eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 5/25/2023 10:52:47 AM

JOB DESCRIPTION

RED-HILL
RUSH Weekly Red Hill

JOB NUMBER

380-42066-1

Eurofins Eaton Analytical Pomona
941 Corporate Center Drive
Pomona CA 91768-2642

See page two for job notes and contact information.

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

Rachelle Arada

Generated
5/25/2023 10:52:47 AM

Authorized for release by
Rachelle Arada, Manager of Project Management
Rachelle.Arada@et.eurofinsus.com
(626)386-1106

Table of Contents

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
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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

Job ID: 380-42066-1

Laboratory: Eurofins Eaton Analytical Pomona

Narrative

Job Narrative
380-42066-1

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 4.1º 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.

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.

This Detection Summary does not include radiochemical test results.

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

Job ID: 380-42066-1

Client Sample ID: MOANALUA WELLS (331-223-TP202)
Date Collected: 03/28/23 10:13
Date Received: 03/30/23 09:00

Lab Sample ID: 380-42066-1
Matrix: Drinking Water
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

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

Date Collected: 03/28/23 10:13
Date Received: 03/30/23 09:00

Lab Sample ID: 380-42066-1

Matrix: Drinking Water
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
Terbuthylazine	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 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 10:15	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:15	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND	*5-	2.0		ng/L		04/21/23 14:18	04/25/23 10:15	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:15	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:15	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:15	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:15	1

Client Sample ID: MOANALUA WELLS (331-223-TP202)
Date Collected: 03/28/23 10:13
Date Received: 03/30/23 09:00

Lab Sample ID: 380-42066-1
Matrix: Drinking Water
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
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:15	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:15	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:15	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:15	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:15	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:15	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:15	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:15	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:15	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:15	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:15	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:15	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:15	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:15	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:15	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:15	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*47*	**5-*	*50 - 200*	*04/21/23 14:18*	*04/25/23 10:15*	*1*
13C6 PFDA	*53*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:15*	*1*
13C5 PFHxA	*53*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:15*	*1*
13C4 PFHpA	*51*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:15*	*1*
13C8 PFOA	*51*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:15*	*1*
13C9 PFNA	*52*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:15*	*1*
13C7 PFUnA	*52*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:15*	*1*
13C2 PFDoA	*57*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:15*	*1*
13C4 PFBA	*63*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:15*	*1*
13C5 PFPeA	*56*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:15*	*1*
13C3 PFBS	*108*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:15*	*1*
13C3 PFHxS	*103*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:15*	*1*
13C8 PFOS	*100*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:15*	*1*
13C2-4:2-FTS	*112*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:15*	*1*
13C2-6:2-FTS	*110*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:15*	*1*
13C2-8:2-FTS	*111*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:15*	*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		04/06/23 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

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

Job ID: 380-42066-1

Client Sample ID: MOANALUA WELLS (331-223-TP202)
Date Collected: 03/28/23 10:13
Date Received: 03/30/23 09:00

Lab Sample ID: 380-42066-1
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
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
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-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		04/06/23 11:00	04/08/23 21:37	1
11-Chloroeicosafluoro-3-oxaundecane-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

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
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*
(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

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Date Collected: 03/28/23 11:15
Date Received: 03/30/23 09:00

Lab Sample ID: 380-42066-2
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
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
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

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Date Collected: 03/28/23 11:15
Date Received: 03/30/23 09:00

Lab Sample ID: 380-42066-2
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
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
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
Terbuthylazine	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 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 08:49	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 08:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	*5-	2.0		ng/L		04/21/23 14:18	04/25/23 08:49	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND	*5-	2.0		ng/L		04/21/23 14:18	04/25/23 08:49	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 08:49	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 08:49	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 08:49	1
Perfluoroheptanoic acid (PFHpA)	ND	*5-	2.0		ng/L		04/21/23 14:18	04/25/23 08:49	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 08:49	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 08:49	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 08:49	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 08:49	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 08:49	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 08:49	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 08:49	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 08:49	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 08:49	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 08:49	1

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)
Date Collected: 03/28/23 11:15
Date Received: 03/30/23 09:00

