03/23 19:10
Lab Samp ID:	C688-03	Dilution Factor:	1
Lab File ID:	AD03015A	Matrix:	WATER
Ext Btch ID:	23VGH7D01	% Moisture:	NA
Calib. Ref.:	AD03012A	Instrument ID:	H7

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0375	0.0400	94	60-140

Notes:

Parameter H-C Range
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml Final Volume : 5ml
Prepared by : SCerva Analyzed by : SCerva

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/28/23 11:47
Project	: 380-42066	Date Received:	03/31/23
Batch No.	: 23C688	Date Extracted:	04/03/23 19:48
Sample ID	: 380-42066-4	Date Analyzed:	04/03/23 19:48
Lab Samp ID:	C688-04	Dilution Factor:	1
Lab File ID:	AD03016A	Matrix:	WATER
Ext Btch ID:	23VGH7D01	% Moisture:	NA
Calib. Ref.:	AD03012A	Instrument ID:	H7

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
-----	-----	-----	-----	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
-----	-----	-----	-----	-----
Bromofluorobenzene	0.0376	0.0400	94	60-140

Notes:

Parameter H-C Range
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml Final Volume : 5ml
Prepared by : SCerva Analyzed by : SCerva

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/28/23 10:13
Project	: 380-42066	Date Received:	03/31/23
Batch No.	: 23C688	Date Extracted:	04/03/23 20:25
Sample ID	: 380-42066-5	Date Analyzed:	04/03/23 20:25
Lab Samp ID:	C688-05	Dilution Factor:	1
Lab File ID:	AD03017A	Matrix:	WATER
Ext Btch ID:	23VGH7D01	% Moisture:	NA
Calib. Ref.:	AD03012A	Instrument ID:	H7

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.020	0.010

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0351	0.0400	88	60-140

Notes:

Parameter H-C Range
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml Final Volume : 5ml
Prepared by : SCerva Analyzed by : SCerva

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/28/23 11:15
Project : 380-42066	Date Received: 03/31/23
Batch No. : 23C688	Date Extracted: 04/03/23 21:02
Sample ID : 380-42066-6	Date Analyzed: 04/03/23 21:02
Lab Samp ID: C688-06	Dilution Factor: 1
Lab File ID: AD03018A	Matrix: WATER
Ext Btch ID: 23VGH7D01	% Moisture: NA
Calib. Ref.: AD03012A	Instrument ID: H7

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0372	0.0400	93	60-140

Notes:

Parameter H-C Range
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml	Final Volume : 5ml
Prepared by : SCerva	Analyzed by : SCerva

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/28/23 10:42
Project : 380-42066	Date Received: 03/31/23
Batch No. : 23C688	Date Extracted: 04/03/23 21:40
Sample ID : 380-42066-7	Date Analyzed: 04/03/23 21:40
Lab Samp ID: C688-07	Dilution Factor: 1
Lab File ID: AD03019A	Matrix: WATER
Ext Btch ID: 23VGH7D01	% Moisture: NA
Calib. Ref.: AD03012A	Instrument ID: H7

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.020	0.010

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0363	0.0400	91	60-140

Notes:

Parameter H-C Range
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml	Final Volume : 5ml
Prepared by : SCerva	Analyzed by : SCerva

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/28/23 11:47
Project	: 380-42066	Date Received:	03/31/23
Batch No.	: 23C688	Date Extracted:	04/03/23 22:17
Sample ID	: 380-42066-8	Date Analyzed:	04/03/23 22:17
Lab Samp ID:	C688-08	Dilution Factor:	1
Lab File ID:	AD03020A	Matrix:	WATER
Ext Btch ID:	23VGH7D01	% Moisture:	NA
Calib. Ref.:	AD03012A	Instrument ID:	H7

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.020	0.010

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0371	0.0400	93	60-140

Notes:

Parameter H-C Range
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml Final Volume : 5ml
Prepared by : SCerva Analyzed by : SCerva

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QC SUMMARIES

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	04/03/23 12:57
Project	: 380-42066	Date Received:	04/03/23
Batch No.	: 23C688	Date Extracted:	04/03/23 12:57
Sample ID	: MBLK1W	Date Analyzed:	04/03/23 12:57
Lab Samp ID:	VGH7D01B	Dilution Factor:	1
Lab File ID:	AD03005A	Matrix:	WATER
Ext Btch ID:	23VGH7D01	% Moisture:	NA
Calib. Ref.:	AD03004A	Instrument ID:	H7

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.020	0.010

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0360	0.0400	90	60-140

Notes:

Parameter H-C Range
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml Final Volume : 5ml
Prepared by : SCerva Analyzed by : SCerva

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-42066
BATCH NO. : 23C688
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: VGH7D01B	VGH7D01L	VGH7D01C
LAB FILE ID	: AD03005A	AD03006A	AD03007A
DATE PREPARED	: 04/03/23 12:57	04/03/23 13:34	04/03/23 14:12
DATE ANALYZED	: 04/03/23 12:57	04/03/23 13:34	04/03/23 14:12
PREP BATCH	: 23VGH7D01	23VGH7D01	23VGH7D01
CALIBRATION REF:	AD03004A	AD03004A	AD03004A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Gasoline	ND	0.500	0.440	88	0.500	0.427	85	3	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0428	107	0.0400	0.0421	105	70-130

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-42066
BATCH NO. : 23C688
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-42066-1	380-42066-1MS	380-42066-1MSD
LAB SAMPLE ID	: C688-01	C688-01M	C688-01S
LAB FILE ID	: AD03010A	AD03011A	AD03013A
DATE PREPARED	: 04/03/23 16:04	04/03/23 16:41	04/03/23 17:56
DATE ANALYZED	: 04/03/23 16:04	04/03/23 16:41	04/03/23 17:56
PREP BATCH	: 23VGH7D01	23VGH7D01	23VGH7D01
CALIBRATION REF:	AD03004A	AD03004A	AD03012A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Gasoline	ND	0.500	0.454	91	0.500	0.441	88	3	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0454	114	0.0400	0.0450	113	60-140

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-42066

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 23C688



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-42066

SDG : 23C688

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 03/31/23 to be analyzed for Total Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSD007WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. DSD007WL/DSD007WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG.

Surrogate

Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis

Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-42066

SDG : 23C688

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 03/31/23 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSD007WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. J5D007WL/J5D007WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG.

Surrogate

Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis

Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-42066

SDG : 23C688

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 03/31/23 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSD007WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. J8D007WL/J8D007WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG.

