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 5/24/2023 10:08:06 PM

JOB DESCRIPTION

RED-HILL
RUSH Weekly Red Hill

JOB NUMBER

380-41200-1

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

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Authorized for release by
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Table of Contents

Definitions/Glossary

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

Job ID: 380-41200-1

Qualifiers

GC/MS Semi VOA

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

GC/MS Semi VOA TICs

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

LCMS

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

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: 380-41200-1

Laboratory: Eurofins Eaton Analytical Pomona

Narrative

Job Narrative
380-41200-1

Comments
No additional comments.

Receipt
The samples were received on 3/22/2023 10:15 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 1.6º C.

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

LCMS
Method 537.1: The method blank associated with preparation batch 380-34952 and analytical batch 380-35253 contained 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) greater than 1/3 the reporting limit (RL). The samples were not re-analyzed because ND results are acceptable to report. The sample results have been qualified and reported.

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: 380-41200-1

Client Sample ID: MOANALUA WELLS (331-223-TP202) — Lab Sample ID: 380-41200-1
PWSID Number: HI0000331

No Detections.

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400) — Lab Sample ID: 380-41200-2
PWSID Number: HI0000331

No Detections.

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065) — Lab Sample ID: 380-41200-3
PWSID Number: HI0000331

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)	2.1		2.0		ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	2.1		2.0		ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	2.1		2.0		ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	2.0		2.0		ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.6		2.0		ng/L	1		537.1	Total/NA

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072) — Lab Sample ID: 380-41200-4
PWSID Number: HI0000331

No Detections.

Client Sample ID: TB:MOANALUA WELLS (331-223-TP202) — Lab Sample ID: 380-41200-5

No Detections.

Client Sample ID: TB:AIEA GULCH WELLS P2 (331-202-TP072) — Lab Sample ID: 380-41200-6

No Detections.

Client Sample ID: TB: AIEA WELLS PUMPS 1&2 P2 (260) (331-203-TP400) — Lab Sample ID: 380-41200-7

No Detections.

Client Sample ID: TB: HALAWA WELLS UNITS 1&2 P1 (331-206-TP065) — Lab Sample ID: 380-41200-8

No Detections.

Client Sample ID: FB: MOANALUA WELLS — Lab Sample ID: 380-41200-9

No Detections.

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2 — Lab Sample ID: 380-41200-10

No Detections.

Client Sample ID: FB: AIEA WELLS PUMPS 1&2 (260) — Lab Sample ID: 380-41200-11

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

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

Job ID: 380-41200-1

Client Sample ID: FB: HALAWA WELLS UNITS 1&2 — Lab Sample ID: 380-41200-12

No Detections.

This Detection Summary does not include radiochemical test results.

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

Job ID: 380-41200-1

Client Sample ID: MOANALUA WELLS (331-223-TP202)
Date Collected: 03/20/23 10:04
Date Received: 03/22/23 10:15

Lab Sample ID: 380-41200-1
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		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
2,4'-DDE	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
2,4'-DDT	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
2,4-Dinitrotoluene	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
2,6-Dinitrotoluene	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
4,4'-DDD	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
4,4'-DDE	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
4,4'-DDT	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Acenaphthene	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Acenaphthylene	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Acetochlor	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Alachlor	ND		0.050		ug/L		03/24/23 06:34	03/27/23 10:56	1
alpha-BHC	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
alpha-Chlordane	ND		0.050		ug/L		03/24/23 06:34	03/27/23 10:56	1
Anthracene	ND		0.020		ug/L		03/24/23 06:34	03/27/23 10:56	1
Atrazine	ND		0.050		ug/L		03/24/23 06:34	03/27/23 10:56	1
Benz(a)anthracene	ND		0.050		ug/L		03/24/23 06:34	03/27/23 10:56	1
Benzo[a]pyrene	ND		0.020		ug/L		03/24/23 06:34	03/27/23 10:56	1
Benzo[b]fluoranthene	ND	^3+	0.020		ug/L		03/24/23 06:34	03/27/23 10:56	1
Benzo[g,h,i]perylene	ND		0.050		ug/L		03/24/23 06:34	03/27/23 10:56	1
Benzo[k]fluoranthene	ND		0.020		ug/L		03/24/23 06:34	03/27/23 10:56	1
beta-BHC	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Bromacil	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Butachlor	ND	^3+	0.050		ug/L		03/24/23 06:34	03/27/23 10:56	1
Butylbenzylphthalate	ND		0.50		ug/L		03/24/23 06:34	03/27/23 10:56	1
Caffeine	ND		0.050		ug/L		03/24/23 06:34	03/27/23 10:56	1
Chlorobenzilate	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Chloroneb	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Chlorothalonil (Draconil, Bravo)	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Chlorpyrifos	ND		0.050		ug/L		03/24/23 06:34	03/27/23 10:56	1
Chrysene	ND		0.020		ug/L		03/24/23 06:34	03/27/23 10:56	1
delta-BHC	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Di(2-ethylhexyl)adipate	ND		0.60		ug/L		03/24/23 06:34	03/27/23 10:56	1
Bis(2-ethylhexyl) phthalate	ND		0.60		ug/L		03/24/23 06:34	03/27/23 10:56	1
Diazinon (Qualitative)	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Dibenz(a,h)anthracene	ND	^3+	0.050		ug/L		03/24/23 06:34	03/27/23 10:56	1
Diclorvos (DDVP)	ND		0.050		ug/L		03/24/23 06:34	03/27/23 10:56	1
Dieldrin	ND		0.20		ug/L		03/24/23 06:34	03/27/23 10:56	1
Diethylphthalate	ND		0.50		ug/L		03/24/23 06:34	03/27/23 10:56	1
Dimethoate	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Dimethylphthalate	ND		0.50		ug/L		03/24/23 06:34	03/27/23 10:56	1
Di-n-butyl phthalate	ND		0.99		ug/L		03/24/23 06:34	03/27/23 10:56	1
Di-n-octyl phthalate	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Endosulfan I (Alpha)	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Endosulfan II (Beta)	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Endosulfan sulfate	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Endrin	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Endrin aldehyde	ND	^3+	0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
EPTC	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1

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

Date Collected: 03/20/23 10:04
Date Received: 03/22/23 10:15

Lab Sample ID: 380-41200-1

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		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Fluorene	ND		0.050		ug/L		03/24/23 06:34	03/27/23 10:56	1
gamma-Chlordane	ND		0.050		ug/L		03/24/23 06:34	03/27/23 10:56	1
Heptachlor	ND		0.040		ug/L		03/24/23 06:34	03/27/23 10:56	1
Heptachlor epoxide (isomer B)	ND		0.050		ug/L		03/24/23 06:34	03/27/23 10:56	1
Hexachlorobenzene	ND		0.050		ug/L		03/24/23 06:34	03/27/23 10:56	1
Hexachlorocyclopentadiene	ND		0.050		ug/L		03/24/23 06:34	03/27/23 10:56	1
Indeno[1,2,3-cd]pyrene	ND		0.050		ug/L		03/24/23 06:34	03/27/23 10:56	1
Isophorone	ND		0.50		ug/L		03/24/23 06:34	03/27/23 10:56	1
Lindane	ND		0.040		ug/L		03/24/23 06:34	03/27/23 10:56	1
Malathion	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Methoxychlor	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Metolachlor	ND		0.050		ug/L		03/24/23 06:34	03/27/23 10:56	1
Metribuzin	ND		0.050		ug/L		03/24/23 06:34	03/27/23 10:56	1
Molinate	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Naphthalene	ND		0.30		ug/L		03/24/23 06:34	03/27/23 10:56	1
Parathion	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Pendimethalin (Penoxaline)	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Total Permethrin (mixed isomers)	ND	^3+	0.20		ug/L		03/24/23 06:34	03/27/23 10:56	1
Phenanthrene	ND		0.040		ug/L		03/24/23 06:34	03/27/23 10:56	1
Propachlor	ND		0.050		ug/L		03/24/23 06:34	03/27/23 10:56	1
Pyrene	ND		0.050		ug/L		03/24/23 06:34	03/27/23 10:56	1
Simazine	ND		0.050		ug/L		03/24/23 06:34	03/27/23 10:56	1
Terbacil	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Terbuthylazine	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1
Thiobencarb	ND		0.20		ug/L		03/24/23 06:34	03/27/23 10:56	1
trans-Nonachlor	ND		0.050		ug/L		03/24/23 06:34	03/27/23 10:56	1
Trifluralin	ND		0.099		ug/L		03/24/23 06:34	03/27/23 10:56	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1.0*	*T J*	*ug/L*		*15.19*	*N/A*	*03/24/23 06:34*	*03/27/23 10:56*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*87*		*70 - 130*	*03/24/23 06:34*	*03/27/23 10:56*	*1*
Triphenylphosphate	*113*		*70 - 130*	*03/24/23 06:34*	*03/27/23 10:56*	*1*
Perylene-d12	*99*		*70 - 130*	*03/24/23 06:34*	*03/27/23 10:56*	*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		04/05/23 13:59	04/06/23 17:59	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:59	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:59	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:59	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:59	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:59	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:59	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:59	1

Client Sample ID: MOANALUA WELLS (331-223-TP202)
Date Collected: 03/20/23 10:04
Date Received: 03/22/23 10:15

Lab Sample ID: 380-41200-1
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		04/05/23 13:59	04/06/23 17:59	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:59	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:59	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:59	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:59	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:59	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:59	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:59	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:59	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:59	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:59	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:59	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:59	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:59	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:59	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:59	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*69*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:59*	*1*
13C6 PFDA	*77*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:59*	*1*
13C5 PFHxA	*77*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:59*	*1*
13C4 PFHpA	*79*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:59*	*1*
13C8 PFOA	*79*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:59*	*1*
13C9 PFNA	*78*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:59*	*1*
13C7 PFUnA	*77*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:59*	*1*
13C2 PFDoA	*82*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:59*	*1*
13C4 PFBA	*75*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:59*	*1*
13C5 PFPeA	*79*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:59*	*1*
13C3 PFBS	*95*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:59*	*1*
13C3 PFHxS	*96*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:59*	*1*
13C8 PFOS	*95*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:59*	*1*
13C2-4:2-FTS	*112*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:59*	*1*
13C2-6:2-FTS	*104*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:59*	*1*
13C2-8:2-FTS	*96*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:59*	*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		03/23/23 08:15	03/28/23 08:12	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:12	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:12	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:12	1

Client Sample ID: MOANALUA WELLS (331-223-TP202)
Date Collected: 03/20/23 10:04
Date Received: 03/22/23 10:15

Lab Sample ID: 380-41200-1
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		03/23/23 08:15	03/28/23 08:12	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:12	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:12	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:12	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:12	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:12	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:12	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:12	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:12	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:12	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:12	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:12	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:12	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*98*		*70 - 130*	*03/23/23 08:15*	*03/28/23 08:12*	*1*
13C2 PFHxA	*115*		*70 - 130*	*03/23/23 08:15*	*03/28/23 08:12*	*1*
13C2 PFDA	*108*		*70 - 130*	*03/23/23 08:15*	*03/28/23 08:12*	*1*
13C3-GenX	*120*		*70 - 130*	*03/23/23 08:15*	*03/28/23 08:12*	*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		03/23/23 00:00	04/05/23 02:43	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 02:43	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 02:43	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 02:43	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 02:43	1
Acenaphthene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 02:43	1
Acenaphthylene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 02:43	1
Anthracene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 02:43	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 02:43	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 02:43	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 02:43	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 02:43	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 02:43	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 02:43	1
Biphenyl	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 02:43	1
Chrysene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 02:43	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 02:43	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 02:43	1
Dibenzothiophene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 02:43	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		03/23/23 00:00	04/05/23 02:43	1
Fluoranthene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 02:43	1
Fluorene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 02:43	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 02:43	1
Naphthalene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 02:43	1

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

Lab Sample ID: 380-41200-1

Date Collected: 03/20/23 10:04
Date Received: 03/22/23 10:15

Matrix: Drinking Water
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		03/23/23 00:00	04/05/23 02:43	1
Phenanthrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 02:43	1
Pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 02:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*77*		*27 - 133*	*03/23/23 00:00*	*04/05/23 02:43*	*1*
(d10-Phenanthrene)	*95*		*43 - 129*	*03/23/23 00:00*	*04/05/23 02:43*	*1*
(d12-Chrysene)	*106*		*52 - 144*	*03/23/23 00:00*	*04/05/23 02:43*	*1*
(d12-Perylene)	*95*		*36 - 161*	*03/23/23 00:00*	*04/05/23 02:43*	*1*
(d8-Naphthalene)	*67*		*25 - 125*	*03/23/23 00:00*	*04/05/23 02:43*	*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	0.02		mg/L			03/24/23 13:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*98*		*60 - 140*		*03/24/23 13:49*	*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			03/31/23 19:45	1
JP5	ND	U	0.052		mg/L			03/31/23 19:45	1
JP8	ND	U	0.052		mg/L			03/31/23 19:45	1
MOTOR OIL	ND	U	0.052		mg/L			03/31/23 19:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOBENZENE	*78*		*60 - 130*		*03/31/23 19:45*	*1*
HEXACOSANE	*92*		*60 - 130*		*03/31/23 19:45*	*1*

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)

Lab Sample ID: 380-41200-2

Date Collected: 03/20/23 10:59
Date Received: 03/22/23 10:15

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		03/24/23 06:34	03/27/23 11:16	1
2,4'-DDE	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
2,4'-DDT	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
2,4-Dinitrotoluene	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
2,6-Dinitrotoluene	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
4,4'-DDD	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
4,4'-DDE	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
4,4'-DDT	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Acenaphthene	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Acenaphthylene	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Acetochlor	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Alachlor	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:16	1
alpha-BHC	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
alpha-Chlordane	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:16	1
Anthracene	ND		0.020		ug/L		03/24/23 06:34	03/27/23 11:16	1

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

Job ID: 380-41200-1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)
Date Collected: 03/20/23 10:59
Date Received: 03/22/23 10:15

Lab Sample ID: 380-41200-2
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		03/24/23 06:34	03/27/23 11:16	1
Benz(a)anthracene	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:16	1
Benzo[a]pyrene	ND		0.020		ug/L		03/24/23 06:34	03/27/23 11:16	1
Benzo[b]fluoranthene	ND	^3+	0.020		ug/L		03/24/23 06:34	03/27/23 11:16	1
Benzo[g,h,i]perylene	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:16	1
Benzo[k]fluoranthene	ND		0.020		ug/L		03/24/23 06:34	03/27/23 11:16	1
beta-BHC	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Bromacil	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Butachlor	ND	^3+	0.049		ug/L		03/24/23 06:34	03/27/23 11:16	1
Butylbenzylphthalate	ND		0.49		ug/L		03/24/23 06:34	03/27/23 11:16	1
Caffeine	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:16	1
Chlorobenzilate	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Chloroneb	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Chlorothalonil (Draconil, Bravo)	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Chlorpyrifos	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:16	1
Chrysene	ND		0.020		ug/L		03/24/23 06:34	03/27/23 11:16	1
delta-BHC	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Di(2-ethylhexyl)adipate	ND		0.59		ug/L		03/24/23 06:34	03/27/23 11:16	1
Bis(2-ethylhexyl) phthalate	ND		0.59		ug/L		03/24/23 06:34	03/27/23 11:16	1
Diazinon (Qualitative)	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Dibenz(a,h)anthracene	ND	^3+	0.049		ug/L		03/24/23 06:34	03/27/23 11:16	1
Diclorvos (DDVP)	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:16	1
Dieldrin	ND		0.20		ug/L		03/24/23 06:34	03/27/23 11:16	1
Diethylphthalate	ND		0.49		ug/L		03/24/23 06:34	03/27/23 11:16	1
Dimethoate	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Dimethylphthalate	ND		0.49		ug/L		03/24/23 06:34	03/27/23 11:16	1
Di-n-butyl phthalate	ND		0.98		ug/L		03/24/23 06:34	03/27/23 11:16	1
Di-n-octyl phthalate	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Endosulfan I (Alpha)	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Endosulfan II (Beta)	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Endosulfan sulfate	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Endrin	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Endrin aldehyde	ND	^3+	0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
EPTC	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Fluoranthene	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Fluorene	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:16	1
gamma-Chlordane	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:16	1
Heptachlor	ND		0.039		ug/L		03/24/23 06:34	03/27/23 11:16	1
Heptachlor epoxide (isomer B)	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:16	1
Hexachlorobenzene	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:16	1
Hexachlorocyclopentadiene	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:16	1
Indeno[1,2,3-cd]pyrene	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:16	1
Isophorone	ND		0.49		ug/L		03/24/23 06:34	03/27/23 11:16	1
Lindane	ND		0.039		ug/L		03/24/23 06:34	03/27/23 11:16	1
Malathion	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Methoxychlor	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Metolachlor	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:16	1
Metribuzin	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:16	1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)

Lab Sample ID: 380-41200-2

Date Collected: 03/20/23 10:59
Date Received: 03/22/23 10:15

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		03/24/23 06:34	03/27/23 11:16	1
Naphthalene	ND		0.29		ug/L		03/24/23 06:34	03/27/23 11:16	1
Parathion	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Pendimethalin (Penoxaline)	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Total Permethrin (mixed isomers)	ND	^3+	0.20		ug/L		03/24/23 06:34	03/27/23 11:16	1
Phenanthrene	ND		0.039		ug/L		03/24/23 06:34	03/27/23 11:16	1
Propachlor	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:16	1
Pyrene	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:16	1
Simazine	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:16	1
Terbacil	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Terbuthylazine	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1
Thiobencarb	ND		0.20		ug/L		03/24/23 06:34	03/27/23 11:16	1
trans-Nonachlor	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:16	1
Trifluralin	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:16	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*			*N/A*	*03/24/23 06:34*	*03/27/23 11:16*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*90*		*70 - 130*	*03/24/23 06:34*	*03/27/23 11:16*	*1*
Triphenylphosphate	*112*		*70 - 130*	*03/24/23 06:34*	*03/27/23 11:16*	*1*
Perylene-d12	*97*		*70 - 130*	*03/24/23 06:34*	*03/27/23 11:16*	*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		04/02/23 13:24	04/04/23 10:15	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:15	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:15	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:15	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:15	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:15	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:15	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:15	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:15	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:15	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:15	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:15	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:15	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:15	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:15	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:15	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:15	1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)
Date Collected: 03/20/23 10:59
Date Received: 03/22/23 10:15