Lab Sample ID: 380-42066-2
Matrix: Drinking Water
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
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 08:49	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 08:49	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 08:49	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 08:49	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 08:49	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 08:49	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 08:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*45*	*5-*	*50 - 200*	*04/21/23 14:18*	*04/25/23 08:49*	*1*
13C6 PFDA	*54*		*50 - 200*	*04/21/23 14:18*	*04/25/23 08:49*	*1*
13C5 PFHxA	*52*		*50 - 200*	*04/21/23 14:18*	*04/25/23 08:49*	*1*
13C4 PFHpA	*46*	*5-*	*50 - 200*	*04/21/23 14:18*	*04/25/23 08:49*	*1*
13C8 PFOA	*50*		*50 - 200*	*04/21/23 14:18*	*04/25/23 08:49*	*1*
13C9 PFNA	*50*		*50 - 200*	*04/21/23 14:18*	*04/25/23 08:49*	*1*
13C7 PFUnA	*59*		*50 - 200*	*04/21/23 14:18*	*04/25/23 08:49*	*1*
13C2 PFDoA	*68*		*50 - 200*	*04/21/23 14:18*	*04/25/23 08:49*	*1*
13C4 PFBA	*69*		*50 - 200*	*04/21/23 14:18*	*04/25/23 08:49*	*1*
13C5 PFPeA	*61*		*50 - 200*	*04/21/23 14:18*	*04/25/23 08:49*	*1*
13C3 PFBS	*107*		*50 - 200*	*04/21/23 14:18*	*04/25/23 08:49*	*1*
13C3 PFHxS	*101*		*50 - 200*	*04/21/23 14:18*	*04/25/23 08:49*	*1*
13C8 PFOS	*104*		*50 - 200*	*04/21/23 14:18*	*04/25/23 08:49*	*1*
13C2-4:2-FTS	*117*		*50 - 200*	*04/21/23 14:18*	*04/25/23 08:49*	*1*
13C2-6:2-FTS	*158*		*50 - 200*	*04/21/23 14:18*	*04/25/23 08:49*	*1*
13C2-8:2-FTS	*118*		*50 - 200*	*04/21/23 14:18*	*04/25/23 08:49*	*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

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Date Collected: 03/28/23 11:15
Date Received: 03/30/23 09:00

Lab Sample ID: 380-42066-2
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		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*

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*

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
Date Received: 03/30/23 09:00

Matrix: Drinking Water
PWSID Number: HI0000331

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

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
Date Received: 03/30/23 09:00

Matrix: Drinking Water
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

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)
Date Collected: 03/28/23 10:42
Date Received: 03/30/23 09:00

Lab Sample ID: 380-42066-3
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
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
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
Terbuthylazine	ND		0.099		ug/L		03/31/23 10:30	04/03/23 16:15	1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)
Date Collected: 03/28/23 10:42
Date Received: 03/30/23 09:00

Lab Sample ID: 380-42066-3
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
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*

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 09:08	1
9-Chlorohexadecafluoro-3-oxanonane-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

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)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
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*
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-Chloroeicosafluoro-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*

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)
Date Collected: 03/28/23 10:42
Date Received: 03/30/23 09:00

Lab Sample ID: 380-42066-3
Matrix: Drinking Water
PWSID Number: HI0000331

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
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
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*

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

Lab Sample ID: 380-42066-3

Date Collected: 03/28/23 10:42
Date Received: 03/30/23 09:00

Matrix: Drinking Water
PWSID Number: HI0000331

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

Lab Sample ID: 380-42066-4

Date Collected: 03/28/23 11:47
Date Received: 03/30/23 09:00

Matrix: Drinking Water
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

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)
Date Collected: 03/28/23 11:47
Date Received: 03/30/23 09:00

Lab Sample ID: 380-42066-4
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
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
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
Terbuthylazine	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*

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

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-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:24	1
9-Chlorohexadecafluoro-3-oxanonane-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
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 (PFEESA)	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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
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*

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)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
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
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

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
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
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 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 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 10:34	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:34	1

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

Job ID: 380-42066-1

Client Sample ID: FB:MOANALUA WELLS (331-223-TP202)
Date Collected: 03/28/23 10:13
Date Received: 03/30/23 09:00

Lab Sample ID: 380-42066-9
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:34	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:34	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:34	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:34	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:34	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:34	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:34	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:34	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:34	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:34	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:34	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:34	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:34	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:34	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:34	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:34	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:34	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:34	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:34	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:34	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:34	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*80*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:34*	*1*
13C6 PFDA	*92*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:34*	*1*
13C5 PFHxA	*96*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:34*	*1*
13C4 PFHpA	*96*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:34*	*1*
13C8 PFOA	*102*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:34*	*1*
13C9 PFNA	*94*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:34*	*1*
13C7 PFUnA	*88*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:34*	*1*
13C2 PFDoA	*92*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:34*	*1*
13C4 PFBA	*106*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:34*	*1*
13C5 PFPeA	*106*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:34*	*1*
13C3 PFBS	*109*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:34*	*1*
13C3 PFHxS	*103*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:34*	*1*
13C8 PFOS	*101*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:34*	*1*
13C2-4:2-FTS	*114*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:34*	*1*
13C2-6:2-FTS	*142*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:34*	*1*
13C2-8:2-FTS	*108*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:34*	*1*

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

Lab Sample ID: 380-42066-9

Date Collected: 03/28/23 10:13
Date Received: 03/30/23 09:00

Matrix: Water

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
Perfluorotridecanoic acid (PFTrDA)	ND		2.1		ng/L		04/11/23 05:00	04/13/23 05:00	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.1		ng/L		04/11/23 05:00	04/13/23 05:00	1
11-Chloroeicosafluoro-3-oxaundecane-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) (331-203-TP400)