Surrogate

Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis

Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG NO. : 23C688
Instrument ID : D5

Client : EUROFINS EATON ANALYTICAL
Project : 380-42066

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
WATER									
MBLK1W	DS0007WB	1	NA	04/07/2315:51	04/06/2313:00	LD07010A	LD07004A	23DSD007W	Method Blank
LCS1W	DSD007WL	1	NA	04/07/2316:10	04/06/2313:00	LD07011A	LD07004A	23DSD007W	Lab Control Sample (LCS)
LCD1W	DSD007WC	1	NA	04/07/2316:28	04/06/2313:00	LD07012A	LD07004A	23DSD007W	LCS Duplicate
380-42066-1	C688-01	1	NA	04/07/2318:01	04/06/2313:00	LD07017A	LD07004A	23DSD007W	Field Sample
380-42066-2	C688-02	1	NA	04/07/2318:20	04/06/2313:00	LD07018A	LD07004A	23DSD007W	Field Sample
380-42066-3	C688-03	1	NA	04/07/2318:39	04/06/2313:00	LD07019A	LD07004A	23DSD007W	Field Sample
380-42066-4	C688-04	1	NA	04/07/2318:57	04/06/2313:00	LD07020A	LD07004A	23DSD007W	Field Sample

FN - Filename
% Moist - Percent Moisture



LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

SDG NO. : 23C688
Instrument ID : D5

Client : EUROFINS EATON ANALYTICAL
Project : 380-42066

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
					WATER				
MBLK1W	DS0007WB	1	NA	04/07/2315:51	04/06/2313:00	LD07010A	LD07005A	23DSD007M	Method Blank
LCS1W	J5D007WL	1	NA	04/07/2316:47	04/06/2313:00	LD07013A	LD07005A	23DSD007M	Lab Control Sample (LCS)
LCD1W	J5D007WC	1	NA	04/07/2317:06	04/06/2313:00	LD07014A	LD07005A	23DSD007M	LCS Duplicate
380-42066-1	C688-01	1	NA	04/07/2318:01	04/06/2313:00	LD07017A	LD07005A	23DSD007M	Field Sample
380-42066-2	C688-02	1	NA	04/07/2318:20	04/06/2313:00	LD07018A	LD07005A	23DSD007M	Field Sample
380-42066-3	C688-03	1	NA	04/07/2318:39	04/06/2313:00	LD07019A	LD07005A	23DSD007M	Field Sample
380-42066-4	C688-04	1	NA	04/07/2318:57	04/06/2313:00	LD07020A	LD07005A	23DSD007M	Field Sample

FN - Filename
% Moist - Percent Moisture



LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL SDG NO. : 23C688
 Project : 380-42066 Instrument ID : D5

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
					WATER				
MBLK1W	DSD007WB	1	NA	04/07/2315:51	04/06/2313:00	LD07010A	LD07006A	23DSD007W	Method Blank
LCS1W	J8D007WL	1	NA	04/07/2317:24	04/06/2313:00	LD07015A	LD07006A	23DSD007W	Lab Control Sample (LCS)
LCD1W	J8D007WC	1	NA	04/07/2317:43	04/06/2313:00	LD07016A	LD07006A	23DSD007W	LCS Duplicate
380-42066-1	C688-01	1	NA	04/07/2318:01	04/06/2313:00	LD07017A	LD07006A	23DSD007W	Field Sample
380-42066-2	C688-02	1	NA	04/07/2318:20	04/06/2313:00	LD07018A	LD07006A	23DSD007W	Field Sample
380-42066-3	C688-03	1	NA	04/07/2318:39	04/06/2313:00	LD07019A	LD07006A	23DSD007W	Field Sample
380-42066-4	C688-04	1	NA	04/07/2318:57	04/06/2313:00	LD07020A	LD07006A	23DSD007W	Field Sample

FN - Filename
 % Moist - Percent Moisture



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SAMPLE RESULTS

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/28/23 10:13
Project	: 380-42066	Date Received:	03/31/23
Batch No.	: 23C688	Date Extracted:	04/06/23 13:00
Sample ID	: 380-42066-1	Date Analyzed:	04/07/23 18:01
Lab Samp ID:	23C688-01	Dilution Factor:	1
Lab File ID:	LD07017A	Matrix:	WATER
Ext Btch ID:	23DSD007W	% Moisture:	NA
Calib. Ref.:	LD07004A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel	ND	0.029	0.014	
Motor Oil	ND	0.058	0.029	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.497	0.575	86	60-130
Hexacosane	0.144	0.144	100	60-130

Notes:

Parameter H-C Range
 Diesel C10-C24
 Motor Oil C24-C36

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 870ml Final Volume : 5ml
 Prepared by : RGalan Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/28/23 10:13
Project	: 380-42066	Date Received:	03/31/23
Batch No.	: 23C688	Date Extracted:	04/06/23 13:00
Sample ID	: 380-42066-1	Date Analyzed:	04/07/23 18:01
Lab Samp ID:	23C688-01	Dilution Factor:	1
Lab File ID:	LD07017A	Matrix:	WATER
Ext Btch ID:	23DSD007W	% Moisture:	NA
Calib. Ref.:	LD07005A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP5	ND	0.058	0.029	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.497	0.575	86	60-130
Hexacosane	0.144	0.144	100	60-130

Notes:

RL : Reporting Limit

Parameter H-C Range

JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 870ml

Final Volume : 5ml

Prepared by : RGalán

Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/28/23 10:13
Project	: 380-42066	Date Received:	03/31/23
Batch No.	: 23C688	Date Extracted:	04/06/23 13:00
Sample ID	: 380-42066-1	Date Analyzed:	04/07/23 18:01
Lab Samp ID:	23C688-01	Dilution Factor:	1
Lab File ID:	LD07017A	Matrix:	WATER
Ext Btch ID:	23DSD007W	% Moisture:	NA
Calib. Ref.:	LD07006A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.058	0.029

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.497	0.575	86	60-130
Hexacosane	0.144	0.144	100	60-130

Notes:

RL : Reporting Limit

Parameter H-C Range

JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 870ml

Final Volume : 5ml

Prepared by : RGalan

Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/28/23 11:15
Project	: 380-42066	Date Received:	03/31/23
Batch No.	: 23C688	Date Extracted:	04/06/23 13:00
Sample ID	: 380-42066-2	Date Analyzed:	04/07/23 18:20
Lab Samp ID:	23C688-02	Dilution Factor:	1
Lab File ID:	LD07018A	Matrix:	WATER
Ext Btch ID:	23DSD007W	% Moisture:	NA
Calib. Ref.:	LD07004A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel	ND	0.026	0.013	
Motor Oil	ND	0.052	0.026	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.445	0.525	85	60-130
Hexacosane	0.143	0.131	109	60-130

Notes:

Parameter H-C Range
Diesel C10-C24
Motor Oil C24-C36

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 950ml Final Volume : 5ml
Prepared by : RGalan Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/28/23 11:15
Project	: 380-42066	Date Received:	03/31/23
Batch No.	: 23C688	Date Extracted:	04/06/23 13:00
Sample ID	: 380-42066-2	Date Analyzed:	04/07/23 18:20
Lab Samp ID:	23C688-02	Dilution Factor:	1
Lab File ID:	LD07018A	Matrix:	WATER
Ext Btch ID:	23DSD007W	% Moisture:	NA
Calib. Ref.:	LD07005A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.052	0.026

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.445	0.525	85	60-130
Hexacosane	0.143	0.131	109	60-130

Notes:

RL : Reporting Limit

Parameter H-C Range

JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 950ml

Final Volume : 5ml

Prepared by : RGalan

Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/28/23 11:15
Project	: 380-42066	Date Received:	03/31/23
Batch No.	: 23C688	Date Extracted:	04/06/23 13:00
Sample ID	: 380-42066-2	Date Analyzed:	04/07/23 18:20
Lab Samp ID:	23C688-02	Dilution Factor:	1
Lab File ID:	LD07018A	Matrix:	WATER
Ext Btch ID:	23DSD007W	% Moisture:	NA
Calib. Ref.:	LD07006A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.052	0.026

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.445	0.525	85	60-130
Hexacosane	0.143	0.131	109	60-130

Notes:

RL : Reporting Limit

Parameter H-C Range

JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 950ml

Final Volume : 5ml

Prepared by : RGalán

Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/28/23 10:42
Project	: 380-42066	Date Received:	03/31/23
Batch No.	: 23C688	Date Extracted:	04/06/23 13:00
Sample ID	: 380-42066-3	Date Analyzed:	04/07/23 18:39
Lab Samp ID:	23C688-03	Dilution Factor:	1
Lab File ID:	LD07019A	Matrix:	WATER
Ext Btch ID:	23DSD007W	% Moisture:	NA
Calib. Ref.:	LD07004A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Diesel	ND	0.025	0.012
Motor Oil	ND	0.050	0.025