Lab Sample ID: 380-41200-2
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		04/02/23 13:24	04/04/23 10:15	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:15	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:15	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:15	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:15	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:15	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*71*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:15*	*1*
13C6 PFDA	*87*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:15*	*1*
13C5 PFHxA	*81*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:15*	*1*
13C4 PFHpA	*82*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:15*	*1*
13C8 PFOA	*82*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:15*	*1*
13C9 PFNA	*86*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:15*	*1*
13C7 PFUnA	*85*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:15*	*1*
13C2 PFDoA	*94*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:15*	*1*
13C4 PFBA	*75*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:15*	*1*
13C5 PFPeA	*79*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:15*	*1*
13C3 PFBS	*89*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:15*	*1*
13C3 PFHxS	*89*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:15*	*1*
13C8 PFOS	*90*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:15*	*1*
13C2-4:2-FTS	*111*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:15*	*1*
13C2-6:2-FTS	*97*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:15*	*1*
13C2-8:2-FTS	*110*		*50 - 200*	*04/02/23 13:24*	*04/04/23 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		03/23/23 08:15	03/28/23 08:21	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:21	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:21	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:21	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:21	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:21	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:21	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:21	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:21	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:21	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:21	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:21	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:21	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:21	1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)
Date Collected: 03/20/23 10:59
Date Received: 03/22/23 10:15

Lab Sample ID: 380-41200-2
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		03/23/23 08:15	03/28/23 08:21	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:21	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*102*		*70 - 130*	*03/23/23 08:15*	*03/28/23 08:21*	*1*
13C2 PFHxA	*121*		*70 - 130*	*03/23/23 08:15*	*03/28/23 08:21*	*1*
13C2 PFDA	*115*		*70 - 130*	*03/23/23 08:15*	*03/28/23 08:21*	*1*
13C3-GenX	*121*		*70 - 130*	*03/23/23 08:15*	*03/28/23 08:21*	*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		03/23/23 00:00	04/05/23 04:30	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1
Acenaphthene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1
Acenaphthylene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1
Anthracene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1
Biphenyl	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1
Chrysene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1
Dibenzothiophene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		03/23/23 00:00	04/05/23 04:30	1
Fluoranthene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1
Fluorene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1
Naphthalene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1
Perylene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1
Phenanthrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1
Pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 04:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*77*		*27 - 133*	*03/23/23 00:00*	*04/05/23 04:30*	*1*
(d10-Phenanthrene)	*96*		*43 - 129*	*03/23/23 00:00*	*04/05/23 04:30*	*1*
(d12-Chrysene)	*112*		*52 - 144*	*03/23/23 00:00*	*04/05/23 04:30*	*1*
(d12-Perylene)	*95*		*36 - 161*	*03/23/23 00:00*	*04/05/23 04:30*	*1*
(d8-Naphthalene)	*69*		*25 - 125*	*03/23/23 00:00*	*04/05/23 04:30*	*1*

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)

Lab Sample ID: 380-41200-2

Date Collected: 03/20/23 10:59
Date Received: 03/22/23 10:15

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	0.02		mg/L			03/24/23 15:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*99*		*60 - 140*		*03/24/23 15:41*	*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	0.027		mg/L			03/31/23 20:03	1
JP5	ND	U	0.055		mg/L			03/31/23 20:03	1
JP8	ND	U	0.055		mg/L			03/31/23 20:03	1
MOTOR OIL	ND	U	0.055		mg/L			03/31/23 20:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOBENZENE	*80*		*60 - 130*		*03/31/23 20:03*	*1*
HEXACOSANE	*96*		*60 - 130*		*03/31/23 20:03*	*1*

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)

Lab Sample ID: 380-41200-3

Date Collected: 03/20/23 10:36
Date Received: 03/22/23 10:15

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		03/24/23 06:34	03/27/23 11:36	1
2,4'-DDE	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
2,4'-DDT	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
2,4-Dinitrotoluene	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
2,6-Dinitrotoluene	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
4,4'-DDD	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
4,4'-DDE	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
4,4'-DDT	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
Acenaphthene	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
Acenaphthylene	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
Acetochlor	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
Alachlor	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:36	1
alpha-BHC	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
alpha-Chlordane	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:36	1
Anthracene	ND		0.020		ug/L		03/24/23 06:34	03/27/23 11:36	1
Atrazine	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:36	1
Benz(a)anthracene	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:36	1
Benzo[a]pyrene	ND		0.020		ug/L		03/24/23 06:34	03/27/23 11:36	1
Benzo[b]fluoranthene	ND	^3+	0.020		ug/L		03/24/23 06:34	03/27/23 11:36	1
Benzo[g,h,i]perylene	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:36	1
Benzo[k]fluoranthene	ND		0.020		ug/L		03/24/23 06:34	03/27/23 11:36	1
beta-BHC	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
Bromacil	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
Butachlor	ND	^3+	0.049		ug/L		03/24/23 06:34	03/27/23 11:36	1
Butylbenzylphthalate	ND		0.49		ug/L		03/24/23 06:34	03/27/23 11:36	1
Caffeine	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:36	1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)
Lab Sample ID: 380-41200-3
Date Collected: 03/20/23 10:36
Matrix: Drinking Water
Date Received: 03/22/23 10:15
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		03/24/23 06:34	03/27/23 11:36	1
Chloroneb	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
Chlorothalonil (Draconil, Bravo)	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
Chlorpyrifos	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:36	1
Chrysene	ND		0.020		ug/L		03/24/23 06:34	03/27/23 11:36	1
delta-BHC	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
Di(2-ethylhexyl)adipate	ND		0.59		ug/L		03/24/23 06:34	03/27/23 11:36	1
Bis(2-ethylhexyl) phthalate	ND		0.59		ug/L		03/24/23 06:34	03/27/23 11:36	1
Diazinon (Qualitative)	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
Dibenz(a,h)anthracene	ND	^3+	0.049		ug/L		03/24/23 06:34	03/27/23 11:36	1
Diclorvos (DDVP)	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:36	1
Dieldrin	ND		0.20		ug/L		03/24/23 06:34	03/27/23 11:36	1
Diethylphthalate	ND		0.49		ug/L		03/24/23 06:34	03/27/23 11:36	1
Dimethoate	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
Dimethylphthalate	ND		0.49		ug/L		03/24/23 06:34	03/27/23 11:36	1
Di-n-butyl phthalate	ND		0.99		ug/L		03/24/23 06:34	03/27/23 11:36	1
Di-n-octyl phthalate	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
Endosulfan I (Alpha)	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
Endosulfan II (Beta)	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
Endosulfan sulfate	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
Endrin	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
Endrin aldehyde	ND	^3+	0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
EPTC	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
Fluoranthene	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
Fluorene	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:36	1
gamma-Chlordane	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:36	1
Heptachlor	ND		0.040		ug/L		03/24/23 06:34	03/27/23 11:36	1
Heptachlor epoxide (isomer B)	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:36	1
Hexachlorobenzene	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:36	1
Hexachlorocyclopentadiene	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:36	1
Indeno[1,2,3-cd]pyrene	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:36	1
Isophorone	ND		0.49		ug/L		03/24/23 06:34	03/27/23 11:36	1
Lindane	ND		0.040		ug/L		03/24/23 06:34	03/27/23 11:36	1
Malathion	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
Methoxychlor	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
Metolachlor	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:36	1
Metribuzin	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:36	1
Molinate	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
Naphthalene	ND		0.30		ug/L		03/24/23 06:34	03/27/23 11:36	1
Parathion	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
Pendimethalin (Penoxaline)	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
Total Permethrin (mixed isomers)	ND	^3+	0.20		ug/L		03/24/23 06:34	03/27/23 11:36	1
Phenanthrene	ND		0.040		ug/L		03/24/23 06:34	03/27/23 11:36	1
Propachlor	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:36	1
Pyrene	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:36	1
Simazine	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:36	1
Terbacil	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1
Terbuthylazine	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)

Lab Sample ID: 380-41200-3

Date Collected: 03/20/23 10:36
Date Received: 03/22/23 10:15

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		03/24/23 06:34	03/27/23 11:36	1
trans-Nonachlor	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:36	1
Trifluralin	ND		0.099		ug/L		03/24/23 06:34	03/27/23 11:36	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*			*N/A*	*03/24/23 06:34*	*03/27/23 11:36*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*90*		*70 - 130*	*03/24/23 06:34*	*03/27/23 11:36*	*1*
Triphenylphosphate	*107*		*70 - 130*	*03/24/23 06:34*	*03/27/23 11:36*	*1*
Perylene-d12	*98*		*70 - 130*	*03/24/23 06:34*	*03/27/23 11:36*	*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		04/05/23 13:59	04/06/23 20:25	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:25	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:25	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:25	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:25	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:25	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:25	1
Perfluorohexanesulfonic acid (PFHxS)	**2.2**		2.0		ng/L		04/05/23 13:59	04/06/23 20:25	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:25	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:25	1
Perfluorooctanesulfonic acid (PFOS)	**2.1**		2.0		ng/L		04/05/23 13:59	04/06/23 20:25	1
Perfluorooctanoic acid (PFOA)	**2.1**		2.0		ng/L		04/05/23 13:59	04/06/23 20:25	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:25	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:25	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:25	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:25	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:25	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:25	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:25	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:25	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:25	1
Perfluoropentanoic acid (PFPeA)	**2.1**		2.0		ng/L		04/05/23 13:59	04/06/23 20:25	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:25	1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)
Lab Sample ID: 380-41200-3
Date Collected: 03/20/23 10:36
Matrix: Drinking Water
Date Received: 03/22/23 10:15
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		04/05/23 13:59	04/06/23 20:25	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*66*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:25*	*1*
13C6 PFDA	*68*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:25*	*1*
13C5 PFHxA	*68*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:25*	*1*
13C4 PFHpA	*72*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:25*	*1*
13C8 PFOA	*67*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:25*	*1*
13C9 PFNA	*71*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:25*	*1*
13C7 PFUnA	*71*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:25*	*1*
13C2 PFDoA	*79*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:25*	*1*
13C4 PFBA	*78*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:25*	*1*
13C5 PFPeA	*80*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:25*	*1*
13C3 PFBS	*91*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:25*	*1*
13C3 PFHxS	*88*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:25*	*1*
13C8 PFOS	*89*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:25*	*1*
13C2-4:2-FTS	*106*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:25*	*1*
13C2-6:2-FTS	*100*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:25*	*1*
13C2-8:2-FTS	*92*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:25*	*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		03/28/23 05:45	03/31/23 02:26	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 02:26	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 02:26	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 02:26	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 02:26	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 02:26	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 02:26	1
Perfluorooctanoic acid (PFOA)	**2.0**		2.0		ng/L		03/28/23 05:45	03/31/23 02:26	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 02:26	1
Perfluorohexanesulfonic acid (PFHxS)	**2.6**		2.0		ng/L		03/28/23 05:45	03/31/23 02:26	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 02:26	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 02:26	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 02:26	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 02:26	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 02:26	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 02:26	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 02:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	B	2.0		ng/L		03/28/23 05:45	03/31/23 02:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*95*		*70 - 130*	*03/28/23 05:45*	*03/31/23 02:26*	*1*

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)

Lab Sample ID: 380-41200-3

Date Collected: 03/20/23 10:36
Date Received: 03/22/23 10:15

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	*104*		*70 - 130*	*03/28/23 05:45*	*03/31/23 02:26*	*1*
13C2 PFDA	*92*		*70 - 130*	*03/28/23 05:45*	*03/31/23 02:26*	*1*
13C3-GenX	*102*		*70 - 130*	*03/28/23 05:45*	*03/31/23 02:26*	*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		03/23/23 00:00	04/05/23 06:17	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1
Acenaphthene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1
Acenaphthylene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1
Anthracene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1
Biphenyl	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1
Chrysene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1
Dibenzothiophene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		03/23/23 00:00	04/05/23 06:17	1
Fluoranthene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1
Fluorene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1
Naphthalene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1
Perylene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1
Phenanthrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1
Pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 06:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*76*		*27 - 133*	*03/23/23 00:00*	*04/05/23 06:17*	*1*
(d10-Phenanthrene)	*95*		*43 - 129*	*03/23/23 00:00*	*04/05/23 06:17*	*1*
(d12-Chrysene)	*110*		*52 - 144*	*03/23/23 00:00*	*04/05/23 06:17*	*1*
(d12-Perylene)	*92*		*36 - 161*	*03/23/23 00:00*	*04/05/23 06:17*	*1*
(d8-Naphthalene)	*64*		*25 - 125*	*03/23/23 00:00*	*04/05/23 06:17*	*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	0.02		mg/L			03/24/23 16:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*94*		*60 - 140*		*03/24/23 16:18*	*1*

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)

Lab Sample ID: 380-41200-3

Date Collected: 03/20/23 10:36
Date Received: 03/22/23 10:15

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	0.027		mg/L			03/31/23 20:22	1
JP5	ND	U	0.053		mg/L			03/31/23 20:22	1
JP8	ND	U	0.053		mg/L			03/31/23 20:22	1
MOTOR OIL	ND	U	0.053		mg/L			03/31/23 20:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOBENZENE	*70*		*60 - 130*		*03/31/23 20:22*	*1*
HEXACOSANE	*93*		*60 - 130*		*03/31/23 20:22*	*1*

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

Lab Sample ID: 380-41200-4

Date Collected: 03/20/23 11:31
Date Received: 03/22/23 10:15

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		03/24/23 06:34	03/27/23 11:56	1
2,4'-DDE	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
2,4'-DDT	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
2,4-Dinitrotoluene	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
2,6-Dinitrotoluene	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
4,4'-DDD	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
4,4'-DDE	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
4,4'-DDT	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Acenaphthene	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Acenaphthylene	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Acetochlor	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Alachlor	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:56	1
alpha-BHC	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
alpha-Chlordane	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:56	1
Anthracene	ND		0.020		ug/L		03/24/23 06:34	03/27/23 11:56	1
Atrazine	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:56	1
Benz(a)anthracene	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:56	1
Benzo[a]pyrene	ND		0.020		ug/L		03/24/23 06:34	03/27/23 11:56	1
Benzo[b]fluoranthene	ND	^3+	0.020		ug/L		03/24/23 06:34	03/27/23 11:56	1
Benzo[g,h,i]perylene	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:56	1
Benzo[k]fluoranthene	ND		0.020		ug/L		03/24/23 06:34	03/27/23 11:56	1
beta-BHC	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Bromacil	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Butachlor	ND	^3+	0.049		ug/L		03/24/23 06:34	03/27/23 11:56	1
Butylbenzylphthalate	ND		0.49		ug/L		03/24/23 06:34	03/27/23 11:56	1
Caffeine	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:56	1
Chlorobenzilate	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Chloroneb	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Chlorothalonil (Draconil, Bravo)	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Chlorpyrifos	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:56	1
Chrysene	ND		0.020		ug/L		03/24/23 06:34	03/27/23 11:56	1
delta-BHC	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Di(2-ethylhexyl)adipate	ND		0.59		ug/L		03/24/23 06:34	03/27/23 11:56	1

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

Job ID: 380-41200-1

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Date Collected: 03/20/23 11:31
Date Received: 03/22/23 10:15

Lab Sample ID: 380-41200-4
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		03/24/23 06:34	03/27/23 11:56	1
Diazinon (Qualitative)	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Dibenz(a,h)anthracene	ND	^3+	0.049		ug/L		03/24/23 06:34	03/27/23 11:56	1
Diclorvos (DDVP)	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:56	1
Dieldrin	ND		0.20		ug/L		03/24/23 06:34	03/27/23 11:56	1
Diethylphthalate	ND		0.49		ug/L		03/24/23 06:34	03/27/23 11:56	1
Dimethoate	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Dimethylphthalate	ND		0.49		ug/L		03/24/23 06:34	03/27/23 11:56	1
Di-n-butyl phthalate	ND		0.98		ug/L		03/24/23 06:34	03/27/23 11:56	1
Di-n-octyl phthalate	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Endosulfan I (Alpha)	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Endosulfan II (Beta)	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Endosulfan sulfate	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Endrin	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Endrin aldehyde	ND	^3+	0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
EPTC	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Fluoranthene	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Fluorene	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:56	1
gamma-Chlordane	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:56	1
Heptachlor	ND		0.039		ug/L		03/24/23 06:34	03/27/23 11:56	1
Heptachlor epoxide (isomer B)	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:56	1
Hexachlorobenzene	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:56	1
Hexachlorocyclopentadiene	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:56	1
Indeno[1,2,3-cd]pyrene	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:56	1
Isophorone	ND		0.49		ug/L		03/24/23 06:34	03/27/23 11:56	1
Lindane	ND		0.039		ug/L		03/24/23 06:34	03/27/23 11:56	1
Malathion	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Methoxychlor	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Metolachlor	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:56	1
Metribuzin	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:56	1
Molinate	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Naphthalene	ND		0.30		ug/L		03/24/23 06:34	03/27/23 11:56	1
Parathion	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Pendimethalin (Penoxaline)	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Total Permethrin (mixed isomers)	ND	^3+	0.20		ug/L		03/24/23 06:34	03/27/23 11:56	1
Phenanthrene	ND		0.039		ug/L		03/24/23 06:34	03/27/23 11:56	1
Propachlor	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:56	1
Pyrene	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:56	1
Simazine	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:56	1
Terbacil	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Terbuthylazine	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1
Thiobencarb	ND		0.20		ug/L		03/24/23 06:34	03/27/23 11:56	1
trans-Nonachlor	ND		0.049		ug/L		03/24/23 06:34	03/27/23 11:56	1
Trifluralin	ND		0.098		ug/L		03/24/23 06:34	03/27/23 11:56	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*			*N/A*	*03/24/23 06:34*	*03/27/23 11:56*	*1*