Lab Sample ID: 380-42066-10

Date Collected: 03/28/23 11:15
Date Received: 03/30/23 09:00

Matrix: Water

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 10:54	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:54	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:54	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:54	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:54	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:54	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:54	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:54	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:54	1

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

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:54	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:54	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:54	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:54	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:54	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:54	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:54	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:54	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:54	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:54	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:54	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:54	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:54	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:54	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 10:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*76*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:54*	*1*
13C6 PFDA	*92*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:54*	*1*
13C5 PFHxA	*90*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:54*	*1*
13C4 PFHpA	*91*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:54*	*1*
13C8 PFOA	*97*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:54*	*1*
13C9 PFNA	*95*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:54*	*1*
13C7 PFUnA	*84*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:54*	*1*
13C2 PFDoA	*87*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:54*	*1*
13C4 PFBA	*102*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:54*	*1*
13C5 PFPeA	*98*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:54*	*1*
13C3 PFBS	*104*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:54*	*1*
13C3 PFHxS	*103*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:54*	*1*
13C8 PFOS	*102*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:54*	*1*
13C2-4:2-FTS	*108*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:54*	*1*
13C2-6:2-FTS	*160*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:54*	*1*
13C2-8:2-FTS	*119*		*50 - 200*	*04/21/23 14:18*	*04/25/23 10:54*	*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 05:09	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-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		04/11/23 05:00	04/13/23 05:09	1

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
Date Received: 03/30/23 09:00

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic 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-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		04/11/23 05:00	04/13/23 05:09	1
11-Chloroeicosafluoro-3-oxaundecane-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*

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
Date Received: 03/30/23 09:00

Matrix: Water

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 11:05	1
9-Chlorohexadecafluoro-3-oxanonane-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

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)
Date Collected: 03/28/23 10:42
Date Received: 03/30/23 09:00

Lab Sample ID: 380-42066-11
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
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*
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

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
Date Received: 03/30/23 09:00

Matrix: Water

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		04/11/23 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
Date Received: 03/30/23 09:00

Matrix: Water

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
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

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
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	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
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

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)
Date Collected: 03/28/23 11:47
Date Received: 03/30/23 09:00

Lab Sample ID: 380-42066-12
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		04/11/23 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 Limit	RL	Method	Prep Type
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) (331-203-TP400)

Lab Sample ID: 380-42066-2

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
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)

Lab Sample ID: 380-42066-3

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
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)

Lab Sample ID: 380-42066-4

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
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**

		Percent Surrogate Recovery (Acceptance Limits)		
		2NMX	TPP	PRY
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(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**

		Percent Surrogate Recovery (Acceptance Limits)		
		2NMX	TPP	PRY
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(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**

		Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS	PFHxA	PFDA	GenX
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(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**

		Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS	PFHxA	PFDA	GenX
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(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**

		Percent Surrogate Recovery (Acceptance Limits)				
		Acenapht	Phenanth	CRY	NPT	PRY
Lab Sample ID	Client Sample ID	(27-133)	(43-129)	(52-144)	(25-125)	(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**

		Percent Surrogate Recovery (Acceptance Limits)				
		Acenapht	Phenanth	CRY	NPT	PRY
Lab Sample ID	Client Sample ID	(27-133)	(43-129)	(52-144)	(25-125)	(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

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**

		Percent Surrogate Recovery (Acceptance Limits)							
		Acenapht	Phenanth	CRY	NPT	PRY			
Lab Sample ID	Client Sample ID	(27-133)	(43-129)	(52-144)	(25-125)	(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**

		Percent Surrogate Recovery (Acceptance Limits)							
		BFB							
Lab Sample ID	Client Sample ID	(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**

		Percent Surrogate Recovery (Acceptance Limits)							
		BFB							
Lab Sample ID	Client Sample ID	(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**

		Percent Surrogate Recovery (Acceptance Limits)							
		BFB							
Lab Sample ID	Client Sample ID								
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)
		BFB
Lab Sample ID	Client Sample ID	(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)
		BFB
Lab Sample ID	Client Sample ID	(60-140)
380-42066-5	TB:MOANALUA WELLS (331-22	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)	
		BB	XACOSAI
Lab Sample ID	Client Sample ID	(60-130)	(60-130)
380-42066-1	MOANALUA WELLS (331-223-T	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)	
		BB	XACOSAI
Lab Sample ID	Client Sample ID	(60-130)	(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

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	XACOSA
Lab Sample ID	**Client Sample ID**		
23DSD007WB	Method Blank		

Surrogate Legend

BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

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)
380-42066-1	MOANALUA WELLS (331-223-T	47 *5-	53	53	51	51	52	52	57
380-42066-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	45 *5-	54	52	46 *5-	50	50	59	68
380-42066-2 MS	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	52	61	56	55	51	56	67	75
380-42066-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	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