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.425	0.500	85	60-130
Hexacosane	0.117	0.125	94	60-130

Notes:

Parameter H-C Range
Diesel C10-C24
Motor Oil C24-C36

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml Final Volume : 5ml
Prepared by : RGalan Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/28/23 10:42
Project	: 380-42066	Date Received:	03/31/23
Batch No.	: 23C688	Date Extracted:	04/06/23 13:00
Sample ID	: 380-42066-3	Date Analyzed:	04/07/23 18:39
Lab Samp ID:	23C688-03	Dilution Factor:	1
Lab File ID:	LD07019A	Matrix:	WATER
Ext Btch ID:	23DSD007W	% Moisture:	NA
Calib. Ref.:	LD07005A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP5	ND	0.050	0.025	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.425	0.500	85	60-130
Hexacosane	0.117	0.125	94	60-130

Notes:

RL : Reporting Limit

Parameter H-C Range

JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml

Final Volume : 5ml

Prepared by : RGalan

Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/28/23 10:42
Project	: 380-42066	Date Received:	03/31/23
Batch No.	: 23C688	Date Extracted:	04/06/23 13:00
Sample ID	: 380-42066-3	Date Analyzed:	04/07/23 18:39
Lab Samp ID:	23C688-03	Dilution Factor:	1
Lab File ID:	LD07019A	Matrix:	WATER
Ext Btch ID:	23DSD007W	% Moisture:	NA
Calib. Ref.:	LD07006A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.050	0.025

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.425	0.500	85	60-130
Hexacosane	0.117	0.125	94	60-130

Notes:

RL : Reporting Limit

Parameter H-C Range

JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml

Final Volume : 5ml

Prepared by : RGalán

Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/28/23 11:47
Project	: 380-42066	Date Received:	03/31/23
Batch No.	: 23C688	Date Extracted:	04/06/23 13:00
Sample ID	: 380-42066-4	Date Analyzed:	04/07/23 18:57
Lab Samp ID:	23C688-04	Dilution Factor:	1
Lab File ID:	LD07020A	Matrix:	WATER
Ext Btch ID:	23DSD007W	% Moisture:	NA
Calib. Ref.:	LD07004A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Diesel	ND	0.026	0.013
Motor Oil	ND	0.052	0.026

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.476	0.520	92	60-130
Hexacosane	0.135	0.130	104	60-130

Notes:

Parameter H-C Range
Diesel C10-C24
Motor Oil C24-C36

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 960ml Final Volume : 5ml
Prepared by : RGalán Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/28/23 11:47
Project	: 380-42066	Date Received:	03/31/23
Batch No.	: 23C688	Date Extracted:	04/06/23 13:00
Sample ID	: 380-42066-4	Date Analyzed:	04/07/23 18:57
Lab Samp ID:	23C688-04	Dilution Factor:	1
Lab File ID:	LD07020A	Matrix:	WATER
Ext Btch ID:	23DSD007W	% Moisture:	NA
Calib. Ref.:	LD07005A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.052	0.026

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.476	0.520	92	60-130
Hexacosane	0.135	0.130	104	60-130

Notes:

RL : Reporting Limit

Parameter H-C Range

JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 960ml

Final Volume : 5ml

Prepared by : RGalán

Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/28/23 11:47
Project	: 380-42066	Date Received:	03/31/23
Batch No.	: 23C688	Date Extracted:	04/06/23 13:00
Sample ID	: 380-42066-4	Date Analyzed:	04/07/23 18:57
Lab Samp ID:	23C688-04	Dilution Factor:	1
Lab File ID:	LD07020A	Matrix:	WATER
Ext Btch ID:	23DSD007W	% Moisture:	NA
Calib. Ref.:	LD07006A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP8	ND	0.052	0.026	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.476	0.520	92	60-130
Hexacosane	0.135	0.130	104	60-130

Notes:

RL : Reporting Limit

Parameter H-C Range

JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 960ml

Final Volume : 5ml

Prepared by : RGalan

Analyzed by : SDeeso

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QC SUMMARIES

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL Date Collected: 04/06/23 13:00
Project : 380-42066 Date Received: 04/06/23
Batch No. : 23C688 Date Extracted: 04/06/23 13:00
Sample ID : MBLK1W Date Analyzed: 04/07/23 15:51
Lab Samp ID: DSD007WB Dilution Factor: 1
Lab File ID: LD07010A Matrix: WATER
Ext Btch ID: 23DSD007W % Moisture: NA
Calib. Ref.: LD07004A Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel	ND	0.025	0.012	
Motor Oil	ND	0.050	0.025	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.369	0.500	74	60-130
Hexacosane	0.117	0.125	93	60-130

Notes:

Parameter H-C Range
Diesel C10-C24
Motor Oil C24-C36

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml Final Volume : 5ml
Prepared by : RGalan Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-42066
BATCH NO. : 23C688
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA
DILUTION FACTOR: 1 1
SAMPLE ID : MBLK1W LCS1W LCD1W
LAB SAMPLE ID : DSD007WB DSD007WL DSD007WC
LAB FILE ID : LD07010A LD07011A LD07012A
DATE PREPARED : 04/06/23 13:00 04/06/23 13:00 04/06/23 13:00
DATE ANALYZED : 04/07/23 15:51 04/07/23 16:10 04/07/23 16:28
PREP BATCH : 23DSD007W 23DSD007W 23DSD007W
CALIBRATION REF: LD07004A LD07004A LD07004A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.50	1.85	74	2.50	2.03	81	9	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.347	69	0.500	0.365	73	60-130
Hexacosane	0.125	0.118	94	0.125	0.129	103	60-130

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	04/06/23 13:00
Project	: 380-42066	Date Received:	04/06/23
Batch No.	: 23C688	Date Extracted:	04/06/23 13:00
Sample ID	: MBLK1W	Date Analyzed:	04/07/23 15:51
Lab Samp ID:	DSD007WB	Dilution Factor:	1
Lab File ID:	LD07010A	Matrix:	WATER
Ext Btch ID:	23DSD007W	% Moisture:	NA
Calib. Ref.:	LD07005A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.050	0.025

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.369	0.500	74	60-130
Hexacosane	0.117	0.125	93	60-130

Notes:

RL : Reporting Limit
 Parameter H-C Range
 JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml Final Volume : 5ml
 Prepared by : RGalán Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-42066
BATCH NO. : 23C688
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA
DILUTION FACTOR: 1 1
SAMPLE ID : MBLK1W LCS1W LCD1W
LAB SAMPLE ID : DSD007WB J5D007WL J5D007WC
LAB FILE ID : LD07010A LD07013A LD07014A
DATE PREPARED : 04/06/23 13:00 04/06/23 13:00 04/06/23 13:00
DATE ANALYZED : 04/07/23 15:51 04/07/23 16:47 04/07/23 17:06
PREP BATCH : 23DSD007W 23DSD007W 23DSD007W
CALIBRATION REF: LD07005A LD07005A LD07005A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP5	ND	2.50	1.74	70	2.50	1.71	68	2	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.387	77	0.500	0.451	90	60-130
Hexacosane	0.125	0.117	94	0.125	0.117	94	60-130