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

Job ID: 380-41200-1

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Date Collected: 03/20/23 11:31
Date Received: 03/22/23 10:15

Lab Sample ID: 380-41200-4
Matrix: Drinking Water
PWSID Number: HI0000331

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	88		70 - 130	03/24/23 06:34	03/27/23 11:56	1
Triphenylphosphate	110		70 - 130	03/24/23 06:34	03/27/23 11:56	1
Perylene-d12	99		70 - 130	03/24/23 06:34	03/27/23 11:56	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		04/02/23 13:24	04/04/23 10:25	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:25	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:25	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:25	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:25	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:25	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:25	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:25	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:25	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:25	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:25	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:25	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:25	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:25	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:25	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:25	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:25	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:25	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:25	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:25	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:25	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:25	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:25	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:25	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	70		50 - 200	04/02/23 13:24	04/04/23 10:25	1
13C6 PFDA	85		50 - 200	04/02/23 13:24	04/04/23 10:25	1
13C5 PFHxA	82		50 - 200	04/02/23 13:24	04/04/23 10:25	1
13C4 PFHpA	80		50 - 200	04/02/23 13:24	04/04/23 10:25	1
13C8 PFOA	84		50 - 200	04/02/23 13:24	04/04/23 10:25	1
13C9 PFNA	82		50 - 200	04/02/23 13:24	04/04/23 10:25	1
13C7 PFUnA	85		50 - 200	04/02/23 13:24	04/04/23 10:25	1

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Lab Sample ID: 380-41200-4
Date Collected: 03/20/23 11:31
Matrix: Drinking Water
Date Received: 03/22/23 10:15
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	*90*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:25*	*1*
13C4 PFBA	*84*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:25*	*1*
13C5 PFPeA	*86*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:25*	*1*
13C3 PFBS	*93*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:25*	*1*
13C3 PFHxS	*90*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:25*	*1*
13C8 PFOS	*90*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:25*	*1*
13C2-4:2-FTS	*115*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:25*	*1*
13C2-6:2-FTS	*108*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:25*	*1*
13C2-8:2-FTS	*109*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:25*	*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		03/28/23 05:45	03/31/23 02:45	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		03/28/23 05:45	03/31/23 02:45	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		03/28/23 05:45	03/31/23 02:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	ng/L		03/28/23 05:45	03/31/23 02:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	ng/L		03/28/23 05:45	03/31/23 02:45	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		03/28/23 05:45	03/31/23 02:45	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		03/28/23 05:45	03/31/23 02:45	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		03/28/23 05:45	03/31/23 02:45	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		03/28/23 05:45	03/31/23 02:45	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		03/28/23 05:45	03/31/23 02:45	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		03/28/23 05:45	03/31/23 02:45	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		03/28/23 05:45	03/31/23 02:45	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		03/28/23 05:45	03/31/23 02:45	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0	ng/L		03/28/23 05:45	03/31/23 02:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	ng/L		03/28/23 05:45	03/31/23 02:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		03/28/23 05:45	03/31/23 02:45	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		03/28/23 05:45	03/31/23 02:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	B	2.0	ng/L		03/28/23 05:45	03/31/23 02:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*98*		*70 - 130*	*03/28/23 05:45*	*03/31/23 02:45*	*1*
13C2 PFHxA	*113*		*70 - 130*	*03/28/23 05:45*	*03/31/23 02:45*	*1*
13C2 PFDA	*100*		*70 - 130*	*03/28/23 05:45*	*03/31/23 02:45*	*1*
13C3-GenX	*114*		*70 - 130*	*03/28/23 05:45*	*03/31/23 02:45*	*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		03/23/23 00:00	04/05/23 08:04	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 08:04	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 08:04	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 08:04	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 08:04	1

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Lab Sample ID: 380-41200-4
Date Collected: 03/20/23 11:31
Matrix: Drinking Water
Date Received: 03/22/23 10:15
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		03/23/23 00:00	04/05/23 08:04	1
Acenaphthylene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 08:04	1
Anthracene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 08:04	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 08:04	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 08:04	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 08:04	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 08:04	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 08:04	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 08:04	1
Biphenyl	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 08:04	1
Chrysene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 08:04	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 08:04	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 08:04	1
Dibenzothiophene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 08:04	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		03/23/23 00:00	04/05/23 08:04	1
Fluoranthene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 08:04	1
Fluorene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 08:04	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 08:04	1
Naphthalene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 08:04	1
Perylene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 08:04	1
Phenanthrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 08:04	1
Pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/05/23 08:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*78*		*27 - 133*	*03/23/23 00:00*	*04/05/23 08:04*	*1*
(d10-Phenanthrene)	*95*		*43 - 129*	*03/23/23 00:00*	*04/05/23 08:04*	*1*
(d12-Chrysene)	*111*		*52 - 144*	*03/23/23 00:00*	*04/05/23 08:04*	*1*
(d12-Perylene)	*92*		*36 - 161*	*03/23/23 00:00*	*04/05/23 08:04*	*1*
(d8-Naphthalene)	*68*		*25 - 125*	*03/23/23 00:00*	*04/05/23 08:04*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			03/24/23 17:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*90*		*60 - 140*		*03/24/23 17:33*	*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	0.025		mg/L			03/31/23 20:40	1
JP5	ND	U	0.051		mg/L			03/31/23 20:40	1
JP8	ND	U	0.051		mg/L			03/31/23 20:40	1
MOTOR OIL	ND	U	0.051		mg/L			03/31/23 20:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOBENZENE	*75*		*60 - 130*		*03/31/23 20:40*	*1*
HEXACOSANE	*93*		*60 - 130*		*03/31/23 20:40*	*1*

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

Lab Sample ID: 380-41200-5

Date Collected: 03/20/23 10:04
Date Received: 03/22/23 10:15

Matrix: Water

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	0.02		mg/L			03/24/23 18:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*94*		*60 - 140*		*03/24/23 18:10*	*1*

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

Lab Sample ID: 380-41200-6

Date Collected: 03/20/23 11:31
Date Received: 03/22/23 10:15

Matrix: Water

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	0.02		mg/L			03/24/23 18:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*93*		*60 - 140*		*03/24/23 18:48*	*1*

Client Sample ID: TB: AIEA WELLS PUMPS 1&2 P2 (260) (331-203-TP400)

Lab Sample ID: 380-41200-7

Date Collected: 03/20/23 10:59
Date Received: 03/22/23 10:15

Matrix: Water

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	0.02		mg/L			03/24/23 19:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*96*		*60 - 140*		*03/24/23 19:25*	*1*

Client Sample ID: TB: HALAWA WELLS UNITS 1&2 P1 (331-206-TP065)

Lab Sample ID: 380-41200-8

Date Collected: 03/20/23 10:36
Date Received: 03/22/23 10:15

Matrix: Water

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	0.02		mg/L			03/24/23 20:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*94*		*60 - 140*		*03/24/23 20:02*	*1*

Client Sample ID: FB: MOANALUA WELLS

Lab Sample ID: 380-41200-9

Date Collected: 03/20/23 10:04
Date Received: 03/22/23 10:15

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		04/05/23 13:59	04/06/23 20:35	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:35	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:35	1

Client Sample ID: FB: MOANALUA WELLS
Date Collected: 03/20/23 10:04
Date Received: 03/22/23 10:15

Lab Sample ID: 380-41200-9
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		04/05/23 13:59	04/06/23 20:35	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:35	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:35	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:35	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:35	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:35	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:35	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:35	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:35	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:35	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:35	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:35	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:35	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:35	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:35	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:35	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:35	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:35	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:35	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:35	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:35	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 20:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*86*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:35*	*1*
13C6 PFDA	*83*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:35*	*1*
13C5 PFHxA	*93*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:35*	*1*
13C4 PFHpA	*94*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:35*	*1*
13C8 PFOA	*92*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:35*	*1*
13C9 PFNA	*92*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:35*	*1*
13C7 PFUnA	*82*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:35*	*1*
13C2 PFDoA	*94*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:35*	*1*
13C4 PFBA	*90*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:35*	*1*
13C5 PFPeA	*93*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:35*	*1*
13C3 PFBS	*91*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:35*	*1*
13C3 PFHxS	*94*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:35*	*1*
13C8 PFOS	*90*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:35*	*1*
13C2-4:2-FTS	*107*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:35*	*1*
13C2-6:2-FTS	*101*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:35*	*1*
13C2-8:2-FTS	*92*		*50 - 200*	*04/05/23 13:59*	*04/06/23 20:35*	*1*

Client Sample ID: FB: MOANALUA WELLS

Lab Sample ID: 380-41200-9

Date Collected: 03/20/23 10:04

Matrix: Water

Date Received: 03/22/23 10:15

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		03/23/23 08:15	03/28/23 08:31	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:31	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:31	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:31	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:31	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:31	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:31	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:31	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:31	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:31	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:31	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:31	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:31	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:31	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:31	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:31	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:31	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*93*		*70 - 130*	*03/23/23 08:15*	*03/28/23 08:31*	*1*
13C2 PFHxA	*123*		*70 - 130*	*03/23/23 08:15*	*03/28/23 08:31*	*1*
13C2 PFDA	*114*		*70 - 130*	*03/23/23 08:15*	*03/28/23 08:31*	*1*
13C3-GenX	*124*		*70 - 130*	*03/23/23 08:15*	*03/28/23 08:31*	*1*

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-41200-10

Date Collected: 03/20/23 11:31

Matrix: Water

Date Received: 03/22/23 10:15

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		04/02/23 13:24	04/04/23 10:34	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:34	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:34	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:34	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:34	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:34	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:34	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:34	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:34	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:34	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:34	1

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2
Date Collected: 03/20/23 11:31
Date Received: 03/22/23 10:15

Lab Sample ID: 380-41200-10
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:34	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:34	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:34	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:34	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:34	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:34	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:34	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:34	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:34	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:34	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:34	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:34	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*80*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:34*	*1*
13C6 PFDA	*90*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:34*	*1*
13C5 PFHxA	*87*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:34*	*1*
13C4 PFHpA	*84*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:34*	*1*
13C8 PFOA	*92*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:34*	*1*
13C9 PFNA	*88*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:34*	*1*
13C7 PFUnA	*88*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:34*	*1*
13C2 PFDoA	*99*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:34*	*1*
13C4 PFBA	*87*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:34*	*1*
13C5 PFPeA	*97*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:34*	*1*
13C3 PFBS	*89*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:34*	*1*
13C3 PFHxS	*92*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:34*	*1*
13C8 PFOS	*90*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:34*	*1*
13C2-4:2-FTS	*112*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:34*	*1*
13C2-6:2-FTS	*111*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:34*	*1*
13C2-8:2-FTS	*116*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:34*	*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		03/23/23 08:15	03/28/23 08:51	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:51	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:51	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:51	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:51	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:51	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:51	1

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-41200-10

Date Collected: 03/20/23 11:31

Matrix: Water

Date Received: 03/22/23 10:15

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:51	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:51	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:51	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:51	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:51	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:51	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:51	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:51	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:51	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 08:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*106*		*70 - 130*	*03/23/23 08:15*	*03/28/23 08:51*	*1*
13C2 PFHxA	*116*		*70 - 130*	*03/23/23 08:15*	*03/28/23 08:51*	*1*
13C2 PFDA	*122*		*70 - 130*	*03/23/23 08:15*	*03/28/23 08:51*	*1*
13C3-GenX	*117*		*70 - 130*	*03/23/23 08:15*	*03/28/23 08:51*	*1*

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

Lab Sample ID: 380-41200-11

Date Collected: 03/20/23 10:59

Matrix: Water

Date Received: 03/22/23 10:15

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		04/02/23 13:24	04/04/23 10:44	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:44	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:44	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:44	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:44	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:44	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:44	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:44	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:44	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:44	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:44	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:44	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:44	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:44	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:44	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:44	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:44	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:44	1

Client Sample ID: FB: AIEA WELLS PUMPS 1&2 (260)
Date Collected: 03/20/23 10:59
Date Received: 03/22/23 10:15

Lab Sample ID: 380-41200-11
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:44	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:44	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:44	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:44	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:44	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:44	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 10:44	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*80*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:44*	*1*
13C6 PFDA	*88*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:44*	*1*
13C5 PFHxA	*87*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:44*	*1*
13C4 PFHpA	*87*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:44*	*1*
13C8 PFOA	*91*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:44*	*1*
13C9 PFNA	*87*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:44*	*1*
13C7 PFUnA	*88*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:44*	*1*
13C2 PFDoA	*98*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:44*	*1*
13C4 PFBA	*92*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:44*	*1*
13C5 PFPeA	*84*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:44*	*1*
13C3 PFBS	*86*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:44*	*1*
13C3 PFHxS	*89*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:44*	*1*
13C8 PFOS	*87*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:44*	*1*
13C2-4:2-FTS	*105*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:44*	*1*
13C2-6:2-FTS	*104*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:44*	*1*
13C2-8:2-FTS	*108*		*50 - 200*	*04/02/23 13:24*	*04/04/23 10:44*	*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		03/28/23 05:45	03/31/23 05:11	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:11	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:11	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:11	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:11	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:11	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:11	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:11	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:11	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:11	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:11	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:11	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:11	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:11	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:11	1

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

Lab Sample ID: 380-41200-11

Date Collected: 03/20/23 10:59

Matrix: Water

Date Received: 03/22/23 10:15

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:11	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:11	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	B	2.0		ng/L		03/28/23 05:45	03/31/23 05:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*98*		*70 - 130*	*03/28/23 05:45*	*03/31/23 05:11*	*1*
13C2 PFHxA	*107*		*70 - 130*	*03/28/23 05:45*	*03/31/23 05:11*	*1*
13C2 PFDA	*95*		*70 - 130*	*03/28/23 05:45*	*03/31/23 05:11*	*1*
13C3-GenX	*101*		*70 - 130*	*03/28/23 05:45*	*03/31/23 05:11*	*1*

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

Lab Sample ID: 380-41200-12

Date Collected: 03/20/23 10:36

Matrix: Water

Date Received: 03/22/23 10:15

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		04/07/23 13:38	04/11/23 01:04	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		04/07/23 13:38	04/11/23 01:04	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		04/07/23 13:38	04/11/23 01:04	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		04/07/23 13:38	04/11/23 01:04	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		04/07/23 13:38	04/11/23 01:04	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		04/07/23 13:38	04/11/23 01:04	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		04/07/23 13:38	04/11/23 01:04	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		04/07/23 13:38	04/11/23 01:04	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		04/07/23 13:38	04/11/23 01:04	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		04/07/23 13:38	04/11/23 01:04	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		04/07/23 13:38	04/11/23 01:04	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		04/07/23 13:38	04/11/23 01:04	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		04/07/23 13:38	04/11/23 01:04	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		04/07/23 13:38	04/11/23 01:04	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		04/07/23 13:38	04/11/23 01:04	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		04/07/23 13:38	04/11/23 01:04	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		04/07/23 13:38	04/11/23 01:04	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		04/07/23 13:38	04/11/23 01:04	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		04/07/23 13:38	04/11/23 01:04	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		04/07/23 13:38	04/11/23 01:04	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		04/07/23 13:38	04/11/23 01:04	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		04/07/23 13:38	04/11/23 01:04	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		04/07/23 13:38	04/11/23 01:04	1

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

Date Collected: 03/20/23 10:36
Date Received: 03/22/23 10:15

Lab Sample ID: 380-41200-12

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		04/07/23 13:38	04/11/23 01:04	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		04/07/23 13:38	04/11/23 01:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*93*		*50 - 200*	*04/07/23 13:38*	*04/11/23 01:04*	*1*
13C6 PFDA	*99*		*50 - 200*	*04/07/23 13:38*	*04/11/23 01:04*	*1*
13C5 PFHxA	*101*		*50 - 200*	*04/07/23 13:38*	*04/11/23 01:04*	*1*
13C4 PFHpA	*101*		*50 - 200*	*04/07/23 13:38*	*04/11/23 01:04*	*1*
13C8 PFOA	*96*		*50 - 200*	*04/07/23 13:38*	*04/11/23 01:04*	*1*
13C9 PFNA	*100*		*50 - 200*	*04/07/23 13:38*	*04/11/23 01:04*	*1*
13C7 PFUnA	*95*		*50 - 200*	*04/07/23 13:38*	*04/11/23 01:04*	*1*
13C2 PFDoA	*106*		*50 - 200*	*04/07/23 13:38*	*04/11/23 01:04*	*1*
13C4 PFBA	*105*		*50 - 200*	*04/07/23 13:38*	*04/11/23 01:04*	*1*
13C5 PFPeA	*111*		*50 - 200*	*04/07/23 13:38*	*04/11/23 01:04*	*1*
13C3 PFBS	*101*		*50 - 200*	*04/07/23 13:38*	*04/11/23 01:04*	*1*
13C3 PFHxS	*104*		*50 - 200*	*04/07/23 13:38*	*04/11/23 01:04*	*1*
13C8 PFOS	*102*		*50 - 200*	*04/07/23 13:38*	*04/11/23 01:04*	*1*
13C2-4:2-FTS	*107*		*50 - 200*	*04/07/23 13:38*	*04/11/23 01:04*	*1*
13C2-6:2-FTS	*109*		*50 - 200*	*04/07/23 13:38*	*04/11/23 01:04*	*1*
13C2-8:2-FTS	*107*		*50 - 200*	*04/07/23 13:38*	*04/11/23 01:04*	*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		03/28/23 05:45	03/31/23 05:21	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:21	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:21	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:21	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:21	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:21	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:21	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:21	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:21	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:21	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:21	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:21	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:21	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:21	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:21	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:21	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 05:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	B	2.0		ng/L		03/28/23 05:45	03/31/23 05:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*105*		*70 - 130*	*03/28/23 05:45*	*03/31/23 05:21*	*1*
13C2 PFHxA	*113*		*70 - 130*	*03/28/23 05:45*	*03/31/23 05:21*	*1*