		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)
380-42066-1	MOANALUA WELLS (331-223-T	63	56	108	103	100	112	110	111
380-42066-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	69	61	107	101	104	117	158	118
380-42066-2 MS	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	65	60	104	100	100	110	104	115
380-42066-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	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

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)
380-42066-9	FB:MOANALUA WELLS (331-22	80	92	96	96	102	94	88	92
380-42066-10	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	76	92	90	91	97	95	84	87

Isotope Dilution Summary

Client: City & County of Honolulu
Job ID: 380-42066-1
Project/Site: RED-HILL

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

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
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)
380-42066-9	FB:MOANALUA WELLS (331-22	106	106	109	103	101	114	142	108
380-42066-10	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	102	98	104	103	102	108	160	119
380-42066-11	FB: HALAWA WELLS UNITS 1&2 (331-206-TP065)	106	107	109	99	99	110	156	105
380-42066-12	FB:AIEA GULCH WELLS P2 (331-202-TP072)	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

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

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
Terbuthylazine	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

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

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		
Terbuthylazine			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

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
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

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
Terbuthylazine			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 %Recovery*	*LCSD Qualifier*	*Limits*
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

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

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		
Terbuthylazine			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		

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 Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
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
Terbuthylazine	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

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Nitro-m-xylene	*93*		*70 - 130*
Triphenylphosphate	*117*		*70 - 130*
Perylene-d12	*107*		*70 - 130*

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	RPD Limit
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

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	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
Terbuthylazine	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

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
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-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		04/21/23 14:18	04/25/23 08:09	1
9-Chlorohexadecafluoro-3-oxanonane-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

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 Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
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 %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
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*

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-Chloroeicosafluoro-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 %Recovery*	*LCS Qualifier*	*Limits*
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*

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

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-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 (PFEESA)			60.1	54.1		ng/L		90	70 - 130	3	30

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*	*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-Chloroeicosafluoro-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		

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 (PFEESA)	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

Isotope Dilution	*MRL %Recovery*	*MRL 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*

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

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

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Prep Type: Total/NA
Prep Batch: 37593

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	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 (PFEESA)	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

Isotope Dilution	*MS %Recovery*	*MS 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*

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

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

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Prep Type: Total/NA
Prep Batch: 37593

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
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 Result	DU Qualifier	Unit	D			RPD	RPD Limit
11-Chloroeicosafluoro-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 (PFEESA)	ND			ND		ng/L				NC	30

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	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

Isotope Dilution	*DU %Recovery*	*DU 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-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		04/06/23 11:00	04/08/23 20:18	1
N-ethylperfluorooctanesulfonamidoacetic 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

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-Chloroeicosafluoro-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-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			25.1	24.5		ng/L		98	70 - 130		
N-ethylperfluorooctanesulfonamidoacetic 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-Chloroeicosafluoro-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		

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

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
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

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

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*	*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

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-ethylperfluorooctanesulfonamidoacetic 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-Chloroeicosafluoro-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-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		ND		ng/L		NC	30
N-ethylperfluorooctanesulfonamidoacetic 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

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

Surrogate	*DU %Recovery*	*DU 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-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		04/11/23 05:00	04/13/23 03:42	1
N-ethylperfluorooctanesulfonamidoacetic 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

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 (PFTrDA)			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*

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

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*	*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

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

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
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.00	2.10		ng/L		105	70 - 130
Perfluorohexanoic acid (PFHxA)	ND		2.00	3.31		ng/L		118	70 - 130
Perfluorododecanoic acid (PFDoA)	ND		2.00	2.50		ng/L		125	70 - 130
Perfluorooctanoic acid (PFOA)	ND		2.00	3.74		ng/L		110	70 - 130
Perfluorodecanoic acid (PFDA)	ND		2.00	2.42		ng/L		121	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	2.3		1.83	4.23		ng/L		106	70 - 130
Perfluorobutanesulfonic acid (PFBS)	ND		1.77	2.82		ng/L		117	70 - 130
Perfluoroheptanoic acid (PFHpA)	ND		2.00	3.22		ng/L		115	70 - 130
Perfluorononanoic acid (PFNA)	ND	F1	2.00	2.65	F1	ng/L		132	70 - 130
Perfluorotetradecanoic acid (PFTA)	ND		2.00	2.31		ng/L		115	70 - 130
Perfluorotridecanoic acid (PFTrDA)	ND		2.00	2.40		ng/L		120	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		1.87	2.16		ng/L		115	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.89	2.09		ng/L		110	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.89	2.17		ng/L		115	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
d5-NEtFOSAA	*100*		*70 - 130*
13C2 PFHxA	*114*		*70 - 130*
13C2 PFDA	*115*		*70 - 130*
13C3-GenX	*108*		*70 - 130*