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	04/06/23 13:00
Project	: 380-42066	Date Received:	04/06/23
Batch No.	: 23C688	Date Extracted:	04/06/23 13:00
Sample ID	: MBLK1W	Date Analyzed:	04/07/23 15:51
Lab Samp ID:	DSD007WB	Dilution Factor:	1
Lab File ID:	LD07010A	Matrix:	WATER
Ext Btch ID:	23DSD007W	% Moisture:	NA
Calib. Ref.:	LD07006A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.050	0.025

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.369	0.500	74	60-130
Hexacosane	0.117	0.125	93	60-130

Notes:

RL : Reporting Limit

Parameter H-C Range

JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml

Final Volume : 5ml

Prepared by : RGalan

Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-42066
BATCH NO. : 23C688
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSD007WB	J8D007WL	J8D007WC
LAB FILE ID	: LD07010A	LD07015A	LD07016A
DATE PREPARED	: 04/06/23 13:00	04/06/23 13:00	04/06/23 13:00
DATE ANALYZED	: 04/07/23 15:51	04/07/23 17:24	04/07/23 17:43
PREP BATCH	: 23DSD007W	23DSD007W	23DSD007W
CALIBRATION REF:	LD07006A	LD07006A	LD07006A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP8	ND	2.50	2.37	95	2.50	2.14	86	10	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.518	104	0.500	0.504	101	60-130
Hexacosane	0.125	0.134	107	0.125	0.132	106	60-130

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

April 12, 2023

Rachelle Arada
 Eurofins Eaton Analytical
 750 Royal Oaks Drive
 Suite 100
 Monrovia, CA 91016-

Project Name: RED-HILL Porject # 38001111 Job # 380-42066-1
 Physis Project ID: 1407003-385

Dear Rachelle,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 3/31/2023. A total of 4 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Organics
Polynuclear Aromatic Hydrocarbons by EPA 625.1
Disalicylidenepropanediamine by EPA 625.1
Dibenzo [a,l] Pyrene w/ PAHs by EPA 625.1

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,

Rachel Hansen
 714 602-5320
 Extension 203
 rachelhansen@physislabs.com



PROJECT SAMPLE LIS

Eurofins Eaton Analytical

PHYSIS Project ID: 1407003-385

RED-HILL Porject # 38001111 Job # 380-42066-1

Total Samples: 4

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
104843	MOANALUA WELLS	331-223-TP202 (380-42066-1)	3/28/2023	10:13	Samplewater	Not Specified
104844	AIEA WELLS PUMPS 1&2 (26031-203-TP400	(380-42066-2)	3/28/2023	11:15	Samplewater	Not Specified
104845	HALAWA WELLS UNITS 1 & 2 (31-206-TP065	(380-42066-3)	3/28/2023	10:42	Samplewater	Not Specified
104846	AIEA GULCH WELLS PUMP (31-202-TP072	(380-42066-4)	3/28/2023	11:47	Samplewater	Not Specified

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and were used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use is assessed through the preparation and analysis of procedural blanks is provided at a minimum frequency of one per batch.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS₁/MS₂, BS₁/BS₂, LCS₁/LCS₂, LCM₁/LCM₂, CRM₁/CRM₂, surrogate spikes and/or replicate project sample analysis (R₁/R₂) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

BLANK SPIKES: BS is the introduction of a known concentration of analyte into the procedural blank. BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

MATRIX SPIKES: MS is the introduction of a known concentration of analyte into a sample. MS samples demonstrate the effect a particular project sample matrix has on the accuracy of a measurement. Individually, MS samples also indicate the bias of analytical measurements due to chemical interferences inherent in the in the specific project sample spiked. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

CERTIFIED REFERENCE MATERIALS: CRMs are materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of an analytical method. CRMs provide evidence that the laboratory preparation and analysis produces results that are comparable to those obtained by an independent organization.

LABORATORY CONTROL MATERIAL: LCM is provided because a suitable natural seawater CRM is not available and can be used to indicate accuracy of the method. Physis' internal LCM is seawater collected at ~800 meters in the Southern California San Pedro Basin and can be used as a reference for background concentrations in clean, natural seawater for comparison to project samples.

LABORATORY CONTROL SPIKES: LCS is the introduction of a known concentration of analyte into Physis' LCM. LCS samples were employed to assess the effect the seawater matrix has on the accuracy of a measurement. LCS also indicate the bias of this method due to chemical interferences inherent in the in the seawater matrix. Intrinsic LCM concentration can also significantly impact LCS recovery.

SURROGATES: A surrogate is a pure analyte unlikely to be found in any project sample, behaves similarly to the target analyte and most often used with organic analytical procedures. Surrogates are added in known concentration to all samples and are measured to indicate overall efficiency of the method including processing and analyses.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes.

SAMPLE STORAGE/RETENTION: In order to maintain chemical integrity prior to analysis, all samples submitted to Physis are refrigerated (liquids) or frozen (solids) upon receipt unless otherwise recommended by applicable methods. Solid samples are retained for 1 year from collection while liquid samples are retained until method recommended holding times elapse.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
#	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MD
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified accuracy and/or precision acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore accuracy and/or precision acceptance limits do not apply
SL	analyte results were lower than 10 times the MDL, therefore accuracy and/or precision acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore accuracy and/or precision acceptance limits do not apply
Q	analyte was outside the specified QAPP acceptance limits for precision and/or accuracy but within Physis derived acceptance limits, therefore the sample data was reported without further clarification
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

CASE NARRATIVE

QUALIFIER NOTES

In addition to the use of analyte specific Physis Qualifier Codes where applicable, the following were also noted.

ND

MDL is listed due to report format restrictions; it is not used in reporting. Analytical results reported are ND at the RL.

ANALYTICAL REPORT

TERRA AURA ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

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Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 104843-R1	MOANALUA WELLS 331-223-TP202		Matrix: Samplewater							Sampled: 28-Mar-23 10:13	Received: 31-Mar-23
Disalicylideneprapanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41018	31-Mar-23	09-Apr-23
Sample ID: 104844-R1	AIEA WELLS PUMPS 1&2 (260) 331-		Matrix: Samplewater							Sampled: 28-Mar-23 11:15	Received: 31-Mar-23
Disalicylideneprapanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41018	31-Mar-23	09-Apr-23
Sample ID: 104845-R1	HALAWA WELLS UNITS 1 & 2 331-2		Matrix: Samplewater							Sampled: 28-Mar-23 10:42	Received: 31-Mar-23
Disalicylideneprapanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41018	31-Mar-23	09-Apr-23
Sample ID: 104846-R1	AIEA GULCH WELLS PUMP 2 331-20		Matrix: Samplewater							Sampled: 28-Mar-23 11:47	Received: 31-Mar-23
Disalicylideneprapanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41018	31-Mar-23	09-Apr-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 104843-R1	MOANALUA WELLS 331-223-TP202 Matrix: Samplewater						Sampled: 28-Mar-23 10:13		Received: 31-Mar-23		
(d10-Acenaphthene)	EPA 625.1	% Recovery	66	1			Total		O-41018	31-Mar-23	09-Apr-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	70	1			Total		O-41018	31-Mar-23	09-Apr-23
(d12-Chrysene)	EPA 625.1	% Recovery	71	1			Total		O-41018	31-Mar-23	09-Apr-23
(d12-Perylene)	EPA 625.1	% Recovery	91	1			Total		O-41018	31-Mar-23	09-Apr-23
(d8-Naphthalene)	EPA 625.1	% Recovery	63	1			Total		O-41018	31-Mar-23	09-Apr-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23



Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 104844-R1	AIEA WELLS PUMPS 1&2 (260) 331- Matrix: Samplewater						Sampled: 28-Mar-23 11:15		Received: 31-Mar-23		
(d10-Acenaphthene)	EPA 625.1	% Recovery	70	1			Total		O-41018	31-Mar-23	09-Apr-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	72	1			Total		O-41018	31-Mar-23	09-Apr-23
(d12-Chrysene)	EPA 625.1	% Recovery	73	1			Total		O-41018	31-Mar-23	09-Apr-23
(d12-Perylene)	EPA 625.1	% Recovery	91	1			Total		O-41018	31-Mar-23	09-Apr-23
(d8-Naphthalene)	EPA 625.1	% Recovery	64	1			Total		O-41018	31-Mar-23	09-Apr-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 104845-R1	HALAWA WELLS UNITS 1 & 2 331-2	Matrix: Samplewater									
							Sampled: 28-Mar-23 10:42			Received: 31-Mar-23	
(d10-Acenaphthene)	EPA 625.1	% Recovery	66	1			Total		O-41018	31-Mar-23	09-Apr-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	67	1			Total		O-41018	31-Mar-23	09-Apr-23
(d12-Chrysene)	EPA 625.1	% Recovery	72	1			Total		O-41018	31-Mar-23	09-Apr-23
(d12-Perylene)	EPA 625.1	% Recovery	91	1			Total		O-41018	31-Mar-23	09-Apr-23
(d8-Naphthalene)	EPA 625.1	% Recovery	61	1			Total		O-41018	31-Mar-23	09-Apr-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23



Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 104846-R1	AIEA GULCH WELLS PUMP 2 331-20 Matrix: Samplewater						Sampled: 28-Mar-23 11:47		Received: 31-Mar-23		
(d10-Acenaphthene)	EPA 625.1	% Recovery	70	1			Total		O-41018	31-Mar-23	09-Apr-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	73	1			Total		O-41018	31-Mar-23	09-Apr-23
(d12-Chrysene)	EPA 625.1	% Recovery	74	1			Total		O-41018	31-Mar-23	09-Apr-23
(d12-Perylene)	EPA 625.1	% Recovery	95	1			Total		O-41018	31-Mar-23	09-Apr-23
(d8-Naphthalene)	EPA 625.1	% Recovery	66	1			Total		O-41018	31-Mar-23	09-Apr-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41018	31-Mar-23	09-Apr-23

QUALITY CONTROL REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

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Base/Neutral Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE ^c
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Sample ID: 104842-B1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:			
		Method: EPA 625.1			Batch ID: O-41018			Prepared: 31-Mar-23		Analyzed: 09-Apr-23			
Disalicylideneopropanediamine	Total	ND	1	0.05	0.1	µg/L							
Sample ID: 104842-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:			
		Method: EPA 625.1			Batch ID: O-41018			Prepared: 31-Mar-23		Analyzed: 09-Apr-23			
Disalicylideneopropanediamine	Total	27.1	1	0.05	0.1	µg/L	50	0	54	50 - 150%	PASS		
Sample ID: 104842-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:			
		Method: EPA 625.1			Batch ID: O-41018			Prepared: 31-Mar-23		Analyzed: 09-Apr-23			
Disalicylideneopropanediamine	Total	30.4	1	0.05	0.1	µg/L	50	0	61	50 - 150%	PASS	12	30 PASS

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODE ^c
							LEVEL	RESULT	%	LIMITS	%	LIMITS
Sample ID: 104842-B1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:	
		Method: EPA 625.1		Batch ID: O-41018			Prepared: 31-Mar-23		Analyzed: 09-Apr-23		
(d10-Acenaphthene)	Total	75	1			% Recovery	100	75	27 - 133%	PASS	
(d10-Phenanthrene)	Total	72	1			% Recovery	100	72	43 - 129%	PASS	
(d12-Chrysene)	Total	72	1			% Recovery	100	72	52 - 144%	PASS	
(d12-Perylene)	Total	91	1			% Recovery	100	91	36 - 161%	PASS	
(d8-Naphthalene)	Total	71	1			% Recovery	100	71	25 - 125%	PASS	
1-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
1-Methylphenanthrene	Total	ND	1	0.001	0.005	µg/L					
2,3,5-Trimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
2,6-Dimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
2-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
Acenaphthene	Total	ND	1	0.001	0.005	µg/L					
Acenaphthylene	Total	ND	1	0.001	0.005	µg/L					
Anthracene	Total	ND	1	0.001	0.005	µg/L					
Benz[a]anthracene	Total	ND	1	0.001	0.005	µg/L					
Benzo[a]pyrene	Total	ND	1	0.001	0.005	µg/L					
Benzo[b]fluoranthene	Total	ND	1	0.001	0.005	µg/L					
Benzo[e]pyrene	Total	ND	1	0.001	0.005	µg/L					
Benzo[g,h,i]perylene	Total	ND	1	0.001	0.005	µg/L					
Benzo[k]fluoranthene	Total	ND	1	0.001	0.005	µg/L					
Biphenyl	Total	ND	1	0.001	0.005	µg/L					
Chrysene	Total	ND	1	0.001	0.005	µg/L					
Dibenz[a,h]anthracene	Total	ND	1	0.001	0.005	µg/L					
Dibenzo[a,l]pyrene	Total	ND	1	0.001	0.005	µg/L					

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODE ^c
							LEVEL	RESULT	%	LIMITS	%	LIMITS
Dibenzothiophene	Total	ND	1	0.001	0.005	µg/L					
Fluoranthene	Total	ND	1	0.001	0.005	µg/L					
Fluorene	Total	ND	1	0.001	0.005	µg/L					
Indeno[1,2,3-cd]pyrene	Total	ND	1	0.001	0.005	µg/L					
Naphthalene	Total	ND	1	0.001	0.005	µg/L					
Perylene	Total	ND	1	0.001	0.005	µg/L					
Phenanthrene	Total	ND	1	0.001	0.005	µg/L					
Pyrene	Total	ND	1	0.001	0.005	µg/L					

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODE ^c	
							LEVEL	RESULT	%	LIMITS	%	LIMITS
Sample ID: 104842-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-41018			Prepared: 31-Mar-23		Analyzed: 09-Apr-23					
(d10-Acenaphthene)	Total	70	1			% Recovery	100	0	70	27 - 133%	PASS	
(d10-Phenanthrene)	Total	72	1			% Recovery	100	0	72	43 - 129%	PASS	
(d12-Chrysene)	Total	73	1			% Recovery	100	0	73	52 - 144%	PASS	
(d12-Perylene)	Total	96	1			% Recovery	100	0	96	36 - 161%	PASS	
(d8-Naphthalene)	Total	68	1			% Recovery	100	0	68	25 - 125%	PASS	
1-Methylnaphthalene	Total	0.4	1	0.001	0.005	µg/L	0.5	0	80	31 - 128%	PASS	
1-Methylphenanthrene	Total	0.432	1	0.001	0.005	µg/L	0.5	0	86	66 - 127%	PASS	
2,3,5-Trimethylnaphthalene	Total	0.415	1	0.001	0.005	µg/L	0.5	0	83	55 - 122%	PASS	
2,6-Dimethylnaphthalene	Total	0.407	1	0.001	0.005	µg/L	0.5	0	81	48 - 120%	PASS	
2-Methylnaphthalene	Total	0.393	1	0.001	0.005	µg/L	0.5	0	79	47 - 130%	PASS	
Acenaphthene	Total	0.411	1	0.001	0.005	µg/L	0.5	0	82	53 - 131%	PASS	
Acenaphthylene	Total	0.408	1	0.001	0.005	µg/L	0.5	0	82	43 - 140%	PASS	
Anthracene	Total	0.425	1	0.001	0.005	µg/L	0.5	0	85	58 - 135%	PASS	
Benz[a]anthracene	Total	0.405	1	0.001	0.005	µg/L	0.5	0	81	55 - 145%	PASS	
Benzo[a]pyrene	Total	0.436	1	0.001	0.005	µg/L	0.5	0	87	51 - 143%	PASS	
Benzo[b]fluoranthene	Total	0.422	1	0.001	0.005	µg/L	0.5	0	84	46 - 165%	PASS	
Benzo[e]pyrene	Total	0.406	1	0.001	0.005	µg/L	0.5	0	81	42 - 152%	PASS	
Benzo[g,h,i]perylene	Total	0.438	1	0.001	0.005	µg/L	0.5	0	88	63 - 133%	PASS	
Benzo[k]fluoranthene	Total	0.427	1	0.001	0.005	µg/L	0.5	0	85	56 - 145%	PASS	
Biphenyl	Total	0.417	1	0.001	0.005	µg/L	0.5	0	83	56 - 119%	PASS	
Chrysene	Total	0.418	1	0.001	0.005	µg/L	0.5	0	84	56 - 141%	PASS	
Dibenz[a,h]anthracene	Total	0.41	1	0.001	0.005	µg/L	0.5	0	82	55 - 150%	PASS	
Dibenzo[a,l]pyrene	Total	0.402	1	0.001	0.005	µg/L	0.5	0	80	50 - 150%	PASS	