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

Job ID: 380-41200-1

Client Sample ID: FB: HALAWA WELLS UNITS 1&2
Date Collected: 03/20/23 10:36
Date Received: 03/22/23 10:15

Lab Sample ID: 380-41200-12
Matrix: Water

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	105		70 - 130	03/28/23 05:45	03/31/23 05:21	1
13C3-GenX	105		70 - 130	03/28/23 05:45	03/31/23 05:21	1

Action Limit Summary

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

Job ID: 380-41200-1

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

Lab Sample ID: 380-41200-1

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	0.050	525.2	Total/NA
Atrazine	ND		ug/L	3	0.050	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	0.60	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	ND		ug/L	6	0.60	525.2	Total/NA
Endrin	ND		ug/L	2	0.099	525.2	Total/NA
Heptachlor	ND		ug/L	0.4	0.040	525.2	Total/NA
Heptachlor epoxide (isomer B)	ND		ug/L	0.2	0.050	525.2	Total/NA
Hexachlorobenzene	ND		ug/L	1	0.050	525.2	Total/NA
Hexachlorocyclopentadiene	ND		ug/L	50	0.050	525.2	Total/NA
Lindane	ND		ug/L	0.2	0.040	525.2	Total/NA
Methoxychlor	ND		ug/L	40	0.099	525.2	Total/NA
Simazine	ND		ug/L	4	0.050	525.2	Total/NA

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)

Lab Sample ID: 380-41200-2

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: 380-41200-1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)

Lab Sample ID: 380-41200-3

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	0.040	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	0.040	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: 380-41200-4

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: 380-41200-1

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)
380-41200-1	MOANALUA WELLS (331-223-T	87	113	99
380-41200-2	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)	90	112	97
380-41200-3	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	90	107	98
380-41200-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	88	110	99

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)
380-41173-AN-1-A MS	Matrix Spike	92	115	103
380-41185-AP-1-A DU	Duplicate	93	120	95
LCS 380-34654/3-A	Lab Control Sample	93	117	101
LCSD 380-34654/4-A	Lab Control Sample Dup	94	115	100
MB 380-34654/1-A	Method Blank	91	109	82
MRL 380-34654/2-A	Lab Control Sample	93	110	91

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)
380-41200-1	MOANALUA WELLS (331-223-T	98	115	108	120
380-41200-2	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)	102	121	115	121
380-41200-3	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	95	104	92	102
380-41200-3 MS	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	103	119	104	111
380-41200-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	98	113	100	114
380-41200-4 DU	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	95	109	94	101

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: 380-41200-1

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)
380-41092-B-1-A MS	Matrix Spike	96	124	112	125
380-41092-C-1-A MSD	Matrix Spike Duplicate	97	126	113	120
380-41200-9	FB: MOANALUA WELLS	93	123	114	124
380-41200-10	FB: AIEA GULCH WELLS PUMP 2	106	116	122	117
380-41200-11	FB: AIEA WELLS PUMPS 1&2 (260)	98	107	95	101
380-41200-12	FB: HALAWA WELLS UNITS 1&2	105	113	105	105
LCS 380-34468/21-A	Lab Control Sample	94	119	110	121
LCS 380-34952/23-A	Lab Control Sample	105	120	110	115
LCSD 380-34468/22-A	Lab Control Sample Dup	106	119	122	122
LCSD 380-34952/24-A	Lab Control Sample Dup	96	106	104	106
MBL 380-34468/19-A	Method Blank	103	112	119	115
MBL 380-34952/21-A	Method Blank	104	117	104	106
MRL 380-34468/20-A	Lab Control Sample	101	119	114	119
MRL 380-34952/22-A	Lab Control Sample	97	115	103	112

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)
104678-B1	Method Blank	90	94	103	82	88
104678-BS1	Lab Control Sample	89	95	94	80	89
104678-BS2	Lab Control Sample Dup	85	95	94	76	90

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)
380-41200-1	MOANALUA WELLS (331-223-T	77	95	106	67	95
380-41200-2	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)	77	96	112	69	95
380-41200-3	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	76	95	110	64	92

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)							
		Acenaphtl	Phenanth	CRY	NPT	PRY			
Lab Sample ID	Client Sample ID	(27-133)	(43-129)	(52-144)	(25-125)	(36-161)			
380-41200-4	AIEA GULCH WELLS PUMP 2 (	78	95	111	68	92			

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)							
380-41200-1	MOANALUA WELLS (331-223-T	98							
380-41200-2	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)	99							
380-41200-3	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	94							
380-41200-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	90							

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)							
23C313-01M	Matrix Spike	110							
23C313-01S	Matrix Spike Duplicate	111							

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								
23VGH7C08B	Method Blank								

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Surrogate Summary

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

Job ID: 380-41200-1

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)
23VGH7C08C	LCD	112
23VGH7C08L	Lab Control Sample	115

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)
380-41200-5	TB:MOANALUA WELLS (331-22	94
380-41200-6	TB:AIEA GULCH WELLS P2 (331-202-TP072)	93
380-41200-7	TB: AIEA WELLS PUMPS 1&2 P2 (260) (331-203-TP400)	96
380-41200-8	TB: HALAWA WELLS UNITS 1&2 P1 (331-206-TP065)	94

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	XACOSA
Lab Sample ID	Client Sample ID	(60-130)	(60-130)
380-41200-1	MOANALUA WELLS (331-223-T	78	92
380-41200-2	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)	80	96
380-41200-3	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	70	93
380-41200-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	75	93

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	XACOSA
Lab Sample ID	Client Sample ID	(60-130)	(60-130)
23DSC034WC	LCD	76	106
23DSC034WL	Lab Control Sample	82	99
23J5C034WC	LCD	91	100
23J5C034WL	Lab Control Sample	84	101
23J8C034WC	LCD	99	104
23J8C034WL	Lab Control Sample	87	102

Surrogate Legend

Surrogate Summary

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

Job ID: 380-41200-1

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**		
23DSC034WB	Method Blank		

Surrogate Legend

BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

Isotope Dilution Summary

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

Job ID: 380-41200-1

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)
380-41200-1	MOANALUA WELLS (331-223-T	69	77	77	79	79	78	77	82
380-41200-1 LMS	MOANALUA WELLS (331-223-TP202)	59	68	66	69	68	67	67	74
380-41200-1 LMSD	MOANALUA WELLS (331-223-TP202)	59	68	64	63	65	67	66	78
380-41200-2	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)	71	87	81	82	82	86	85	94
380-41200-3	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	66	68	68	72	67	71	71	79
380-41200-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	70	85	82	80	84	82	85	90

		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)
380-41200-1	MOANALUA WELLS (331-223-T	75	79	95	96	95	112	104	96
380-41200-1 LMS	MOANALUA WELLS (331-223-TP202)	69	70	93	91	88	110	100	89
380-41200-1 LMSD	MOANALUA WELLS (331-223-TP202)	63	64	93	90	89	107	100	94
380-41200-2	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)	75	79	89	89	90	111	97	110
380-41200-3	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	78	80	91	88	89	106	100	92
380-41200-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	84	86	93	90	90	115	108	109

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)
380-40835-E-1-A MS	Matrix Spike	72	81	78	78	81	82	80	83
380-40835-F-1-A MSD	Matrix Spike Duplicate	77	81	81	81	87	83	77	83
380-41200-9	FB: MOANALUA WELLS	86	83	93	94	92	92	82	94

Isotope Dilution Summary

Client: City & County of Honolulu
Job ID: 380-41200-1
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)
380-41200-10	FB: AIEA GULCH WELLS PUMP	80	90	87	84	92	88	88	99
380-41200-11	FB: AIEA WELLS PUMPS 1&2 (260)	80	88	87	87	91	87	88	98
380-41200-12	FB: HALAWA WELLS UNITS 1&2	93	99	101	101	96	100	95	106
380-42734-C-1-A MS	Matrix Spike	74	93	79	81	87	88	92	104
380-42734-C-1-B MSD	Matrix Spike Duplicate	74	87	73	80	80	87	89	102
LCS 380-35468/23-A	Lab Control Sample	84	99	87	87	94	94	96	99
LCS 380-35797/23-A	Lab Control Sample	86	83	91	92	88	88	83	85
LCS 380-36057/23-A	Lab Control Sample	88	96	89	87	94	95	94	101
LCSD 380-35468/24-A	Lab Control Sample Dup	87	97	89	89	93	95	91	99
LCSD 380-35797/24-A	Lab Control Sample Dup	89	86	94	94	89	89	84	93
LCSD 380-36057/24-A	Lab Control Sample Dup	98	101	96	97	100	101	99	112
LLCS 380-35468/22-A	Lab Control Sample	83	95	87	88	91	92	92	97
MBL 380-35468/21-A	Method Blank	87	102	93	94	96	97	95	105
MBL 380-35797/21-A	Method Blank	74	82	81	81	78	77	71	77
MBL 380-36057/21-A	Method Blank	96	104	102	104	106	107	100	111
MRL 380-35797/22-A	Lab Control Sample	71	75	82	81	80	77	76	80
MRL 380-36057/22-A	Lab Control Sample	90	96	96	94	100	97	88	97

		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)
380-40835-E-1-A MS	Matrix Spike	78	83	82	83	82	118	102	104
380-40835-F-1-A MSD	Matrix Spike Duplicate	83	90	86	87	83	126	108	106
380-41200-9	FB: MOANALUA WELLS	90	93	91	94	90	107	101	92
380-41200-10	FB: AIEA GULCH WELLS PUMP 2	87	97	89	92	90	112	111	116
380-41200-11	FB: AIEA WELLS PUMPS 1&2 (260)	92	84	86	89	87	105	104	108
380-41200-12	FB: HALAWA WELLS UNITS 1&2	105	111	101	104	102	107	109	107
380-42734-C-1-A MS	Matrix Spike	79	82	106	99	108	114	107	110
380-42734-C-1-B MSD	Matrix Spike Duplicate	76	80	100	101	104	109	101	104
LCS 380-35468/23-A	Lab Control Sample	85	88	85	89	91	99	98	101
LCS 380-35797/23-A	Lab Control Sample	89	91	91	89	89	102	92	85
LCS 380-36057/23-A	Lab Control Sample	91	97	101	96	102	108	108	108
LCSD 380-35468/24-A	Lab Control Sample Dup	89	90	88	88	92	100	100	105
LCSD 380-35797/24-A	Lab Control Sample Dup	91	92	93	91	92	102	98	90
LCSD 380-36057/24-A	Lab Control Sample Dup	99	98	100	100	105	106	110	112
LLCS 380-35468/22-A	Lab Control Sample	91	98	89	92	89	102	102	115
MBL 380-35468/21-A	Method Blank	94	95	90	93	91	114	108	131
MBL 380-35797/21-A	Method Blank	80	84	82	81	81	90	84	129
MBL 380-36057/21-A	Method Blank	110	104	101	99	106	113	106	115
MRL 380-35797/22-A	Lab Control Sample	79	79	88	88	85	94	89	86
MRL 380-36057/22-A	Lab Control Sample	101	105	104	102	104	108	116	108

Surrogate Legend

HFPODA = 13C3 HFPO-DA
C6PFDA = 13C6 PFDA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA

Isotope Dilution Summary

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

Job ID: 380-41200-1

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 380-34654/1-A
Matrix: Water
Analysis Batch: 34861

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34654

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
2,4'-DDE	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
2,4'-DDT	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
2,4-Dinitrotoluene	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
2,6-Dinitrotoluene	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
4,4'-DDD	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
4,4'-DDE	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
4,4'-DDT	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Acenaphthene	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Acenaphthylene	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Acetochlor	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Alachlor	ND		0.050		ug/L		03/24/23 06:34	03/27/23 08:16	1
alpha-BHC	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
alpha-Chlordane	ND		0.050		ug/L		03/24/23 06:34	03/27/23 08:16	1
Anthracene	ND		0.020		ug/L		03/24/23 06:34	03/27/23 08:16	1
Atrazine	ND		0.050		ug/L		03/24/23 06:34	03/27/23 08:16	1
Benz(a)anthracene	ND		0.050		ug/L		03/24/23 06:34	03/27/23 08:16	1
Benzo[a]pyrene	ND		0.020		ug/L		03/24/23 06:34	03/27/23 08:16	1
Benzo[b]fluoranthene	ND		0.020		ug/L		03/24/23 06:34	03/27/23 08:16	1
Benzo[g,h,i]perylene	ND		0.050		ug/L		03/24/23 06:34	03/27/23 08:16	1
Benzo[k]fluoranthene	ND		0.020		ug/L		03/24/23 06:34	03/27/23 08:16	1
beta-BHC	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Bromacil	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Butachlor	ND		0.050		ug/L		03/24/23 06:34	03/27/23 08:16	1
Butylbenzylphthalate	ND		0.50		ug/L		03/24/23 06:34	03/27/23 08:16	1
Caffeine	ND		0.050		ug/L		03/24/23 06:34	03/27/23 08:16	1
Chlorobenzilate	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Chloroneb	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Chlorothalonil (Draconil, Bravo)	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Chlorpyrifos	ND		0.050		ug/L		03/24/23 06:34	03/27/23 08:16	1
Chrysene	ND		0.020		ug/L		03/24/23 06:34	03/27/23 08:16	1
delta-BHC	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Di(2-ethylhexyl)adipate	ND		0.60		ug/L		03/24/23 06:34	03/27/23 08:16	1
Bis(2-ethylhexyl) phthalate	ND		0.60		ug/L		03/24/23 06:34	03/27/23 08:16	1
Diazinon (Qualitative)	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Dibenz(a,h)anthracene	ND		0.050		ug/L		03/24/23 06:34	03/27/23 08:16	1
Diclorvos (DDVP)	ND		0.050		ug/L		03/24/23 06:34	03/27/23 08:16	1
Dieldrin	ND		0.20		ug/L		03/24/23 06:34	03/27/23 08:16	1
Diethylphthalate	ND		0.50		ug/L		03/24/23 06:34	03/27/23 08:16	1
Dimethoate	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Dimethylphthalate	ND		0.50		ug/L		03/24/23 06:34	03/27/23 08:16	1
Di-n-butyl phthalate	ND		0.99		ug/L		03/24/23 06:34	03/27/23 08:16	1
Di-n-octyl phthalate	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Endosulfan I (Alpha)	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Endosulfan II (Beta)	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Endosulfan sulfate	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Endrin	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Endrin aldehyde	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1

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

Lab Sample ID: MB 380-34654/1-A
Matrix: Water
Analysis Batch: 34861

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34654

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
EPTC	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Fluoranthene	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Fluorene	ND		0.050		ug/L		03/24/23 06:34	03/27/23 08:16	1
gamma-Chlordane	ND		0.050		ug/L		03/24/23 06:34	03/27/23 08:16	1
Heptachlor	ND		0.040		ug/L		03/24/23 06:34	03/27/23 08:16	1
Heptachlor epoxide (isomer B)	ND		0.050		ug/L		03/24/23 06:34	03/27/23 08:16	1
Hexachlorobenzene	ND		0.050		ug/L		03/24/23 06:34	03/27/23 08:16	1
Hexachlorocyclopentadiene	ND		0.050		ug/L		03/24/23 06:34	03/27/23 08:16	1
Indeno[1,2,3-cd]pyrene	ND		0.050		ug/L		03/24/23 06:34	03/27/23 08:16	1
Isophorone	ND		0.50		ug/L		03/24/23 06:34	03/27/23 08:16	1
Lindane	ND		0.040		ug/L		03/24/23 06:34	03/27/23 08:16	1
Malathion	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Methoxychlor	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Metolachlor	ND		0.050		ug/L		03/24/23 06:34	03/27/23 08:16	1
Metribuzin	ND		0.050		ug/L		03/24/23 06:34	03/27/23 08:16	1
Molinate	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Naphthalene	ND		0.30		ug/L		03/24/23 06:34	03/27/23 08:16	1
Parathion	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Pendimethalin (Penoxaline)	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Total Permethrin (mixed isomers)	ND		0.20		ug/L		03/24/23 06:34	03/27/23 08:16	1
Phenanthrene	ND		0.040		ug/L		03/24/23 06:34	03/27/23 08:16	1
Propachlor	ND		0.050		ug/L		03/24/23 06:34	03/27/23 08:16	1
Pyrene	ND		0.050		ug/L		03/24/23 06:34	03/27/23 08:16	1
Simazine	ND		0.050		ug/L		03/24/23 06:34	03/27/23 08:16	1
Terbacil	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Terbuthylazine	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1
Thiobencarb	ND		0.20		ug/L		03/24/23 06:34	03/27/23 08:16	1
trans-Nonachlor	ND		0.050		ug/L		03/24/23 06:34	03/27/23 08:16	1
Trifluralin	ND		0.099		ug/L		03/24/23 06:34	03/27/23 08:16	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1.72*	*T J*	*ug/L*		*2.43*	*N/A*	*03/24/23 06:34*	*03/27/23 08:16*	*1*
Unknown	*0.619*	*T J*	*ug/L*		*5.89*	*N/A*	*03/24/23 06:34*	*03/27/23 08:16*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*91*		*70 - 130*	*03/24/23 06:34*	*03/27/23 08:16*	*1*
Triphenylphosphate	*109*		*70 - 130*	*03/24/23 06:34*	*03/27/23 08:16*	*1*
Perylene-d12	*82*		*70 - 130*	*03/24/23 06:34*	*03/27/23 08:16*	*1*