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	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		ND		ng/L		NC	30
Perfluorooctanesulfonic acid (PFOS)	4.5		4.64		ng/L		2	30
Perfluoroundecanoic acid (PFUnA)	ND		ND		ng/L		NC	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		ND		ng/L		NC	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		ND		ng/L		NC	30
Perfluorohexanoic acid (PFHxA)	ND		ND		ng/L		NC	30
Perfluorododecanoic acid (PFDoA)	ND		ND		ng/L		NC	30
Perfluorooctanoic acid (PFOA)	ND		ND		ng/L		NC	30
Perfluorodecanoic acid (PFDA)	ND		ND		ng/L		NC	30

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	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 (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

Surrogate	*DU %Recovery*	*DU 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,l]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

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
Disalicylidenepropanediamine	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
Disalicylidenepropanediamine	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

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 %Recovery*	*LCS Qualifier*	*Limits*
(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 Limits	RPD	RPD Limit
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 %Recovery*	*LCS DUP Qualifier*	*Limits*
(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*

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	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

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
DIESEL			2.50	1.85		mg/L		74	50 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
JP5			2.50	1.74		mg/L		70	30 - 160		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
JP8			2.50	2.37		mg/L		95	30 - 160		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOBENZENE	104		60 - 130
HEXACOSANE	107		60 - 130

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-TP40(	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-TP40(	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-TP40(	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-TP40(	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-TP40(	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-TP40(	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

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
380-42066-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	
380-42066-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	533	
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	
380-42066-9	FB:MOANALUA WELLS (331-223-TP202)	Total/NA	Water	533	
380-42066-10	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TF	Total/NA	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	
380-42066-2 MS	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	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
380-42066-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	37593
380-42066-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	533	37593
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
380-42066-9	FB:MOANALUA WELLS (331-223-TP202)	Total/NA	Water	533	37593
380-42066-10	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TF	Total/NA	Water	533	37593

LCMS (Continued)

Analysis Batch: 37802 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
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
380-42066-2 MS	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	533	37593
380-42066-3 DU	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	533	37593

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-TP40(	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/JP8	
380-42066-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/JP8	
380-42066-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/JP8	
380-42066-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/JP8	
23DSD007WB	Method Blank	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	
23DSD007WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	
23J5D007WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	
23J8D007WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	

Subcontract

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-TP40(	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)	
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-TP40(	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
Date Received: 03/30/23 09:00

Matrix: Drinking Water

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	533			37593	P8ZX	EA POM	04/21/23 14:18
Total/NA	Analysis	533		1	37802	UKYM	EA POM	04/25/23 10:15
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
Date Received: 03/30/23 09:00

Matrix: Drinking Water

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	533			37593	P8ZX	EA POM	04/21/23 14:18
Total/NA	Analysis	533		1	37802	UKYM	EA POM	04/25/23 08:49
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
Date Received: 03/30/23 09:00

Matrix: Drinking Water

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

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	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
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
Date Received: 03/30/23 09:00

Matrix: Water

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
Date Received: 03/30/23 09:00

Matrix: Water

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
Date Received: 03/30/23 09:00

Matrix: Water

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 10:34
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
Date Received: 03/30/23 09:00

Matrix: Water

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 10:54
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
Date Received: 03/30/23 09:00

Matrix: Water

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

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 11:15
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	02-29-24

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

Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	Drinking Water	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

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	Terbuthylazine
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 (PFEESA)
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)

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 (PFEESA)
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	

EMAX LABORATORIES, INC.
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
3B0-42066-2	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,

For CP
Caspar J. Pang
Laboratory Director

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

Chain of Custody Record

23C0688

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-45549.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: EMAX Laboratories Inc		Accreditations Required (See note): State - Hawaii		Job #: 380-42066-1
Address: 3051 Fujita Street, ,	Due Date Requested: 4/6/2023			
City: Torrance	TAT Requested (days):			
State, Zip: CA, 90505				
Phone:	PO #:			
Email:	WO #:			
Project Name: RED-HILL	Project #: 38001111			
Site: Honolulu BWS Sites	SSOW#:			

Analysis Requested

Preservation Codes:
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)
Other:

	Sample Identification - Client ID (Lab ID)	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)	SUB (8015 Gas (Purgeable) LL (EAL))/ 8015 Gas (Purgeable) LL (EAL)	SUB (8015 LL DRO/MRO/JP5/JP8)/ 8015 LL DRO/MRO/JP5/JP8	Total Number of containers	Special Instructions/Note:
	Preservation Code:										
1	MOANALUA WELLS (331-223-TP202) (380-42066-1)	3/28/23	10:13 Hawaiian		Water			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	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	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	6	See Attached Instructions
5	TB:MOANALUA WELLS (331-223-TP202) (380-42066-5)	3/28/23	10:13 Hawaiian		Water			X		2	See Attached Instructions
6	TB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400) (380-4206	3/28/23	11:15 Hawaiian		Water			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		2	See Attached Instructions
8	TB:AIEA GULCH WELLS P2 (331-202-TP072) (380-42066-8)	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, 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/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Eaton Analytical, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 3/31/23 1543	Company EMAX	Received by:	Date/Time: 3/31/23 1543	Company EMAX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.3/1.1 UF-0.2 (B)

Ver: 06/08/2021

SAMPLE RECEIPT FORM 1

EMAX LABORATORIES, INC.