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE ^c
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Dibenzothiophene	Total	0.425	1	0.001	0.005	µg/L	0.5	0	85	46 - 126%	PASS		
Fluoranthene	Total	0.437	1	0.001	0.005	µg/L	0.5	0	87	60 - 146%	PASS		
Fluorene	Total	0.422	1	0.001	0.005	µg/L	0.5	0	84	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	0.406	1	0.001	0.005	µg/L	0.5	0	81	50 - 151%	PASS		
Naphthalene	Total	0.388	1	0.001	0.005	µg/L	0.5	0	78	41 - 126%	PASS		
Perylene	Total	0.396	1	0.001	0.005	µg/L	0.5	0	79	48 - 141%	PASS		
Phenanthrene	Total	0.427	1	0.001	0.005	µg/L	0.5	0	85	67 - 127%	PASS		
Pyrene	Total	0.438	1	0.001	0.005	µg/L	0.5	0	88	54 - 156%	PASS		

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODE ^c				
							LEVEL	RESULT	%	LIMITS	%	LIMITS			
Sample ID: 104842-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:					
		Method: EPA 625.1			Batch ID: O-41018			Prepared: 31-Mar-23		Analyzed: 09-Apr-23					
(d10-Acenaphthene)	Total	72	1				% Recovery	100	0	72	27 - 133%	PASS	3	30	PASS
(d10-Phenanthrene)	Total	74	1				% Recovery	100	0	74	43 - 129%	PASS	3	30	PASS
(d12-Chrysene)	Total	75	1				% Recovery	100	0	75	52 - 144%	PASS	3	30	PASS
(d12-Perylene)	Total	100	1				% Recovery	100	0	100	36 - 161%	PASS	4	30	PASS
(d8-Naphthalene)	Total	64	1				% Recovery	100	0	64	25 - 125%	PASS	6	30	PASS
1-Methylnaphthalene	Total	0.393	1	0.001	0.005	µg/L	0.5	0	79	31 - 128%	PASS	1	30	PASS	
1-Methylphenanthrene	Total	0.442	1	0.001	0.005	µg/L	0.5	0	88	66 - 127%	PASS	2	30	PASS	
2,3,5-Trimethylnaphthalene	Total	0.432	1	0.001	0.005	µg/L	0.5	0	86	55 - 122%	PASS	4	30	PASS	
2,6-Dimethylnaphthalene	Total	0.404	1	0.001	0.005	µg/L	0.5	0	81	48 - 120%	PASS	0	30	PASS	
2-Methylnaphthalene	Total	0.384	1	0.001	0.005	µg/L	0.5	0	77	47 - 130%	PASS	3	30	PASS	
Acenaphthene	Total	0.418	1	0.001	0.005	µg/L	0.5	0	84	53 - 131%	PASS	2	30	PASS	
Acenaphthylene	Total	0.418	1	0.001	0.005	µg/L	0.5	0	84	43 - 140%	PASS	2	30	PASS	
Anthracene	Total	0.433	1	0.001	0.005	µg/L	0.5	0	87	58 - 135%	PASS	2	30	PASS	
Benz[a]anthracene	Total	0.429	1	0.001	0.005	µg/L	0.5	0	86	55 - 145%	PASS	6	30	PASS	
Benzo[a]pyrene	Total	0.455	1	0.001	0.005	µg/L	0.5	0	91	51 - 143%	PASS	4	30	PASS	
Benzo[b]fluoranthene	Total	0.439	1	0.001	0.005	µg/L	0.5	0	88	46 - 165%	PASS	5	30	PASS	
Benzo[e]pyrene	Total	0.443	1	0.001	0.005	µg/L	0.5	0	89	42 - 152%	PASS	9	30	PASS	
Benzo[g,h,i]perylene	Total	0.446	1	0.001	0.005	µg/L	0.5	0	89	63 - 133%	PASS	1	30	PASS	
Benzo[k]fluoranthene	Total	0.431	1	0.001	0.005	µg/L	0.5	0	86	56 - 145%	PASS	1	30	PASS	
Biphenyl	Total	0.413	1	0.001	0.005	µg/L	0.5	0	83	56 - 119%	PASS	0	30	PASS	
Chrysene	Total	0.433	1	0.001	0.005	µg/L	0.5	0	87	56 - 141%	PASS	4	30	PASS	
Dibenz[a,h]anthracene	Total	0.427	1	0.001	0.005	µg/L	0.5	0	85	55 - 150%	PASS	4	30	PASS	
Dibenzo[a,l]pyrene	Total	0.408	1	0.001	0.005	µg/L	0.5	0	82	50 - 150%	PASS	2	30	PASS	

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE ^c	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Dibenzothiophene	Total	0.433	1	0.001	0.005	µg/L	0.5	0	87	46 - 126%	PASS	2	30	PASS
Fluoranthene	Total	0.446	1	0.001	0.005	µg/L	0.5	0	89	60 - 146%	PASS	2	30	PASS
Fluorene	Total	0.434	1	0.001	0.005	µg/L	0.5	0	87	58 - 131%	PASS	4	30	PASS
Indeno[1,2,3-cd]pyrene	Total	0.423	1	0.001	0.005	µg/L	0.5	0	85	50 - 151%	PASS	5	30	PASS
Naphthalene	Total	0.365	1	0.001	0.005	µg/L	0.5	0	73	41 - 126%	PASS	7	30	PASS
Perylene	Total	0.418	1	0.001	0.005	µg/L	0.5	0	84	48 - 141%	PASS	6	30	PASS
Phenanthrene	Total	0.436	1	0.001	0.005	µg/L	0.5	0	87	67 - 127%	PASS	2	30	PASS
Pyrene	Total	0.45	1	0.001	0.005	µg/L	0.5	0	90	54 - 156%	PASS	2	30	PASS

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PHYSIS
TENTATIVELY
IDENTIFIED COMPOUNDS
ENVIRONMENTAL LABORATORIES, INC.
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Sample ID: Lab Blank O-41018