Lab Sample ID: LCS 380-34654/3-A
Matrix: Water
Analysis Batch: 34861

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34654

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	1.99	1.72		ug/L		87	70 - 130
2,4'-DDE	1.99	1.86		ug/L		93	70 - 130
2,4'-DDT	1.99	1.84		ug/L		93	70 - 130
2,4-Dinitrotoluene	1.99	1.78		ug/L		89	70 - 130

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

Lab Sample ID: LCS 380-34654/3-A
Matrix: Water
Analysis Batch: 34861

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34654

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,6-Dinitrotoluene	1.99	1.76		ug/L		89	70 - 130
4,4'-DDD	1.99	1.82		ug/L		92	70 - 130
4,4'-DDE	1.99	2.13		ug/L		107	70 - 130
4,4'-DDT	1.99	1.81		ug/L		91	70 - 130
Acenaphthene	1.99	1.83		ug/L		92	70 - 130
Acenaphthylene	1.99	2.00		ug/L		100	70 - 130
Acetochlor	1.99	1.99		ug/L		100	70 - 130
Alachlor	1.99	2.04		ug/L		103	70 - 130
alpha-BHC	1.99	2.02		ug/L		102	70 - 130
alpha-Chlordane	1.99	2.41		ug/L		121	70 - 130
Anthracene	1.99	1.90		ug/L		96	70 - 130
Atrazine	1.99	2.14		ug/L		108	70 - 130
Benz(a)anthracene	1.99	1.90		ug/L		96	70 - 130
Benzo[a]pyrene	1.99	2.26		ug/L		114	70 - 130
Benzo[b]fluoranthene	1.99	1.94		ug/L		97	70 - 130
Benzo[g,h,i]perylene	1.99	2.19		ug/L		110	70 - 130
Benzo[k]fluoranthene	1.99	1.87		ug/L		94	70 - 130
beta-BHC	1.99	2.01		ug/L		101	70 - 130
Bromacil	1.99	2.15		ug/L		108	70 - 130
Butachlor	1.99	2.10		ug/L		105	70 - 130
Butylbenzylphthalate	1.99	2.35		ug/L		118	70 - 130
Caffeine	1.99	1.96		ug/L		98	45 - 137
Chlorobenzilate	1.99	2.08		ug/L		105	70 - 130
Chloroneb	1.99	2.16		ug/L		109	70 - 130
Chlorothalonil (Draconil, Bravo)	1.99	2.13		ug/L		107	70 - 130
Chlorpyrifos	1.99	2.13		ug/L		107	70 - 130
Chrysene	1.99	2.04		ug/L		103	70 - 130
delta-BHC	1.99	2.00		ug/L		101	70 - 130
Di(2-ethylhexyl)adipate	1.99	2.49		ug/L		125	70 - 130
Bis(2-ethylhexyl) phthalate	1.99	2.25		ug/L		113	70 - 130
Diazinon (Qualitative)	1.99	1.89		ug/L		95	15 - 132
Dibenz(a,h)anthracene	1.99	2.15		ug/L		108	70 - 130
Diclorvos (DDVP)	1.99	1.96		ug/L		99	70 - 130
Dieldrin	1.99	1.87		ug/L		94	70 - 130
Diethylphthalate	1.99	2.07		ug/L		104	70 - 130
Dimethoate	1.99	1.54		ug/L		78	35 - 100
Dimethylphthalate	1.99	1.99		ug/L		100	70 - 130
Di-n-butyl phthalate	3.98	4.17		ug/L		105	70 - 130
Di-n-octyl phthalate	1.99	2.22		ug/L		112	70 - 130
Endosulfan I (Alpha)	1.99	2.05		ug/L		103	70 - 130
Endosulfan II (Beta)	1.99	2.09		ug/L		105	70 - 130
Endosulfan sulfate	1.99	2.00		ug/L		100	70 - 130
Endrin	1.99	2.00		ug/L		101	70 - 130
Endrin aldehyde	1.99	1.96		ug/L		99	70 - 130
EPTC	1.99	1.94		ug/L		98	70 - 130
Fluoranthene	1.99	2.15		ug/L		108	70 - 130
Fluorene	1.99	2.05		ug/L		103	70 - 130
gamma-Chlordane	1.99	2.41		ug/L		121	70 - 130
Heptachlor	1.99	1.92		ug/L		97	70 - 130

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

Lab Sample ID: LCS 380-34654/3-A
Matrix: Water
Analysis Batch: 34861

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34654

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Heptachlor epoxide (isomer B)	1.99	2.55		ug/L		128	70 - 130
Hexachlorobenzene	1.99	2.08		ug/L		105	70 - 130
Hexachlorocyclopentadiene	1.99	1.83		ug/L		92	70 - 130
Indeno[1,2,3-cd]pyrene	1.99	2.17		ug/L		109	70 - 130
Isophorone	1.99	1.91		ug/L		96	70 - 130
Lindane	1.99	2.04		ug/L		103	70 - 130
Malathion	1.99	2.11		ug/L		106	70 - 130
Methoxychlor	1.99	2.11		ug/L		106	70 - 130
Metolachlor	1.99	2.20		ug/L		111	70 - 130
Metribuzin	1.99	1.69		ug/L		85	70 - 130
Molinate	1.99	2.02		ug/L		101	70 - 130
Naphthalene	1.99	1.74		ug/L		88	70 - 130
Parathion	1.99	1.97		ug/L		99	70 - 130
Pendimethalin (Penoxaline)	1.99	1.86		ug/L		93	70 - 130
Phenanthrene	1.99	1.85		ug/L		93	70 - 130
Propachlor	1.99	2.03		ug/L		102	70 - 130
Pyrene	1.99	2.08		ug/L		105	70 - 130
Simazine	1.99	1.98		ug/L		99	70 - 130
Terbacil	1.99	2.26		ug/L		114	70 - 130
Terbuthylazine	1.99	1.97		ug/L		99	70 - 130
Thiobencarb	1.99	1.92		ug/L		96	70 - 130
trans-Nonachlor	1.99	1.92		ug/L		97	70 - 130
Trifluralin	1.99	1.91		ug/L		96	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Nitro-m-xylene	*93*		*70 - 130*
Triphenylphosphate	*117*		*70 - 130*
Perylene-d12	*101*		*70 - 130*

Lab Sample ID: LCSD 380-34654/4-A
Matrix: Water
Analysis Batch: 34861

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34654

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4'-DDD	1.99	1.76		ug/L		89	70 - 130	2	20
2,4'-DDE	1.99	1.88		ug/L		95	70 - 130	2	20
2,4'-DDT	1.99	1.84		ug/L		93	70 - 130	0	20
2,4-Dinitrotoluene	1.99	1.84		ug/L		92	70 - 130	3	20
2,6-Dinitrotoluene	1.99	1.82		ug/L		92	70 - 130	3	20
4,4'-DDD	1.99	1.81		ug/L		91	70 - 130	1	20
4,4'-DDE	1.99	2.14		ug/L		108	70 - 130	1	20
4,4'-DDT	1.99	1.81		ug/L		91	70 - 130	0	20
Acenaphthene	1.99	1.87		ug/L		94	70 - 130	2	20
Acenaphthylene	1.99	2.08		ug/L		105	70 - 130	4	20
Acetochlor	1.99	2.06		ug/L		104	70 - 130	3	20
Alachlor	1.99	2.12		ug/L		107	70 - 130	4	20
alpha-BHC	1.99	2.07		ug/L		104	70 - 130	2	20
alpha-Chlordane	1.99	2.43		ug/L		122	70 - 130	1	20

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

Lab Sample ID: LCSD 380-34654/4-A
Matrix: Water
Analysis Batch: 34861

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34654

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Anthracene			1.99	1.94		ug/L		98	70 - 130	2	20
Atrazine			1.99	2.18		ug/L		110	70 - 130	2	20
Benz(a)anthracene			1.99	1.85		ug/L		93	70 - 130	2	20
Benzo[a]pyrene			1.99	2.23		ug/L		113	70 - 130	1	20
Benzo[b]fluoranthene			1.99	1.91		ug/L		96	70 - 130	2	20
Benzo[g,h,i]perylene			1.99	2.20		ug/L		111	70 - 130	0	20
Benzo[k]fluoranthene			1.99	1.81		ug/L		91	70 - 130	4	20
beta-BHC			1.99	2.01		ug/L		101	70 - 130	0	20
Bromacil			1.99	2.19		ug/L		110	70 - 130	2	20
Butachlor			1.99	2.12		ug/L		107	70 - 130	1	20
Butylbenzylphthalate			1.99	2.39		ug/L		121	70 - 130	2	20
Caffeine			1.99	1.86		ug/L		94	45 - 137	5	20
Chlorobenzilate			1.99	1.98		ug/L		100	70 - 130	5	20
Chloroneb			1.99	2.15		ug/L		108	70 - 130	1	20
Chlorothalonil (Draconil, Bravo)			1.99	2.23		ug/L		113	70 - 130	5	20
Chlorpyrifos			1.99	2.14		ug/L		108	70 - 130	0	20
Chrysene			1.99	2.00		ug/L		101	70 - 130	2	20
delta-BHC			1.99	2.02		ug/L		102	70 - 130	1	20
Di(2-ethylhexyl)adipate			1.99	2.49		ug/L		125	70 - 130	0	20
Bis(2-ethylhexyl) phthalate			1.99	2.24		ug/L		113	70 - 130	0	20
Diazinon (Qualitative)			1.99	1.92		ug/L		97	15 - 132	1	20
Dibenz(a,h)anthracene			1.99	2.16		ug/L		109	70 - 130	0	20
Diclorvos (DDVP)			1.99	1.97		ug/L		99	70 - 130	1	20
Dieldrin			1.99	1.95		ug/L		98	70 - 130	4	20
Diethylphthalate			1.99	2.12		ug/L		107	70 - 130	3	20
Dimethoate			1.99	1.29		ug/L		65	35 - 100	18	20
Dimethylphthalate			1.99	2.13		ug/L		107	70 - 130	7	20
Di-n-butyl phthalate			3.97	4.38		ug/L		110	70 - 130	5	20
Di-n-octyl phthalate			1.99	2.20		ug/L		111	70 - 130	1	20
Endosulfan I (Alpha)			1.99	2.05		ug/L		103	70 - 130	0	20
Endosulfan II (Beta)			1.99	2.12		ug/L		107	70 - 130	1	20
Endosulfan sulfate			1.99	2.05		ug/L		103	70 - 130	3	20
Endrin			1.99	2.04		ug/L		103	70 - 130	2	20
Endrin aldehyde			1.99	1.92		ug/L		97	70 - 130	2	20
EPTC			1.99	2.00		ug/L		101	70 - 130	3	20
Fluoranthene			1.99	2.14		ug/L		108	70 - 130	1	20
Fluorene			1.99	2.10		ug/L		106	70 - 130	2	20
gamma-Chlordane			1.99	2.42		ug/L		122	70 - 130	1	20
Heptachlor			1.99	2.03		ug/L		102	70 - 130	6	20
Heptachlor epoxide (isomer B)			1.99	2.58		ug/L		130	70 - 130	1	20
Hexachlorobenzene			1.99	2.13		ug/L		107	70 - 130	2	20
Hexachlorocyclopentadiene			1.99	1.89		ug/L		95	70 - 130	3	20
Indeno[1,2,3-cd]pyrene			1.99	2.16		ug/L		109	70 - 130	0	20
Isophorone			1.99	1.94		ug/L		97	70 - 130	1	20
Lindane			1.99	2.09		ug/L		105	70 - 130	2	20
Malathion			1.99	2.19		ug/L		110	70 - 130	4	20
Methoxychlor			1.99	2.16		ug/L		109	70 - 130	2	20
Metolachlor			1.99	2.23		ug/L		112	70 - 130	1	20
Metribuzin			1.99	1.67		ug/L		84	70 - 130	1	20

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

Lab Sample ID: LCSD 380-34654/4-A
Matrix: Water
Analysis Batch: 34861

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34654

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Molinate			1.99	2.05		ug/L		103	70 - 130	2	20
Naphthalene			1.99	1.77		ug/L		89	70 - 130	2	20
Parathion			1.99	2.04		ug/L		103	70 - 130	3	20
Pendimethalin (Penoxaline)			1.99	1.90		ug/L		96	70 - 130	2	20
Phenanthrene			1.99	1.91		ug/L		96	70 - 130	3	20
Propachlor			1.99	2.09		ug/L		105	70 - 130	3	20
Pyrene			1.99	2.08		ug/L		105	70 - 130	0	20
Simazine			1.99	1.93		ug/L		97	70 - 130	2	20
Terbacil			1.99	2.34		ug/L		118	70 - 130	3	20
Terbuthylazine			1.99	1.96		ug/L		99	70 - 130	0	20
Thiobencarb			1.99	1.98		ug/L		100	70 - 130	3	20
trans-Nonachlor			1.99	1.92		ug/L		97	70 - 130	0	20
Trifluralin			1.99	1.99		ug/L		100	70 - 130	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Nitro-m-xylene	*94*		*70 - 130*
Triphenylphosphate	*115*		*70 - 130*
Perylene-d12	*100*		*70 - 130*

Lab Sample ID: MRL 380-34654/2-A
Matrix: Water
Analysis Batch: 34861

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34654

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
2,4'-DDD			0.0995	0.132		ug/L		133	50 - 150		
2,4'-DDE			0.0995	0.0951	J	ug/L		96	50 - 150		
2,4'-DDT			0.0995	0.110		ug/L		110	50 - 150		
2,4-Dinitrotoluene			0.0995	0.119		ug/L		120	50 - 150		
2,6-Dinitrotoluene			0.0995	0.133		ug/L		134	50 - 150		
4,4'-DDD			0.0995	0.131		ug/L		132	50 - 150		
4,4'-DDE			0.0995	0.114		ug/L		115	50 - 150		
4,4'-DDT			0.0995	0.139		ug/L		140	50 - 150		
Acenaphthene			0.0995	0.104		ug/L		104	50 - 150		
Acenaphthylene			0.0995	0.103		ug/L		104	50 - 150		
Acetochlor			0.0497	0.0689	J	ug/L		139	50 - 150		
Alachlor			0.0497	0.0599		ug/L		120	50 - 150		
alpha-BHC			0.0995	0.0993		ug/L		100	50 - 150		
alpha-Chlordane			0.0249	0.0305	J	ug/L		123	50 - 150		
Anthracene			0.0199	ND		ug/L		93	50 - 150		
Atrazine			0.0497	ND		ug/L		94	50 - 150		
Benz(a)anthracene			0.0497	0.0386	J	ug/L		78	50 - 150		
Benzo[a]pyrene			0.0199	0.0199	J	ug/L		100	50 - 150		
Benzo[b]fluoranthene			0.0199	0.0311	^3+	ug/L		156	50 - 150		
Benzo[g,h,i]perylene			0.0497	0.0656		ug/L		132	50 - 150		
Benzo[k]fluoranthene			0.0199	0.0209		ug/L		105	50 - 150		
beta-BHC			0.0995	0.102		ug/L		102	50 - 150		
Bromacil			0.0995	0.121		ug/L		122	50 - 150		
Butachlor			0.0497	0.0828	^3+	ug/L		166	50 - 150		