Type of Delivery	Airbill / Tracking Number	ECN 23C688
☐ Fedex ☐ UPS ☑ GSO ☐ Others		Recipient Derek Shoil
☐ EMAX Courier ☑ Client Delivery		Date 3/31/23 Time 1543

COC INSPECTION

☑ Client Name	☑ Client PM/FC	☐ Sampler Name	☑ Sampling Date/Time	☑ Sample ID	☑ Matrix
☑ Address	☐ Tel # / Fax #	☐ Courier Signature	☑ Analysis Required	☐ Preservative (if any)	☑ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note:

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other		
Condition correction	☐ Custody Seal	☐ Intact	☐ Damaged		
Packaging factor: -0.2	☐ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	☑ Cooler 1 1.3/1.1 °C	☐ Cooler 2_____ °C	☐ Cooler 3_____ °C	☐ Cooler 4_____ °C	☐ Cooler 5_____ °C
	☐ Cooler 6_____ °C	☐ Cooler 7_____ °C	☐ Cooler 8_____ °C	☐ Cooler 9_____ °C	☐ Cooler 10_____ °C
Thermometer:	*A - S/N* 221052768	(B) *S/N* 210760237	*C - S/N* _____	*D - S/N* _____	

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

Note:

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
5 - 8	25 - 32	D22		R1

3/31/23

EA 4/4/23

☐ 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

☐ Continue to next page.

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 added 3/17 & 3/28
D23	
D24	

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 Nandeen Nacana Date 03/31/23 3/31/23

SRF 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.

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : EUROFINS EATON ANALYTICAL
Project : 380-42066

SDG NO. : 23C688
Instrument ID : H7

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	VGH7D01B	1	NA	04/03/2312:57	04/03/2312:57	AD03005A	AD03004A	23VGH7D01	Method Blank
LCS1W	VGH7D01L	1	NA	04/03/2313:34	04/03/2313:34	AD03006A	AD03004A	23VGH7D01	Lab Control Sample (LCS)
LCD1W	VGH7D01C	1	NA	04/03/2314:12	04/03/2314:12	AD03007A	AD03004A	23VGH7D01	LCS Duplicate
380-42066-1	C688-01	1	NA	04/03/2316:04	04/03/2316:04	AD03010A	AD03004A	23VGH7D01	Field Sample
380-42066-1MS	C688-01M	1	NA	04/03/2316:41	04/03/2316:41	AD03011A	AD03004A	23VGH7D01	Matrix Spike Sample (MS)
380-42066-1MSD	C688-01S	1	NA	04/03/2317:56	04/03/2317:56	AD03013A	AD03012A	23VGH7D01	MS Duplicate (MSD)
380-42066-2	C688-02	1	NA	04/03/2318:33	04/03/2318:33	AD03014A	AD03012A	23VGH7D01	Field Sample
380-42066-3	C688-03	1	NA	04/03/2319:10	04/03/2319:10	AD03015A	AD03012A	23VGH7D01	Field Sample
380-42066-4	C688-04	1	NA	04/03/2319:48	04/03/2319:48	AD03016A	AD03012A	23VGH7D01	Field Sample
380-42066-5	C688-05	1	NA	04/03/2320:25	04/03/2320:25	AD03017A	AD03012A	23VGH7D01	Field Sample
380-42066-6	C688-06	1	NA	04/03/2321:02	04/03/2321:02	AD03018A	AD03012A	23VGH7D01	Field Sample
380-42066-7	C688-07	1	NA	04/03/2321:40	04/03/2321:40	AD03019A	AD03012A	23VGH7D01	Field Sample
380-42066-8	C688-08	1	NA	04/03/2322:17	04/03/2322:17	AD03020A	AD03012A	23VGH7D01	Field Sample

FN - Filename
% Moist - Percent Moisture

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

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

Client : EUROFINS EATON ANALYTICAL
Project : 380-42066

SDG NO. : 23C688
Instrument ID : D5

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSD007WB	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