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
35.5884	5.7163	1111	Anthracene-D10-	1719-06-8	96
10.6805	3.3075	643	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	89
57.1183	1.0013	195	Hexanedioic acid, bis(2-ethylhexyl) ester	103-23-1	95

Concentration estimated using the response for Anthracene-d10

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Sample ID: 104843

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
35.5896	5.9420	1111	Anthracene-D10-	1719-06-8	96
10.6816	3.3008	617	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	90
13.8039	0.8204	153	Benzoic acid	65-85-0	94
57.1146	0.6640	124	Hexanedioic acid, bis(2-ethylhexyl) ester	103-23-1	95
41.9821	0.6172	115	Dibutyl phthalate	84-74-2	93
55.6022	0.5555	104	Benzyl butyl phthalate	85-68-7	93

Concentration estimated using the response for Anthracene-d10

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Sample ID: 104844

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
35.5916	7.1768	1111	Anthracene-D10-	1517-22-2	92
10.6816	2.9579	458	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	91
57.1130	0.9469	147	Hexanedioic acid, bis(2-ethylhexyl) ester	103-23-1	95

Concentration estimated using the response for Anthracene-d10

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Sample ID: 104845

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
35.5850	6.0975	1111	Anthracene-D10	1517-22-2	92
10.6818	3.7365	681	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	88
57.1106	1.0796	197	Hexanedioic acid, bis(2-ethylhexyl) ester	103-23-1	95
41.8275	0.8310	151	n-Hexadecanoic acid	57-10-3	93
13.7967	0.7974	145	Benzoic acid	65-85-0	95

Concentration estimated using the response for Anthracene-d10

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Sample ID: 104846

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
35.5854	5.7933	1111	Anthracene-D10-	1719-06-8	95
10.6815	3.9333	754	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	88
57.1108	0.9087	174	Hexanedioic acid, bis(2-ethylhexyl) ester	103-23-1	95
13.7816	0.6485	124	Benzoic acid	65-85-0	95

Concentration estimated using the response for Anthracene-d10

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PERFORMANCE CHAIN OF CUSTODY

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Client Information (Sub Contract Lab)

Client Contact: _____
 Shipping/Receiving: _____
 Company: Physis Environmental Laboratories
 Address: 1904 Wright Circle, _____
 City: Anaheim
 State, Zip: CA, 92806
 Phone: _____
 Email: _____
 Project Name: RED-HILL
 Site: Honolulu BWS Sites

Sampler: _____
 Phone: _____
 Lab Pk: Arada, Rachelle
 E-Mail: Rachelle.Arada@eurofins.com
 Carrier Tracking No(s): _____
 State of Origin: Hawaii

Due Date Requested: 4/6/2023
 TAT Requested (days): _____
 Project #: 38001111
 SSO#W#: _____

Accreditations Required (See note): State - Hawaii

COC No: 380-45550-1
 Page: Page 1 of 1
 Job #: 380-42066-1

Analysis Requested

Field Filtered Sample (Yes or No) _____
 Perform MS/MSD (Yes or No) _____
 SUB (625 PAH Physis LL (EAL) + TICs)/ 625 PAH Physis LL (EAL) + TICs

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

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (G=Comp, G=grab)	Matrix (W=Water, S=Soil, O=Other, A=Air)	Preservation Code	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Substrates	Total Number of containers	Special Instructions/Note
MOANALUA WELLS (331-223-TP202) (380-42066-1)	3/28/23	10:13	Hawaiian	Water			X		2	See Attached Instructions
AIEA WELLS PUMPS 1&2 (260) (331-203-TP400) (380-42066-2)	3/28/23	11:15	Hawaiian	Water			X		1	See Attached Instructions
HALAWA WELLS UNITS 1 & 2 (331-206-TP065) (380-42066-3)	3/28/23	10:42	Hawaiian	Water			X		2	See Attached Instructions
AIEA GULCH WELLS PUMP 2 (331-202-TP072) (380-42066-4)	3/28/23	11:47	Hawaiian	Water			X		2	See Attached Instructions

Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyze & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analytes/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to Eurofins Eaton Analytical, LLC.

Possible Hazard Identification

Unconfirmed _____
 Deliverable Requested: I, II, III, IV, Other (specify) _____
 Primary Deliverable Rank: 2

Special Instructions/QC Requirements: _____
 Return To Client Disposal By Lab Archive For _____ Months

Empty Kit Relinquished by: _____ Date: _____

Relinquished by: *[Signature]* Date/Time: 3/31/23 1110 Company: BEA

Relinquished by: *[Signature]* Date/Time: 3/29/23 1110 Company: Physis's

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

Custody Seals Intact: Yes No
 Custody Seal No.: _____
 Coder Temperature(s) °C and Other Remarks: _____



Project Iteration ID: 1407003-385
 Client Name: Eurofins Eaton Analytical
 Project Name: RED-HILL Project # 38001111
 Job # 380-42066-1
 COC Page Number: 2 of 2
 Bottle Label Color: NA

Sample Receipt Summary

Receiving Info

1. Initials Received By: MN
2. Date Received: 3/31/2023
3. Time Received: 1110
4. Client Name: Eurofins
5. Courier Information: (Please circle)
 - Client
 - UPS
 - Area Fast
 - DRS
 - FedEx
 - GSO/GLS
 - Ontrac
 - PAMS
 - PHYSIS Driver:
 - i. Start Time: _____
 - ii. End Time: _____
 - iii. Total Mileage: _____
 - iv. Number of Pickups: _____
6. Container Information: (Please put the # of containers or circle none)
 - Cooler
 - Styrofoam Cooler
 - Boxes
 - None
 - Carboy(s)
 - Carboy Trash Can(s)
 - Carboy Cap(s)
 - Other _____
7. What type of ice was used: (Please circle any that apply)
 - Wet Ice
 - Blue Ice
 - Dry Ice
 - Water
 - None
8. Randomly Selected Samples Temperature (°C): 7.4
 Used I/R Thermometer # 1-2

Inspection Info

1. Initials Inspected By: RGH

Sample Integrity Upon Receipt:

1. COC(s) included and completely filled out..... Yes / No
2. All sample containers arrived intact..... Yes / No
3. All samples listed on COC(s) are present..... Yes / No
4. Information on containers consistent with information on COC(s)..... Yes / No
5. Correct containers and volume for all analyses indicated..... Yes / No
6. All samples received within method holding time..... Yes / No
7. Correct preservation used for all analyses indicated..... Yes / No
8. Name of sampler included on COC(s)..... Yes / No

Notes:

See temp
 low volume AIEA WELLS PUMPS 1&2 (260)