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

Lab Sample ID: MRL 380-34654/2-A
Matrix: Water
Analysis Batch: 34861

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34654

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Butylbenzylphthalate	0.149	0.178	J	ug/L		119	50 - 150
Caffeine	0.0497	0.0446	J	ug/L		90	50 - 150
Chlorobenzilate	0.0995	0.109		ug/L		110	50 - 150
Chloroneb	0.0995	0.108		ug/L		109	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0995	0.0799	J	ug/L		80	50 - 150
Chlorpyrifos	0.0497	0.0559		ug/L		112	50 - 150
Chrysene	0.0199	0.0229		ug/L		115	50 - 150
delta-BHC	0.0995	0.110		ug/L		111	50 - 150
Di(2-ethylhexyl)adipate	0.298	0.383	J	ug/L		128	50 - 150
Bis(2-ethylhexyl) phthalate	0.597	0.707		ug/L		119	50 - 150
Diazinon (Qualitative)	0.0995	0.114		ug/L		115	15 - 132
Dibenz(a,h)anthracene	0.0497	0.0774	^3+	ug/L		156	50 - 150
Diclorvos (DDVP)	0.0497	0.0489	J	ug/L		98	50 - 150
Dieldrin	0.0995	0.0895	J	ug/L		90	50 - 150
Diethylphthalate	0.149	0.170	J	ug/L		114	50 - 150
Dimethoate	0.0995	0.0945	J	ug/L		95	35 - 100
Dimethylphthalate	0.298	0.299	J	ug/L		100	50 - 150
Di-n-butyl phthalate	0.298	0.362	J	ug/L		121	49 - 243
Di-n-octyl phthalate	0.0995	0.148		ug/L		149	50 - 150
Endosulfan I (Alpha)	0.0995	0.100		ug/L		101	50 - 150
Endosulfan II (Beta)	0.0995	0.102		ug/L		103	50 - 150
Endosulfan sulfate	0.0995	0.0883	J	ug/L		89	50 - 150
Endrin	0.0995	0.110		ug/L		110	50 - 150
Endrin aldehyde	0.0995	0.164	^3+	ug/L		165	50 - 150
EPTC	0.0995	0.0950	J	ug/L		96	50 - 150
Fluoranthene	0.0497	0.0558	J	ug/L		112	50 - 150
Fluorene	0.0497	0.0506		ug/L		102	50 - 150
gamma-Chlordane	0.0249	0.0359	J	ug/L		144	50 - 150
Heptachlor	0.0398	0.0453		ug/L		114	50 - 150
Heptachlor epoxide (isomer B)	0.0497	0.0589		ug/L		118	50 - 150
Hexachlorobenzene	0.0497	0.0432	J	ug/L		87	50 - 150
Hexachlorocyclopentadiene	0.0497	0.0449	J	ug/L		90	50 - 150
Indeno[1,2,3-cd]pyrene	0.0497	0.0747		ug/L		150	50 - 150
Isophorone	0.0995	0.100	J	ug/L		101	50 - 150
Lindane	0.0398	0.0396	J	ug/L		100	50 - 150
Malathion	0.0995	0.117		ug/L		118	50 - 150
Methoxychlor	0.0995	0.145		ug/L		146	50 - 150
Metolachlor	0.0497	0.0553		ug/L		111	50 - 150
Metribuzin	0.0497	0.0661		ug/L		133	50 - 150
Molinate	0.0995	0.0914	J	ug/L		92	50 - 150
Naphthalene	0.0995	0.0997	J	ug/L		100	50 - 150
Parathion	0.0995	0.120		ug/L		120	50 - 150
Pendimethalin (Penoxaline)	0.0995	0.111		ug/L		111	50 - 150
Phenanthrene	0.0199	0.0221	J	ug/L		111	50 - 150
Propachlor	0.0497	0.0476	J	ug/L		96	50 - 150
Pyrene	0.0497	0.0548		ug/L		110	50 - 150
Simazine	0.0497	0.0570		ug/L		115	50 - 150
Terbacil	0.0995	0.143		ug/L		144	50 - 150
Terbuthylazine	0.0995	0.108		ug/L		109	50 - 150

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

Lab Sample ID: MRL 380-34654/2-A
Matrix: Water
Analysis Batch: 34861

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34654

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Thiobencarb			0.0995	0.102	J	ug/L		103	50 - 150		
trans-Nonachlor			0.0249	0.0277	J	ug/L		112	50 - 150		
Trifluralin			0.0995	0.0953	J	ug/L		96	50 - 150		

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
2-Nitro-m-xylene	*93*		*70 - 130*
Triphenylphosphate	*110*		*70 - 130*
Perylene-d12	*91*		*70 - 130*

Lab Sample ID: 380-41173-AN-1-A MS
Matrix: Water
Analysis Batch: 34861

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 34654

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
2,4'-DDD	ND		1.98	1.74		ug/L		88	70 - 130		
2,4'-DDE	ND		1.98	1.87		ug/L		94	70 - 130		
2,4'-DDT	ND		1.98	1.81		ug/L		92	70 - 130		
2,4-Dinitrotoluene	ND		1.98	1.79		ug/L		91	70 - 130		
2,6-Dinitrotoluene	ND		1.98	1.78		ug/L		90	70 - 130		
4,4'-DDD	ND		1.98	1.80		ug/L		91	70 - 130		
4,4'-DDE	ND		1.98	2.12		ug/L		107	70 - 130		
4,4'-DDT	ND		1.98	1.79		ug/L		91	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	2.02		ug/L		102	70 - 130		
Alachlor	ND		1.98	2.05		ug/L		104	70 - 130		
alpha-BHC	ND		1.98	2.02		ug/L		102	70 - 130		
alpha-Chlordane	ND		1.98	2.42		ug/L		122	70 - 130		
Anthracene	ND		1.98	1.74		ug/L		88	70 - 130		
Atrazine	ND		1.98	2.14		ug/L		109	70 - 130		
Benz(a)anthracene	ND		1.98	1.83		ug/L		92	70 - 130		
Benzo[a]pyrene	ND		1.98	2.14		ug/L		108	70 - 130		
Benzo[b]fluoranthene	ND	^3+	1.98	1.90		ug/L		96	70 - 130		
Benzo[g,h,i]perylene	ND		1.98	2.23		ug/L		113	70 - 130		
Benzo[k]fluoranthene	ND		1.98	1.88		ug/L		95	70 - 130		
beta-BHC	ND		1.98	2.02		ug/L		102	70 - 130		
Bromacil	ND		1.98	2.16		ug/L		109	70 - 130		
Butachlor	ND	^3+	1.98	2.11		ug/L		107	70 - 130		
Butylbenzylphthalate	ND		1.98	2.40		ug/L		121	70 - 130		
Caffeine	ND		1.98	1.81		ug/L		92	46 - 144		
Chlorobenzilate	ND		1.98	1.99		ug/L		101	70 - 130		
Chloroneb	ND		1.98	2.06		ug/L		104	70 - 130		
Chlorothalonil (Draconil, Bravo)	ND		1.98	2.24		ug/L		113	70 - 130		
Chlorpyrifos	ND		1.98	2.18		ug/L		111	70 - 130		
Chrysene	ND		1.98	2.02		ug/L		102	70 - 130		
delta-BHC	ND		1.98	2.03		ug/L		103	70 - 130		
Di(2-ethylhexyl)adipate	ND		1.98	2.38		ug/L		121	70 - 130		
Bis(2-ethylhexyl) phthalate	ND		1.98	2.17		ug/L		110	70 - 130		

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

Lab Sample ID: 380-41173-AN-1-A MS
Matrix: Water
Analysis Batch: 34861

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 34654

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Diazinon (Qualitative)	ND		1.98	1.92		ug/L		97	15 - 132
Dibenz(a,h)anthracene	ND	^3+	1.98	2.13		ug/L		108	70 - 130
Diclorvos (DDVP)	ND		1.98	1.87		ug/L		94	70 - 130
Dieldrin	ND		1.98	1.95		ug/L		99	70 - 130
Diethylphthalate	ND		1.98	2.11		ug/L		107	70 - 130
Dimethoate	ND		1.98	1.52		ug/L		77	34 - 111
Dimethylphthalate	ND		1.98	2.00		ug/L		101	70 - 130
Di-n-butyl phthalate	ND		3.95	4.22		ug/L		107	70 - 130
Di-n-octyl phthalate	ND		1.98	2.14		ug/L		109	70 - 130
Endosulfan I (Alpha)	ND		1.98	2.08		ug/L		105	70 - 130
Endosulfan II (Beta)	ND		1.98	2.22		ug/L		112	70 - 130
Endosulfan sulfate	ND		1.98	2.06		ug/L		104	70 - 130
Endrin	ND		1.98	1.94		ug/L		98	70 - 130
Endrin aldehyde	ND	^3+	1.98	1.71		ug/L		87	70 - 130
EPTC	ND		1.98	2.01		ug/L		102	70 - 130
Fluoranthene	ND		1.98	2.16		ug/L		109	70 - 130
Fluorene	ND		1.98	2.07		ug/L		105	70 - 130
gamma-Chlordane	ND		1.98	2.40		ug/L		121	70 - 130
Heptachlor	ND		1.98	2.01		ug/L		102	70 - 130
Heptachlor epoxide (isomer B)	ND	F1	1.98	2.58	F1	ug/L		131	70 - 130
Hexachlorobenzene	ND		1.98	2.10		ug/L		106	70 - 130
Hexachlorocyclopentadiene	ND		1.98	1.85		ug/L		94	70 - 130
Indeno[1,2,3-cd]pyrene	ND		1.98	2.17		ug/L		110	70 - 130
Isophorone	ND		1.98	1.88		ug/L		95	70 - 130
Lindane	ND		1.98	2.05		ug/L		104	70 - 130
Malathion	ND		1.98	2.19		ug/L		111	70 - 130
Methoxychlor	ND		1.98	2.18		ug/L		110	70 - 130
Metolachlor	ND		1.98	2.20		ug/L		112	70 - 130
Metribuzin	ND		1.98	1.64		ug/L		83	70 - 130
Molinate	ND		1.98	2.10		ug/L		106	70 - 130
Naphthalene	ND		1.98	1.72		ug/L		87	70 - 130
Parathion	ND		1.98	2.05		ug/L		104	70 - 130
Pendimethalin (Penoxaline)	ND		1.98	1.96		ug/L		99	70 - 130
Phenanthrene	ND		1.98	1.89		ug/L		95	70 - 130
Propachlor	ND		1.98	2.05		ug/L		104	70 - 130
Pyrene	ND		1.98	2.10		ug/L		106	70 - 130
Simazine	ND		1.98	1.93		ug/L		98	70 - 130
Terbacil	ND		1.98	2.36		ug/L		120	70 - 130
Terbuthylazine	ND		1.98	1.95		ug/L		99	70 - 130
Thiobencarb	ND		1.98	2.01		ug/L		102	70 - 130
trans-Nonachlor	ND		1.98	1.91		ug/L		97	70 - 130
Trifluralin	ND		1.98	2.03		ug/L		103	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Nitro-m-xylene	*92*		*70 - 130*
Triphenylphosphate	*115*		*70 - 130*
Perylene-d12	*103*		*70 - 130*

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

Lab Sample ID: 380-41185-AP-1-A DU
Matrix: Water
Analysis Batch: 34861

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 34654

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	^3+		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			ND		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: 380-41185-AP-1-A DU
Matrix: Water
Analysis Batch: 34861

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 34654

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	0.088			0.0934		ug/L				6	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	*93*		*70 - 130*
Triphenylphosphate	*120*		*70 - 130*
Perylene-d12	*95*		*70 - 130*

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

Lab Sample ID: MBL 380-35468/21-A
Matrix: Water
Analysis Batch: 35557

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35468

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		04/02/23 13:24	04/04/23 08:47	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 08:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 08:47	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 08:47	1

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

Lab Sample ID: MBL 380-35468/21-A
Matrix: Water
Analysis Batch: 35557

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35468

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 08:47	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 08:47	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 08:47	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 08:47	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 08:47	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 08:47	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 08:47	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 08:47	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 08:47	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 08:47	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 08:47	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 08:47	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 08:47	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 08:47	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 08:47	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 08:47	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 08:47	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 08:47	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 08:47	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 08:47	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		04/02/23 13:24	04/04/23 08:47	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*87*		*50 - 200*	*04/02/23 13:24*	*04/04/23 08:47*	*1*
13C6 PFDA	*102*		*50 - 200*	*04/02/23 13:24*	*04/04/23 08:47*	*1*
13C5 PFHxA	*93*		*50 - 200*	*04/02/23 13:24*	*04/04/23 08:47*	*1*
13C4 PFHpA	*94*		*50 - 200*	*04/02/23 13:24*	*04/04/23 08:47*	*1*
13C8 PFOA	*96*		*50 - 200*	*04/02/23 13:24*	*04/04/23 08:47*	*1*
13C9 PFNA	*97*		*50 - 200*	*04/02/23 13:24*	*04/04/23 08:47*	*1*
13C7 PFUnA	*95*		*50 - 200*	*04/02/23 13:24*	*04/04/23 08:47*	*1*
13C2 PFDoA	*105*		*50 - 200*	*04/02/23 13:24*	*04/04/23 08:47*	*1*
13C4 PFBA	*94*		*50 - 200*	*04/02/23 13:24*	*04/04/23 08:47*	*1*
13C5 PFPeA	*95*		*50 - 200*	*04/02/23 13:24*	*04/04/23 08:47*	*1*
13C3 PFBS	*90*		*50 - 200*	*04/02/23 13:24*	*04/04/23 08:47*	*1*
13C3 PFHxS	*93*		*50 - 200*	*04/02/23 13:24*	*04/04/23 08:47*	*1*
13C8 PFOS	*91*		*50 - 200*	*04/02/23 13:24*	*04/04/23 08:47*	*1*
13C2-4:2-FTS	*114*		*50 - 200*	*04/02/23 13:24*	*04/04/23 08:47*	*1*
13C2-6:2-FTS	*108*		*50 - 200*	*04/02/23 13:24*	*04/04/23 08:47*	*1*
13C2-8:2-FTS	*131*		*50 - 200*	*04/02/23 13:24*	*04/04/23 08:47*	*1*

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

Lab Sample ID: LCS 380-35468/23-A
Matrix: Water
Analysis Batch: 35557

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35468

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.1	56.5		ng/L		94	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.1	53.2		ng/L		89	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.1	55.9		ng/L		93	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.1	57.6		ng/L		96	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.1	55.1		ng/L		92	70 - 130
Perfluorodecanoic acid (PFDA)	60.1	52.7		ng/L		88	70 - 130
Perfluorododecanoic acid (PFDoA)	60.1	56.6		ng/L		94	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.1	57.0		ng/L		95	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.1	55.3		ng/L		92	70 - 130
Perfluorohexanoic acid (PFHxA)	60.1	57.5		ng/L		96	70 - 130
Perfluorononanoic acid (PFNA)	60.1	55.3		ng/L		92	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.1	54.2		ng/L		90	70 - 130
Perfluorooctanoic acid (PFOA)	60.1	55.8		ng/L		93	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.1	56.8		ng/L		95	70 - 130
Perfluorobutanoic acid (PFBA)	60.1	56.4		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.1	60.4		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.1	57.8		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.1	55.5		ng/L		92	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.1	53.5		ng/L		89	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	60.1	56.7		ng/L		94	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.1	55.3		ng/L		92	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.1	55.7		ng/L		93	70 - 130
Perfluoropentanoic acid (PFPeA)	60.1	56.8		ng/L		95	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.1	55.6		ng/L		93	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	60.1	53.6		ng/L		89	70 - 130

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*84*		*50 - 200*
13C6 PFDA	*99*		*50 - 200*
13C5 PFHxA	*87*		*50 - 200*
13C4 PFHpA	*87*		*50 - 200*
13C8 PFOA	*94*		*50 - 200*
13C9 PFNA	*94*		*50 - 200*

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

Lab Sample ID: LCS 380-35468/23-A
Matrix: Water
Analysis Batch: 35557

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35468

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C7 PFUnA	96		50 - 200
13C2 PFDoA	99		50 - 200
13C4 PFBA	85		50 - 200
13C5 PFPeA	88		50 - 200
13C3 PFBS	85		50 - 200
13C3 PFHxS	89		50 - 200
13C8 PFOS	91		50 - 200
13C2-4:2-FTS	99		50 - 200
13C2-6:2-FTS	98		50 - 200
13C2-8:2-FTS	101		50 - 200

Lab Sample ID: LCSD 380-35468/24-A
Matrix: Water
Analysis Batch: 35557

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 35468

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			60.0	54.9		ng/L		91	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			60.0	53.2		ng/L		89	70 - 130	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			60.0	55.9		ng/L		93	70 - 130	0	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			60.0	57.4		ng/L		96	70 - 130	0	30
Perfluorobutanesulfonic acid (PFBS)			60.0	54.9		ng/L		91	70 - 130	0	30
Perfluorodecanoic acid (PFDA)			60.0	52.6		ng/L		88	70 - 130	0	30
Perfluorododecanoic acid (PFDoA)			60.0	55.6		ng/L		93	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)			60.0	56.0		ng/L		93	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)			60.0	57.4		ng/L		96	70 - 130	4	30
Perfluorohexanoic acid (PFHxA)			60.0	56.5		ng/L		94	70 - 130	2	30
Perfluorononanoic acid (PFNA)			60.0	55.7		ng/L		93	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)			60.0	55.1		ng/L		92	70 - 130	2	30
Perfluorooctanoic acid (PFOA)			60.0	55.9		ng/L		93	70 - 130	0	30
Perfluoroundecanoic acid (PFUnA)			60.0	59.1		ng/L		98	70 - 130	4	30
Perfluorobutanoic acid (PFBA)			60.0	56.7		ng/L		94	70 - 130	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)			60.0	56.6		ng/L		94	70 - 130	6	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			60.0	57.7		ng/L		96	70 - 130	0	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			60.0	56.9		ng/L		95	70 - 130	2	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			60.0	52.9		ng/L		88	70 - 130	1	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			60.0	55.7		ng/L		93	70 - 130	2	30

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

Lab Sample ID: LCSD 380-35468/24-A
Matrix: Water
Analysis Batch: 35557

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 35468

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoro-3-methoxypropanoic acid (PFMPA)			60.0	55.4		ng/L		92	70 - 130	0	30
Perfluoro-4-methoxybutanoic acid (PFMBA)			60.0	54.6		ng/L		91	70 - 130	2	30
Perfluoropentanoic acid (PFPeA)			60.0	58.6		ng/L		98	70 - 130	3	30
Perfluoroheptanesulfonic acid (PFHpS)			60.0	56.6		ng/L		94	70 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)			60.0	56.7		ng/L		94	70 - 130	6	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*87*		*50 - 200*
13C6 PFDA	*97*		*50 - 200*
13C5 PFHxA	*89*		*50 - 200*
13C4 PFHpA	*89*		*50 - 200*
13C8 PFOA	*93*		*50 - 200*
13C9 PFNA	*95*		*50 - 200*
13C7 PFUnA	*91*		*50 - 200*
13C2 PFDoA	*99*		*50 - 200*
13C4 PFBA	*89*		*50 - 200*
13C5 PFPeA	*90*		*50 - 200*
13C3 PFBS	*88*		*50 - 200*
13C3 PFHxS	*88*		*50 - 200*
13C8 PFOS	*92*		*50 - 200*
13C2-4:2-FTS	*100*		*50 - 200*
13C2-6:2-FTS	*100*		*50 - 200*
13C2-8:2-FTS	*105*		*50 - 200*