Client : EUROFINS EATON ANALYTICAL
Project : 380-42066

SDG NO. : 23C688
Instrument ID : D5

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSD007WB	1	NA	04/07/2315:51	04/06/2313:00	LD07010A	LD07005A	23DSD007W	Method Blank
LCS1W	J5D007WL	1	NA	04/07/2316:47	04/06/2313:00	LD07013A	LD07005A	23DSD007W	Lab Control Sample (LCS)
LCD1W	J5D007WC	1	NA	04/07/2317:06	04/06/2313:00	LD07014A	LD07005A	23DSD007W	LCS Duplicate
380-42066-1	C688-01	1	NA	04/07/2318:01	04/06/2313:00	LD07017A	LD07005A	23DSD007W	Field Sample
380-42066-2	C688-02	1	NA	04/07/2318:20	04/06/2313:00	LD07018A	LD07005A	23DSD007W	Field Sample
380-42066-3	C688-03	1	NA	04/07/2318:39	04/06/2313:00	LD07019A	LD07005A	23DSD007W	Field Sample
380-42066-4	C688-04	1	NA	04/07/2318:57	04/06/2313:00	LD07020A	LD07005A	23DSD007W	Field Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
Project : 380-42066

SDG NO. : 23C688
Instrument ID : D5

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
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

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 : 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.:	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 : RGalan 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 : RGalan 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 : RGalan
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 : RGalan 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

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	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 : 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	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 (260)	331-203-TP400 (380-42066-2)	3/28/2023	11:15	Samplewater	Not Specified
104845	HALAWA WELLS UNITS 1 & 2	331-206-TP065 (380-42066-3)	3/28/2023	10:42	Samplewater	Not Specified
104846	AIEA GULCH WELLS PUMP 2	331-202-TP072 (380-42066-4)	3/28/2023	11:47	Samplewater	Not Specified

1904 E. Wright Circle Anaheim, CA 92806 (714) 602-5320 fax (714) 602-5321 www.physislabs.com CA ELAP #2769

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

1904 E. Wright Circle Anaheim, CA 92806 (714) 602-5320 fax (714) 602-5321 www.physislabs.com CA ELAP #2769

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.

1904 E. Wright Circle Anaheim, CA 92806 (714) 602-5320 fax (714) 602-5321 www.physislabs.com CA ELAP #2769

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.

1904 E. Wright Circle Anaheim, CA 92806 (714) 602-5320 fax (714) 602-5321 www.physislabs.com CA ELAP #2769

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

1904 E. Wright Circle Anaheim, CA 92806 (714) 602-5320 fax (714) 602-5321 www.physislabs.com CA ELAP #2769

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

PHYSIS Project ID: 1407003-385
Client: Eurofins Eaton Analytical
Project: RED-HILL Porject # 38001111 Job # 380-42066-1

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**
Disalicylidenepropanediamine	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**
Disalicylidenepropanediamine	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**
Disalicylidenepropanediamine	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**
Disalicylidenepropanediamine	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

PHYSIS Project ID: 1407003-385
Client: Eurofins Eaton Analytical
Project: RED-HILL Porject # 38001111 Job # 380-42066-1

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

PHYSIS Project ID: 1407003-385
Client: Eurofins Eaton Analytical
Project: RED-HILL Porject # 38001111 Job # 380-42066-1

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

PHYSIS Project ID: 1407003-385
Client: Eurofins Eaton Analytical
Project: RED-HILL Porject # 38001111 Job # 380-42066-1

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

PHYSIS Project ID: 1407003-385
Client: Eurofins Eaton Analytical
Project: RED-HILL Porject # 38001111 Job # 380-42066-1

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

PHYSIS Project ID: 1407003-385
Client: Eurofins Eaton Analytical
Project: RED-HILL Porject # 38001111 Job # 380-42066-1

Base/Neutral Extractable Compounds QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
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	
Disalicylidenepropanediamine	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	
Disalicylidenepropanediamine	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	
Disalicylidenepropanediamine	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 LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
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							

PHYSIS Project ID: 1407003-385
Client: Eurofins Eaton Analytical
Project: RED-HILL Porject # 38001111 Job # 380-42066-1

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
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 LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
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		

PHYSIS Project ID: 1407003-385
Client: Eurofins Eaton Analytical
Project: RED-HILL Porject # 38001111 Job # 380-42066-1

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
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 LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
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

PHYSIS Project ID: 1407003-385
Client: Eurofins Eaton Analytical
Project: RED-HILL Porject # 38001111 Job # 380-42066-1

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
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	

TENTATIVELY IDENTIFIED COMPOUNDS

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

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

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

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

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

CHAIN OF CUSTODY

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-45550.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: Physis Environmental Laboratories		Accreditations Required (See note): State - Hawaii		Job #: 380-42066-1
Address: 1904 Wright Circle, ,	Due Date Requested: 4/6/2023			
City: Anaheim	TAT Requested (days):			
State, Zip: CA, 92806				
Phone:	PO #:			
Email:	WO #:			
Project Name: RED-HILL	Project #: 38001111			
Site: Honolulu BWS Sites	SSOW#:			

Analysis Requested

Preservation Codes:
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)
Other:

Sample Identification - Client ID (Lab ID)	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)	SUB (625 PAH Physis LL (EAL) + TICs)/ 625 PAH Physis LL (EAL) + TICs	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
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, 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/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Eaton Analytical, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time:	Company		Date/Time:	Company
Relinquished by:	3/31/23 1110	BEA	Received by:	3/31/23 1110	PHYSIS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

5/25/2023

PHYSIS
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Sample Receipt Summary

PHYSIS
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Project Iteration ID: 1407003-385
Client Name: Eurofins Eaton Analytical
Project Name: RED-HILL Porject # 38001111
Job # 380-42066-1
COC Page Number: 2 of 2
Bottle Label Color: NA

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)
   - 1 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: RG H

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

eurofins | Environment Testing

Client Information	Sampler: BAILEY	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-27940-2757.1
Client Contact: Dr. Ron Fenstemacher	Phone: 808-748	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin:	Page: Page 1 of 3
Company: City & County of Honolulu	PWSID:			Job #:

Address: 630 South Beretania Street Chemistry Lab	Due Date Requested:
City: Honolulu	TAT Requested (days):
State, Zip: HI, 96843	Compliance Project: Δ Yes Δ No
Phone: 808-748-5091(Tel)	PO #: C20525101 exp 05312023
Email: RFENSTEMACHER@hbws.org	WO #:
Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill	Project #: 38001111
Site: Hawaii	SSOW#:

Analysis Requested

Preservation Codes:
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)
Other:

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 Physis 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		
MOANALUA WELLS	03/28/2023	1013	G	Water			X	X	X	X	X	X	X		(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) 2.1/2.6
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) P2	03/28/2023	1115	G	Water			X	X	X	X	X	X	X		

380-42066 COC

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

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ 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:	Date/Time:	Company	Received by:	Date/Time:	Company
BAILEY		HBWS	Mark Miyata	3/30/23 900	EEA

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: (752A) 4.2/4.1 g6 - Frozen

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

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: BAILEY	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-27940-2757.2
Client Contact: Dr. Ron Fenstemacher	Phone: 808-748-5840	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin:	Page: Page 2 of 3
Company: City & County of Honolulu	PWSID:			Job #:
Address: 630 South Beretania Street Chemistry Lab	Due Date Requested:			
City: Honolulu	TAT Requested (days):			
State, Zip: HI, 96843	Compliance Project: Δ Yes Δ No			
Phone: 808-748-5091(Tel)	PO #: C20525101 exp 05312023			
Email: RFENSTEMACHER@hbws.org	WO #:			
Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill	Project #: 38001111			
Site: Hawaii	SSOW#:			

Analysis Requested

Preservation Codes:
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)
Other:

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 Physis 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				FEDEx: 771702715289
TB AIEA GULCH WELLS PUMP2	03/28/2023	1147		Water							X				(752A) 1.8/1.7
TB AIEA WELLS PUMPS 1&2 (260) P2	03/28/2023	1115		Water							X				FEDEx: 771702715771
TB HALAWA WELLS UNITS 1&2 P1	03/28/2023	1042		Water							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
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *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	Date/Time	Company	Received by	Date/Time	Company
BAILEY		HBWS	Mark Umutia	3/30/23 900	EEA

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: (752 A) 4.2/4.1 gel-fro

Ver: 06/08/2021

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

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: BAILEY	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-27940-2757.3
Client Contact: Dr. Ron Fenstemacher	Phone: 808-748-5840	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin:	Page: Page 3 of 3
Company: City & County of Honolulu	PWSID:			Job #:

Address: 630 South Beretania Street Chemistry Lab	Due Date Requested:
City: Honolulu	TAT Requested (days):
State, Zip: HI, 96843	Compliance Project: Δ Yes Δ No
Phone: 808-748-5091(Tel)	PO #: C20525101 exp 05312023
Email: RFENSTEMACHER@hbws.org	WO #:
Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill	Project #: 38001111
Site: Hawaii	SSOW#:

Analysis Requested

Preservation Codes:

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)

Other:

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 Physis 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		
AIEA WELLS PUMPS 1&2 (260)				Water											(752A) 1.7/1.6
HALAWA WELLS UNITS 1&2				Water											FedEx: 771702716150
FB: MOANALUA WELLS	08/28/2023	1013		Water								X	X		(752A) 5.3/5.2
FB: AIEA GULCH WELLS PUMP 2	03/28/2023	1147		Water								X	X		FedEx: 771702715462
FB: AIEA WELLS PUMPS 1&2 (260)	03/28/2023	1115		Water								X	X		(752A) 2.1/2.0
FB: HALAWA WELLS UNITS 1&2	03/28/2023	1042		Water								X	X		FedEx: 771702715289
															(752A) 1.8/1.7
															FedEx: 771702715771

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

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ 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:	Date/Time:	Company	Received by:	Date/Time:	Company
BAILEY		HBWS	Mark Urrutia	3/30/23 900	EEA

Custody Seals Intact: Δ Yes Δ 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	