Eurofins Eaton Analytical Pomona

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

Chain of Custody Record



Client Information		Sampler: BAILEY		Lab PM: Arada, Rachele		Carrier Tracking No(s):		COC No: 380-27940-2757.1					
Client Contact: Dr. Ron Fenstermacher		Phone: 808-748		E-Mail: Rachele.Arada@et.eurofins.com		State of Origin:		Page: Page 1 of 3					
Company: City & County of Honolulu		PWSID:		Analysis Requested						Job #:			
Address: 630 South Beretania Street Chemistry Lab		Due Date Requested:		Field Filtered Sample (Yes or No) | Perform MS/MSD (Yes or No) | SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs | SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) | SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil | 825.2_PREC - (MOD) 825plus Plus TICs | SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) | 837.1_DW_PREC - 837.1 Full List | 853 - All Analytes						Preservation Codes:			
City: Honolulu		TAT Requested (days):								M - Hexane		N - None	
State, Zip: HI, 96843		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No								O - AsNaO2		P - Na2O4S	
Phone: 808-748-5091(Tel)		PO #:								Q - Na2SO3		R - Na2S2O3	
Email: RFENSTEMACHER@hbws.org		WO #:								S - H2SO4		T - TSP Dodecahydrate	
Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill		Project #: 38001111		U - Acetone		V - MCAA		W - pH 4-5					
Site: Hawaii		SSOW#:		X - EDTA		Y - Trizma		Z - other (specify)					
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)		Total Number of containers			
										Special Instructions/Note:			
MOANALUA WELLS		03/28/2023		1013		G		Water		(752A) 1.7/1.6			
AIEA GULCH WELLS PUMP 2								Water		FedEx: 771702716150			
AIEA WELLS PUMPS 1&2 (260)								Water		(752A) 5.3/5.2			
HALAWA WELLS UNITS 1&2								Water		FedEx: 771702715462			
MOANALUA WELLS								Water		(752A) 2.1/2.0			
AIEA GULCH WELLS PUMP 2								Water		FedEx: 771702715289			
AIEA WELLS PUMPS 1&2 (260)								Water		(752A) 1.8/1.7			
HALAWA WELLS UNITS 1&2								Water		FedEx: 771702715771			
MOANALUA WELLS								Water					
AIEA GULCH WELLS PUMP 2								Water					
AIEA WELLS PUMPS 1&2 (260) PZ		03/28/2023		1115		G		Water					
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)							
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months							
Deliverable Requested: I, II, III, IV, Other (specify)						Special Instructions/QC Requirements:							
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment: FedEx: 771702715874							
Relinquished by: BAILEY		Date/Time:		Company: HBWS		Received by: Mark Kurutia		Date/Time: 3/30/23 900		Company: EEA			
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:			
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:			
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 4.2/4.1 g61-frozen									

Eurofins Eaton Analytical Pomona

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

Chain of Custody Record



Client Information		Sampler: BAILEY		Lab PM: Arada, Rachele		Carrier Tracking No(s):		COC No: 380-27940-2757.2									
Client Contact: Dr. Ron Fenstemacher		Phone: 808-748-5840		E-Mail: Rachele.Arada@et.eurofins.com		State of Origin:		Page: Page 2 of 3									
Company: City & County of Honolulu		PWSID:		Analysis Requested						Job #:							
Address: 630 South Beretania Street Chemistry Lab		Due Date Requested:		Field Filtered Sample (Yes or No) | Perform MS/MSD (Yes or No) | SUBCONTRACT - 625 PAH Physiol LL (EAL) + TICs | SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) | SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil | 525.2_Prec - (MOD) 525plus Plus TICs | SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) | 537.1_DW_Prec - 537.1 Full List | 533 - All Analytes						Preservation Codes:							
City: Honolulu		TAT Requested (days):								A - HCL | B - NaOH | C - Zn Acetate | D - Nitric Acid | E - NaHSO4 | F - MeOH | G - Amchlor | H - Ascorbic Acid | I - Ice | J - DI Water | K - EDTA | L - EDA		M - Hexane | N - None | O - AsNaO2 | P - Na2O4S | Q - Na2SO3 | R - Na2S2O3 | S - H2SO4 | T - TSP Dodecahydrate | U - Acetone | V - MCAA | W - pH 4-5 | Y - Trizma | Z - other (specify)					
State, Zip: HI, 96843		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No								Other:		Total Number of containers					
Phone: 808-748-5091(Tel)		PO #: C20525101 exp 05312023								Special Instructions/Note:							
Email: RFENSTEMACHER@hbws.org		WO #:															
Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill		Project #: 38001111															
Site: Hawaii		SSOW#:															
Sample Identification		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT - 625 PAH Physiol LL (EAL) + TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	525.2_Prec - (MOD) 525plus Plus TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	537.1_DW_Prec - 537.1 Full List	533 - All Analytes	Total Number of containers	Special Instructions/Note:	
				Preservation Code:				R	R	RA		RA	Y	N			
HALAWA WELLS UNITS 1&2 P1		03/28/2023	1042	G	Water			X	X	X	X	X	X	X		(752A) 1.7/1.6	
MOANALUA WELLS					Water											FedEx: 771702716150	
AIEA GULCH WELLS PUMP 2					Water											(752A) 5.3/5.2	
AIEA WELLS PUMPS 1&2 (260)					Water											FedEx: 771702715462	
HALAWA WELLS UNITS 1&2					Water											(752A) 2.1/2.0	
TB MOANALUA WELLS		03/28/2023	1013		Water							X	X	X		FedEx: 771702715289	
TB AIEA GULCH WELLS PUMP2		03/28/2023	1147		Water							X	X	X		(752A) 1.8/1.7	
TB AIEA WELLS PUMPS 1&2 (260) P2		03/28/2023	1115		Water							X	X	X		FedEx: 771702715771	
TB HALAWA WELLS UNITS 1&2 P1		03/28/2023	1042		Water							X	X	X			
MOANALUA WELLS					Water												
AIEA GULCH WELLS PUMP 2		03/28/2023	1147	G	Water			X	X	X	X	X	X	X			
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)											
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months											
Deliverable Requested: I, II, III, IV, Other (specify)						Special Instructions/QC Requirements:											
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment: FedEx: 771702715874											
Relinquished by: BAILEY		Date/Time:		Company: HBWS		Received by: Maika Mark Urcueta		Date/Time: 3/30/23 900		Company: EGA							
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:							
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:							
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: (752A) 4.2/4.1 gel-fro													

Bottle Order Information

Bottle Order: RUSH RED-HILL WEEKLY
 Bottle Order #: 2757
 Request From Client: 3/2/2023
 Date Order Posted: 7/20/2022 11:12:54AM
 Order Status: Ready To Process
 Prepared By: Davis Haley
 Deliver By Date: 3/22/2023 11:59:00PM
 Lab Project Number: 38001111
 PWSID:

Order Completion Information

Creator: Michelle Do
 Filled by:
 Sent Date:
 Sent Via:
 Tracking #:

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
4	2	8	Amber Glass 1 liter - Sodium Thiosulfate	Sodium Thiosulfate	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	Water	Normal	625 PAH	
4	4	16	Voa Vial 40ml - SodiumThio w/HCl-dropper	Sodium Thiosulfate	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Water	Normal		
4	2	8	Amber Glass 1 L - NaThiosulfate 8mL HCL	Sodium Thiosulfate/Hydrochloric Acid	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	Water	Normal		
4	2	8	Amber Glass 1 Liter- Sodium Sulfite/HCl	Sodium Sulfite w/HCl	525.2_PREC - (MOD) 525plus Plus TICs	Water	Normal		
4	2	8	VOA Vial 40mL - NaThiosulfate/HCL	Sodium Thiosulfate/Hydrochloric Acid	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Water	Trip Blank		
4	3	12	Plastic 250ml - Trizma	Trizma	537.1_DW_PREC - 537.1 Full List	Water	Normal		
4	3	12	Plastic 250ml - Ammonium Acetate	Ammonium Acetate	533 - All Analytes	Water	Normal		
4	1	4	Plastic 250ml - Reagent Water	None		Water	Field Blank		
4	1	4	Plastic 250ml - Ammonium Acetate	Ammonium Acetate		Water	Field Blank		
4	1	4	Plastic 250ml - Reagent Water	None		Water	Field Blank		
4	1	4	Plastic 250ml - Trizma	Trizma		Water	Field Blank		

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-42066-1

Login Number: 42066
List Number: 1
Creator: Ngo, Theodore

List Source: Eurofins Eaton Analytical Pomona

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