Lab Sample ID: LLCS 380-35468/22-A
Matrix: Water
Analysis Batch: 35557

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35468

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.00	2.09		ng/L		104	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			2.00	2.07		ng/L		103	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.00	2.16		ng/L		108	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			2.00	2.05		ng/L		102	50 - 150
Perfluorobutanesulfonic acid (PFBS)			2.00	2.16		ng/L		108	50 - 150
Perfluorodecanoic acid (PFDA)			2.00	2.10		ng/L		105	50 - 150
Perfluorododecanoic acid (PFDoA)			2.00	2.11		ng/L		105	50 - 150
Perfluoroheptanoic acid (PFHpA)			2.00	2.44		ng/L		122	50 - 150
Perfluorohexanesulfonic acid (PFHxS)			2.00	2.05		ng/L		102	50 - 150
Perfluorohexanoic acid (PFHxA)			2.00	2.40		ng/L		120	50 - 150

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

Lab Sample ID: LLCS 380-35468/22-A
Matrix: Water
Analysis Batch: 35557

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35468

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanoic acid (PFNA)	2.00	2.15		ng/L		107	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.13		ng/L		106	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.43		ng/L		121	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.16		ng/L		108	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.23		ng/L		111	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.16		ng/L		108	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.40		ng/L		120	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.28		ng/L		114	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.08		ng/L		104	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.00	2.06		ng/L		103	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.24		ng/L		112	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	2.00		ng/L		100	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.29		ng/L		114	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.18		ng/L		109	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	1.98	J	ng/L		99	50 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C3 HFPO-DA	*83*		*50 - 200*
13C6 PFDA	*95*		*50 - 200*
13C5 PFHxA	*87*		*50 - 200*
13C4 PFHpA	*88*		*50 - 200*
13C8 PFOA	*91*		*50 - 200*
13C9 PFNA	*92*		*50 - 200*
13C7 PFUnA	*92*		*50 - 200*
13C2 PFDoA	*97*		*50 - 200*
13C4 PFBA	*91*		*50 - 200*
13C5 PFPeA	*98*		*50 - 200*
13C3 PFBS	*89*		*50 - 200*
13C3 PFHxS	*92*		*50 - 200*
13C8 PFOS	*89*		*50 - 200*
13C2-4:2-FTS	*102*		*50 - 200*
13C2-6:2-FTS	*102*		*50 - 200*
13C2-8:2-FTS	*115*		*50 - 200*

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

Lab Sample ID: 380-40835-E-1-A MS
Matrix: Water
Analysis Batch: 35557

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 35468

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		60.2	52.5		ng/L		87	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		60.2	54.2		ng/L		90	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		60.2	55.0		ng/L		91	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		60.2	58.3		ng/L		97	70 - 130
Perfluorobutanesulfonic acid (PFBS)	ND		60.2	58.4		ng/L		97	70 - 130
Perfluorodecanoic acid (PFDA)	ND		60.2	57.4		ng/L		95	70 - 130
Perfluorododecanoic acid (PFDoA)	ND		60.2	57.7		ng/L		96	70 - 130
Perfluoroheptanoic acid (PFHpA)	ND		60.2	56.6		ng/L		94	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	ND		60.2	56.4		ng/L		94	70 - 130
Perfluorohexanoic acid (PFHxA)	ND		60.2	55.8		ng/L		93	70 - 130
Perfluorononanoic acid (PFNA)	ND		60.2	57.3		ng/L		95	70 - 130
Perfluorooctanesulfonic acid (PFOS)	ND		60.2	56.7		ng/L		94	70 - 130
Perfluorooctanoic acid (PFOA)	ND		60.2	55.3		ng/L		91	70 - 130
Perfluoroundecanoic acid (PFUnA)	ND		60.2	58.7		ng/L		97	70 - 130
Perfluorobutanoic acid (PFBA)	ND		60.2	55.7		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		60.2	57.9		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		60.2	58.0		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		60.2	57.2		ng/L		95	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		60.2	53.0		ng/L		88	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		60.2	57.3		ng/L		95	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		60.2	57.3		ng/L		95	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		60.2	54.7		ng/L		91	70 - 130
Perfluoropentanoic acid (PFPeA)	ND		60.2	57.7		ng/L		96	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	ND		60.2	58.3		ng/L		97	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	ND		60.2	56.7		ng/L		94	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C3 HFPO-DA	*72*		*50 - 200*
13C6 PFDA	*81*		*50 - 200*
13C5 PFHxA	*78*		*50 - 200*
13C4 PFHpA	*78*		*50 - 200*
13C8 PFOA	*81*		*50 - 200*
13C9 PFNA	*82*		*50 - 200*

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

Lab Sample ID: 380-40835-E-1-A MS
Matrix: Water
Analysis Batch: 35557

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 35468

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C7 PFUnA	80		50 - 200
13C2 PFDoA	83		50 - 200
13C4 PFBA	78		50 - 200
13C5 PFPeA	83		50 - 200
13C3 PFBS	82		50 - 200
13C3 PFHxS	83		50 - 200
13C8 PFOS	82		50 - 200
13C2-4:2-FTS	118		50 - 200
13C2-6:2-FTS	102		50 - 200
13C2-8:2-FTS	104		50 - 200

Lab Sample ID: 380-40835-F-1-A MSD
Matrix: Water
Analysis Batch: 35557

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 35468

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		60.2	53.2		ng/L		88	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		60.2	54.2		ng/L		90	70 - 130	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		60.2	56.4		ng/L		94	70 - 130	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		60.2	56.9		ng/L		94	70 - 130	3	30
Perfluorobutanesulfonic acid (PFBS)	ND		60.2	57.1		ng/L		95	70 - 130	2	30
Perfluorodecanoic acid (PFDA)	ND		60.2	57.0		ng/L		95	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	ND		60.2	59.5		ng/L		99	70 - 130	3	30
Perfluoroheptanoic acid (PFHpA)	ND		60.2	57.3		ng/L		95	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	ND		60.2	56.3		ng/L		94	70 - 130	0	30
Perfluorohexanoic acid (PFHxA)	ND		60.2	58.5		ng/L		97	70 - 130	5	30
Perfluorononanoic acid (PFNA)	ND		60.2	59.2		ng/L		98	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	ND		60.2	57.6		ng/L		96	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	ND		60.2	55.2		ng/L		91	70 - 130	0	30
Perfluoroundecanoic acid (PFUnA)	ND		60.2	61.1		ng/L		101	70 - 130	4	30
Perfluorobutanoic acid (PFBA)	ND		60.2	56.9		ng/L		94	70 - 130	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		60.2	58.5		ng/L		97	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		60.2	60.7		ng/L		101	70 - 130	4	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		60.2	57.8		ng/L		96	70 - 130	1	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		60.2	54.2		ng/L		90	70 - 130	2	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		60.2	58.0		ng/L		96	70 - 130	1	30

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

Lab Sample ID: 380-40835-F-1-A MSD
Matrix: Water
Analysis Batch: 35557

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 35468

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		60.2	58.6		ng/L		97	70 - 130	2	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		60.2	56.9		ng/L		95	70 - 130	4	30
Perfluoropentanoic acid (PFPeA)	ND		60.2	56.1		ng/L		93	70 - 130	3	30
Perfluoroheptanesulfonic acid (PFHpS)	ND		60.2	59.1		ng/L		98	70 - 130	1	30
Perfluoropentanesulfonic acid (PFPeS)	ND		60.2	55.4		ng/L		92	70 - 130	2	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C3 HFPO-DA	*77*		*50 - 200*
13C6 PFDA	*81*		*50 - 200*
13C5 PFHxA	*81*		*50 - 200*
13C4 PFHpA	*81*		*50 - 200*
13C8 PFOA	*87*		*50 - 200*
13C9 PFNA	*83*		*50 - 200*
13C7 PFUnA	*77*		*50 - 200*
13C2 PFDoA	*83*		*50 - 200*
13C4 PFBA	*83*		*50 - 200*
13C5 PFPeA	*90*		*50 - 200*
13C3 PFBS	*86*		*50 - 200*
13C3 PFHxS	*87*		*50 - 200*
13C8 PFOS	*83*		*50 - 200*
13C2-4:2-FTS	*126*		*50 - 200*
13C2-6:2-FTS	*108*		*50 - 200*
13C2-8:2-FTS	*106*		*50 - 200*

Lab Sample ID: MBL 380-35797/21-A
Matrix: Water
Analysis Batch: 35877

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35797

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		04/05/23 13:59	04/06/23 17:19	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:19	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:19	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:19	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:19	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:19	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:19	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:19	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:19	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:19	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:19	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:19	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:19	1

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

Lab Sample ID: MBL 380-35797/21-A
Matrix: Water
Analysis Batch: 35877

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 35797

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:19	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:19	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:19	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:19	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:19	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:19	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:19	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:19	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:19	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:19	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		04/05/23 13:59	04/06/23 17:19	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*74*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:19*	*1*
13C6 PFDA	*82*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:19*	*1*
13C5 PFHxA	*81*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:19*	*1*
13C4 PFHpA	*81*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:19*	*1*
13C8 PFOA	*78*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:19*	*1*
13C9 PFNA	*77*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:19*	*1*
13C7 PFUnA	*71*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:19*	*1*
13C2 PFDoA	*77*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:19*	*1*
13C4 PFBA	*80*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:19*	*1*
13C5 PFPeA	*84*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:19*	*1*
13C3 PFBS	*82*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:19*	*1*
13C3 PFHxS	*81*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:19*	*1*
13C8 PFOS	*81*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:19*	*1*
13C2-4:2-FTS	*90*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:19*	*1*
13C2-6:2-FTS	*84*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:19*	*1*
13C2-8:2-FTS	*129*		*50 - 200*	*04/05/23 13:59*	*04/06/23 17:19*	*1*

Lab Sample ID: LCS 380-35797/23-A
Matrix: Water
Analysis Batch: 35877

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35797

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.1	61.4		ng/L		102	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.1	58.0		ng/L		96	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.1	54.8		ng/L		91	70 - 130

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

Lab Sample ID: LCS 380-35797/23-A
Matrix: Water
Analysis Batch: 35877

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35797

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.1	61.6		ng/L		103	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.1	57.4		ng/L		96	70 - 130
Perfluorodecanoic acid (PFDA)	60.1	57.1		ng/L		95	70 - 130
Perfluorododecanoic acid (PFDoA)	60.1	57.2		ng/L		95	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.1	57.6		ng/L		96	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.1	57.8		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	60.1	56.5		ng/L		94	70 - 130
Perfluorononanoic acid (PFNA)	60.1	58.8		ng/L		98	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.1	57.8		ng/L		96	70 - 130
Perfluorooctanoic acid (PFOA)	60.1	56.7		ng/L		94	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.1	58.8		ng/L		98	70 - 130
Perfluorobutanoic acid (PFBA)	60.1	58.4		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.1	59.1		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.1	57.1		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.1	57.0		ng/L		95	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.1	56.7		ng/L		94	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	60.1	60.6		ng/L		101	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.1	59.8		ng/L		99	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.1	56.0		ng/L		93	70 - 130
Perfluoropentanoic acid (PFPeA)	60.1	56.8		ng/L		94	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.1	58.4		ng/L		97	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	60.1	59.9		ng/L		100	70 - 130

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*86*		*50 - 200*
13C6 PFDA	*83*		*50 - 200*
13C5 PFHxA	*91*		*50 - 200*
13C4 PFHpA	*92*		*50 - 200*
13C8 PFOA	*88*		*50 - 200*
13C9 PFNA	*88*		*50 - 200*
13C7 PFUnA	*83*		*50 - 200*
13C2 PFDoA	*85*		*50 - 200*
13C4 PFBA	*89*		*50 - 200*
13C5 PFPeA	*91*		*50 - 200*
13C3 PFBS	*91*		*50 - 200*
13C3 PFHxS	*89*		*50 - 200*
13C8 PFOS	*89*		*50 - 200*

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

Lab Sample ID: LCS 380-35797/23-A
Matrix: Water
Analysis Batch: 35877

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35797

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C2-4:2-FTS	102		50 - 200
13C2-6:2-FTS	92		50 - 200
13C2-8:2-FTS	85		50 - 200

Lab Sample ID: LCSD 380-35797/24-A
Matrix: Water
Analysis Batch: 35877

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 35797

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			60.0	63.2		ng/L		105	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			60.0	57.9		ng/L		97	70 - 130	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			60.0	54.7		ng/L		91	70 - 130	0	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			60.0	58.1		ng/L		97	70 - 130	6	30
Perfluorobutanesulfonic acid (PFBS)			60.0	56.3		ng/L		94	70 - 130	2	30
Perfluorodecanoic acid (PFDA)			60.0	57.7		ng/L		96	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)			60.0	56.1		ng/L		94	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)			60.0	56.5		ng/L		94	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)			60.0	56.7		ng/L		94	70 - 130	2	30
Perfluorohexanoic acid (PFHxA)			60.0	54.9		ng/L		92	70 - 130	3	30
Perfluorononanoic acid (PFNA)			60.0	58.5		ng/L		97	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)			60.0	57.7		ng/L		96	70 - 130	0	30
Perfluorooctanoic acid (PFOA)			60.0	57.2		ng/L		95	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)			60.0	60.6		ng/L		101	70 - 130	3	30
Perfluorobutanoic acid (PFBA)			60.0	57.4		ng/L		96	70 - 130	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)			60.0	56.9		ng/L		95	70 - 130	4	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			60.0	57.4		ng/L		96	70 - 130	1	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			60.0	55.5		ng/L		93	70 - 130	3	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			60.0	52.1		ng/L		87	70 - 130	8	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			60.0	57.4		ng/L		96	70 - 130	5	30
Perfluoro-3-methoxypropanoic acid (PFMPA)			60.0	54.0		ng/L		90	70 - 130	10	30
Perfluoro-4-methoxybutanoic acid (PFMBA)			60.0	55.0		ng/L		92	70 - 130	2	30
Perfluoropentanoic acid (PFPeA)			60.0	57.5		ng/L		96	70 - 130	1	30
Perfluoroheptanesulfonic acid (PFHpS)			60.0	57.7		ng/L		96	70 - 130	1	30
Perfluoropentanesulfonic acid (PFPeS)			60.0	57.1		ng/L		95	70 - 130	5	30

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

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C3 HFPO-DA	89		50 - 200
13C6 PFDA	86		50 - 200
13C5 PFHxA	94		50 - 200
13C4 PFHpA	94		50 - 200
13C8 PFOA	89		50 - 200
13C9 PFNA	89		50 - 200
13C7 PFUnA	84		50 - 200
13C2 PFDoA	93		50 - 200
13C4 PFBA	91		50 - 200
13C5 PFPeA	92		50 - 200
13C3 PFBS	93		50 - 200
13C3 PFHxS	91		50 - 200
13C8 PFOS	92		50 - 200
13C2-4:2-FTS	102		50 - 200
13C2-6:2-FTS	98		50 - 200
13C2-8:2-FTS	90		50 - 200

Lab Sample ID: MRL 380-35797/22-A
Matrix: Water
Analysis Batch: 35877

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35797

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.41		ng/L		120	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.31		ng/L		115	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.30		ng/L		115	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.69		ng/L		134	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.32		ng/L		116	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.63		ng/L		131	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.39		ng/L		119	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.55		ng/L		127	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.18		ng/L		109	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.25		ng/L		112	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.54		ng/L		127	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.44		ng/L		122	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.64		ng/L		132	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.56		ng/L		128	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.54		ng/L		127	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.47		ng/L		123	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.48		ng/L		124	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.61		ng/L		130	50 - 150

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

Lab Sample ID: MRL 380-35797/22-A
Matrix: Water
Analysis Batch: 35877

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 35797

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.13		ng/L		106	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.00	2.44		ng/L		122	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.41		ng/L		120	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	2.43		ng/L		121	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.65		ng/L		132	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.38		ng/L		119	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	2.27		ng/L		113	50 - 150

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*71*		*50 - 200*
13C6 PFDA	*75*		*50 - 200*
13C5 PFHxA	*82*		*50 - 200*
13C4 PFHpA	*81*		*50 - 200*
13C8 PFOA	*80*		*50 - 200*
13C9 PFNA	*77*		*50 - 200*
13C7 PFUnA	*76*		*50 - 200*
13C2 PFDoA	*80*		*50 - 200*
13C4 PFBA	*79*		*50 - 200*
13C5 PFPeA	*79*		*50 - 200*
13C3 PFBS	*88*		*50 - 200*
13C3 PFHxS	*88*		*50 - 200*
13C8 PFOS	*85*		*50 - 200*
13C2-4:2-FTS	*94*		*50 - 200*
13C2-6:2-FTS	*89*		*50 - 200*
13C2-8:2-FTS	*86*		*50 - 200*

Lab Sample ID: 380-41200-1 LMS
Matrix: Drinking Water
Analysis Batch: 35877

Client Sample ID: MOANALUA WELLS (331-223-TP202)
Prep Type: Total/NA
Prep Batch: 35797

Analyte	Sample Result	Sample Qualifier	Spike Added	LMS Result	LMS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.01	2.31		ng/L		115	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.01	2.23		ng/L		111	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.01	2.04		ng/L		102	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.01	2.52		ng/L		125	50 - 150
Perfluorobutanesulfonic acid (PFBS)	ND		2.01	2.32		ng/L		116	50 - 150
Perfluorodecanoic acid (PFDA)	ND		2.01	2.38		ng/L		119	50 - 150
Perfluorododecanoic acid (PFDoA)	ND		2.01	2.16		ng/L		107	50 - 150

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

Lab Sample ID: 380-41200-1 LMS
Matrix: Drinking Water
Analysis Batch: 35877

Client Sample ID: MOANALUA WELLS (331-223-TP202)
Prep Type: Total/NA
Prep Batch: 35797

Analyte	Sample Result	Sample Qualifier	Spike Added	LMS Result	LMS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	ND		2.01	2.64		ng/L		132	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	ND		2.01	2.45		ng/L		122	50 - 150
Perfluorohexanoic acid (PFHxA)	ND		2.01	2.72		ng/L		135	50 - 150
Perfluorononanoic acid (PFNA)	ND		2.01	2.54		ng/L		126	50 - 150
Perfluorooctanesulfonic acid (PFOS)	ND		2.01	2.56		ng/L		128	50 - 150
Perfluorooctanoic acid (PFOA)	ND		2.01	2.73		ng/L		136	50 - 150
Perfluoroundecanoic acid (PFUnA)	ND		2.01	2.39		ng/L		119	50 - 150
Perfluorobutanoic acid (PFBA)	ND		2.01	2.55		ng/L		127	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.01	2.47		ng/L		123	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.01	2.38		ng/L		119	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.01	2.10		ng/L		105	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.01	2.00		ng/L		100	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.01	2.31		ng/L		115	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.01	2.26		ng/L		113	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.01	2.10		ng/L		105	50 - 150
Perfluoropentanoic acid (PFPeA)	ND		2.01	2.66		ng/L		112	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.01	2.32		ng/L		115	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	ND		2.01	2.31		ng/L		115	50 - 150

Isotope Dilution	*LMS %Recovery*	*LMS Qualifier*	*Limits*
13C3 HFPO-DA	*59*		*50 - 200*
13C6 PFDA	*68*		*50 - 200*
13C5 PFHxA	*66*		*50 - 200*
13C4 PFHpA	*69*		*50 - 200*
13C8 PFOA	*68*		*50 - 200*
13C9 PFNA	*67*		*50 - 200*
13C7 PFUnA	*67*		*50 - 200*
13C2 PFDoA	*74*		*50 - 200*
13C4 PFBA	*69*		*50 - 200*
13C5 PFPeA	*70*		*50 - 200*
13C3 PFBS	*93*		*50 - 200*
13C3 PFHxS	*91*		*50 - 200*
13C8 PFOS	*88*		*50 - 200*
13C2-4:2-FTS	*110*		*50 - 200*
13C2-6:2-FTS	*100*		*50 - 200*
13C2-8:2-FTS	*89*		*50 - 200*

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

Lab Sample ID: 380-41200-1 LMSD
Matrix: Drinking Water
Analysis Batch: 35877

Client Sample ID: MOANALUA WELLS (331-223-TP202)
Prep Type: Total/NA
Prep Batch: 35797

Analyte	Sample Result	Sample Qualifier	Spike Added	LMSD Result	LMSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.01	2.38		ng/L		119	50 - 150	3	50
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.01	2.18		ng/L		108	50 - 150	3	50
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.01	2.10		ng/L		104	50 - 150	3	50
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.01	2.34		ng/L		117	50 - 150	7	50
Perfluorobutanesulfonic acid (PFBS)	ND		2.01	2.44		ng/L		122	50 - 150	5	50
Perfluorodecanoic acid (PFDA)	ND		2.01	2.32		ng/L		116	50 - 150	2	50
Perfluorododecanoic acid (PFDoA)	ND		2.01	2.19		ng/L		109	50 - 150	2	50
Perfluoroheptanoic acid (PFHpA)	ND		2.01	2.49		ng/L		124	50 - 150	6	50
Perfluorohexanesulfonic acid (PFHxS)	ND		2.01	2.52		ng/L		125	50 - 150	3	50
Perfluorohexanoic acid (PFHxA)	ND		2.01	2.42		ng/L		120	50 - 150	12	50
Perfluorononanoic acid (PFNA)	ND		2.01	2.41		ng/L		120	50 - 150	5	50
Perfluorooctanesulfonic acid (PFOS)	ND		2.01	2.44		ng/L		122	50 - 150	5	50
Perfluorooctanoic acid (PFOA)	ND		2.01	2.64		ng/L		132	50 - 150	3	50
Perfluoroundecanoic acid (PFUnA)	ND		2.01	2.46		ng/L		122	50 - 150	3	50
Perfluorobutanoic acid (PFBA)	ND		2.01	2.49		ng/L		124	50 - 150	2	50
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.01	2.43		ng/L		121	50 - 150	2	50
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.01	2.47		ng/L		123	50 - 150	4	50
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.01	2.45		ng/L		122	50 - 150	15	50
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.01	1.95	J	ng/L		97	50 - 150	3	50
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.01	2.36		ng/L		117	50 - 150	2	50
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.01	2.19		ng/L		109	50 - 150	3	50
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.01	2.10		ng/L		105	50 - 150	0	50
Perfluoropentanoic acid (PFPeA)	ND		2.01	2.70		ng/L		114	50 - 150	2	50
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.01	2.22		ng/L		110	50 - 150	4	50
Perfluoropentanesulfonic acid (PFPeS)	ND		2.01	2.31		ng/L		115	50 - 150	0	50

Isotope Dilution	*LMSD %Recovery*	*LMSD Qualifier*	*Limits*
13C3 HFPO-DA	*59*		*50 - 200*
13C6 PFDA	*68*		*50 - 200*
13C5 PFHxA	*64*		*50 - 200*
13C4 PFHpA	*63*		*50 - 200*
13C8 PFOA	*65*		*50 - 200*
13C9 PFNA	*67*		*50 - 200*

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

Lab Sample ID: 380-41200-1 LMSD
Matrix: Drinking Water
Analysis Batch: 35877

Client Sample ID: MOANALUA WELLS (331-223-TP202)
Prep Type: Total/NA
Prep Batch: 35797

Isotope Dilution	LMSD %Recovery	LMSD Qualifier	Limits
13C7 PFUnA	66		50 - 200
13C2 PFDoA	78		50 - 200
13C4 PFBA	63		50 - 200
13C5 PFPeA	64		50 - 200
13C3 PFBS	93		50 - 200
13C3 PFHxS	90		50 - 200
13C8 PFOS	89		50 - 200
13C2-4:2-FTS	107		50 - 200
13C2-6:2-FTS	100		50 - 200
13C2-8:2-FTS	94		50 - 200

Lab Sample ID: MBL 380-36057/21-A
Matrix: Water
Analysis Batch: 36178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36057

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		04/07/23 13:38	04/10/23 23:47	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		04/07/23 13:38	04/10/23 23:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		04/07/23 13:38	04/10/23 23:47	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		04/07/23 13:38	04/10/23 23:47	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		04/07/23 13:38	04/10/23 23:47	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		04/07/23 13:38	04/10/23 23:47	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		04/07/23 13:38	04/10/23 23:47	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		04/07/23 13:38	04/10/23 23:47	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		04/07/23 13:38	04/10/23 23:47	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		04/07/23 13:38	04/10/23 23:47	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		04/07/23 13:38	04/10/23 23:47	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		04/07/23 13:38	04/10/23 23:47	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		04/07/23 13:38	04/10/23 23:47	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		04/07/23 13:38	04/10/23 23:47	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		04/07/23 13:38	04/10/23 23:47	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		04/07/23 13:38	04/10/23 23:47	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		04/07/23 13:38	04/10/23 23:47	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		04/07/23 13:38	04/10/23 23:47	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		04/07/23 13:38	04/10/23 23:47	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		04/07/23 13:38	04/10/23 23:47	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		04/07/23 13:38	04/10/23 23:47	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		04/07/23 13:38	04/10/23 23:47	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		04/07/23 13:38	04/10/23 23:47	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		04/07/23 13:38	04/10/23 23:47	1

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

Lab Sample ID: MBL 380-36057/21-A
Matrix: Water
Analysis Batch: 36178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36057

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		04/07/23 13:38	04/10/23 23:47	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*96*		*50 - 200*	*04/07/23 13:38*	*04/10/23 23:47*	*1*
13C6 PFDA	*104*		*50 - 200*	*04/07/23 13:38*	*04/10/23 23:47*	*1*
13C5 PFHxA	*102*		*50 - 200*	*04/07/23 13:38*	*04/10/23 23:47*	*1*
13C4 PFHpA	*104*		*50 - 200*	*04/07/23 13:38*	*04/10/23 23:47*	*1*
13C8 PFOA	*106*		*50 - 200*	*04/07/23 13:38*	*04/10/23 23:47*	*1*
13C9 PFNA	*107*		*50 - 200*	*04/07/23 13:38*	*04/10/23 23:47*	*1*
13C7 PFUnA	*100*		*50 - 200*	*04/07/23 13:38*	*04/10/23 23:47*	*1*
13C2 PFDoA	*111*		*50 - 200*	*04/07/23 13:38*	*04/10/23 23:47*	*1*
13C4 PFBA	*110*		*50 - 200*	*04/07/23 13:38*	*04/10/23 23:47*	*1*
13C5 PFPeA	*104*		*50 - 200*	*04/07/23 13:38*	*04/10/23 23:47*	*1*
13C3 PFBS	*101*		*50 - 200*	*04/07/23 13:38*	*04/10/23 23:47*	*1*
13C3 PFHxS	*99*		*50 - 200*	*04/07/23 13:38*	*04/10/23 23:47*	*1*
13C8 PFOS	*106*		*50 - 200*	*04/07/23 13:38*	*04/10/23 23:47*	*1*
13C2-4:2-FTS	*113*		*50 - 200*	*04/07/23 13:38*	*04/10/23 23:47*	*1*
13C2-6:2-FTS	*106*		*50 - 200*	*04/07/23 13:38*	*04/10/23 23:47*	*1*
13C2-8:2-FTS	*115*		*50 - 200*	*04/07/23 13:38*	*04/10/23 23:47*	*1*

Lab Sample ID: LCS 380-36057/23-A
Matrix: Water
Analysis Batch: 36178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36057

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			120	109		ng/L		91	70 - 130		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			120	107		ng/L		89	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			120	107		ng/L		89	70 - 130		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			120	106		ng/L		88	70 - 130		
Perfluorobutanesulfonic acid (PFBS)			120	103		ng/L		86	70 - 130		
Perfluorodecanoic acid (PFDA)			120	109		ng/L		90	70 - 130		
Perfluorododecanoic acid (PFDoA)			120	107		ng/L		89	70 - 130		
Perfluoroheptanoic acid (PFHpA)			120	110		ng/L		92	70 - 130		
Perfluorohexanesulfonic acid (PFHxS)			120	108		ng/L		90	70 - 130		
Perfluorohexanoic acid (PFHxA)			120	108		ng/L		90	70 - 130		
Perfluorononanoic acid (PFNA)			120	108		ng/L		90	70 - 130		
Perfluorooctanesulfonic acid (PFOS)			120	107		ng/L		89	70 - 130		
Perfluorooctanoic acid (PFOA)			120	109		ng/L		91	70 - 130		
Perfluoroundecanoic acid (PFUnA)			120	106		ng/L		88	70 - 130		
Perfluorobutanoic acid (PFBA)			120	110		ng/L		91	70 - 130		

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

Lab Sample ID: LCS 380-36057/23-A
Matrix: Water
Analysis Batch: 36178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36057

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)			120	106		ng/L		88	70 - 130		
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			120	104		ng/L		87	70 - 130		
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			120	104		ng/L		86	70 - 130		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			120	99.4		ng/L		83	70 - 130		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			120	102		ng/L		85	70 - 130		
Perfluoro-3-methoxypropanoic acid (PFMPA)			120	111		ng/L		92	70 - 130		
Perfluoro-4-methoxybutanoic acid (PFMBA)			120	102		ng/L		85	70 - 130		
Perfluoropentanoic acid (PFPeA)			120	102		ng/L		85	70 - 130		
Perfluoroheptanesulfonic acid (PFHpS)			120	112		ng/L		93	70 - 130		
Perfluoropentanesulfonic acid (PFPeS)			120	113		ng/L		94	70 - 130		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*88*		*50 - 200*
13C6 PFDA	*96*		*50 - 200*
13C5 PFHxA	*89*		*50 - 200*
13C4 PFHpA	*87*		*50 - 200*
13C8 PFOA	*94*		*50 - 200*
13C9 PFNA	*95*		*50 - 200*
13C7 PFUnA	*94*		*50 - 200*
13C2 PFDoA	*101*		*50 - 200*
13C4 PFBA	*91*		*50 - 200*
13C5 PFPeA	*97*		*50 - 200*
13C3 PFBS	*101*		*50 - 200*
13C3 PFHxS	*96*		*50 - 200*
13C8 PFOS	*102*		*50 - 200*
13C2-4:2-FTS	*108*		*50 - 200*
13C2-6:2-FTS	*108*		*50 - 200*
13C2-8:2-FTS	*108*		*50 - 200*

Lab Sample ID: LCSD 380-36057/24-A
Matrix: Water
Analysis Batch: 36178

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36057

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			120	114		ng/L		95	70 - 130	4	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			120	107		ng/L		89	70 - 130	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			120	106		ng/L		88	70 - 130	1	30

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

Lab Sample ID: LCSD 380-36057/24-A
Matrix: Water
Analysis Batch: 36178

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36057

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			120	104		ng/L		86	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)			120	107		ng/L		89	70 - 130	3	30
Perfluorodecanoic acid (PFDA)			120	112		ng/L		93	70 - 130	3	30
Perfluorododecanoic acid (PFDoA)			120	102		ng/L		85	70 - 130	5	30
Perfluoroheptanoic acid (PFHpA)			120	107		ng/L		89	70 - 130	3	30
Perfluorohexanesulfonic acid (PFHxS)			120	107		ng/L		89	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)			120	111		ng/L		92	70 - 130	3	30
Perfluorononanoic acid (PFNA)			120	107		ng/L		89	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)			120	105		ng/L		87	70 - 130	3	30
Perfluorooctanoic acid (PFOA)			120	109		ng/L		91	70 - 130	0	30
Perfluoroundecanoic acid (PFUnA)			120	110		ng/L		92	70 - 130	4	30
Perfluorobutanoic acid (PFBA)			120	107		ng/L		89	70 - 130	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)			120	102		ng/L		85	70 - 130	3	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			120	111		ng/L		92	70 - 130	6	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			120	107		ng/L		89	70 - 130	3	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			120	113		ng/L		94	70 - 130	12	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			120	107		ng/L		89	70 - 130	5	30
Perfluoro-3-methoxypropanoic acid (PFMPA)			120	108		ng/L		90	70 - 130	3	30
Perfluoro-4-methoxybutanoic acid (PFMBA)			120	106		ng/L		88	70 - 130	4	30
Perfluoropentanoic acid (PFPeA)			120	108		ng/L		90	70 - 130	5	30
Perfluoroheptanesulfonic acid (PFHpS)			120	107		ng/L		89	70 - 130	5	30
Perfluoropentanesulfonic acid (PFPeS)			120	108		ng/L		90	70 - 130	4	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*98*		*50 - 200*
13C6 PFDA	*101*		*50 - 200*
13C5 PFHxA	*96*		*50 - 200*
13C4 PFHpA	*97*		*50 - 200*
13C8 PFOA	*100*		*50 - 200*
13C9 PFNA	*101*		*50 - 200*
13C7 PFUnA	*99*		*50 - 200*
13C2 PFDoA	*112*		*50 - 200*
13C4 PFBA	*99*		*50 - 200*
13C5 PFPeA	*98*		*50 - 200*
13C3 PFBS	*100*		*50 - 200*
13C3 PFHxS	*100*		*50 - 200*
13C8 PFOS	*105*		*50 - 200*

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

Lab Sample ID: LCSD 380-36057/24-A
Matrix: Water
Analysis Batch: 36178

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36057

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C2-4:2-FTS	*106*		*50 - 200*
13C2-6:2-FTS	*110*		*50 - 200*
13C2-8:2-FTS	*112*		*50 - 200*

Lab Sample ID: MRL 380-36057/22-A
Matrix: Water
Analysis Batch: 36178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36057

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.85	J	ng/L		92	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	1.78	J	ng/L		89	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	1.87	J	ng/L		94	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	1.88	J	ng/L		94	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	1.89	J	ng/L		95	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	1.92	J	ng/L		96	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	1.99	J	ng/L		100	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	1.97	J	ng/L		99	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	1.96	J	ng/L		98	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.03		ng/L		101	50 - 150
Perfluorononanoic acid (PFNA)	2.00	1.93	J	ng/L		97	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	1.94	J	ng/L		97	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.11		ng/L		105	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.00		ng/L		100	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.09		ng/L		105	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	1.91	J	ng/L		96	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.02		ng/L		101	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.03		ng/L		102	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	1.80	J	ng/L		90	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.00	1.86	J	ng/L		93	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.09		ng/L		104	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	1.79	J	ng/L		90	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	1.99	J	ng/L		99	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	1.93	J	ng/L		97	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	1.90	J	ng/L		95	50 - 150

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

Isotope Dilution	MRL %Recovery	MRL Qualifier	Limits
13C3 HFPO-DA	90		50 - 200
13C6 PFDA	96		50 - 200
13C5 PFHxA	96		50 - 200
13C4 PFHpA	94		50 - 200
13C8 PFOA	100		50 - 200
13C9 PFNA	97		50 - 200
13C7 PFUnA	88		50 - 200
13C2 PFDoA	97		50 - 200
13C4 PFBA	101		50 - 200
13C5 PFPeA	105		50 - 200
13C3 PFBS	104		50 - 200
13C3 PFHxS	102		50 - 200
13C8 PFOS	104		50 - 200
13C2-4:2-FTS	108		50 - 200
13C2-6:2-FTS	116		50 - 200
13C2-8:2-FTS	108		50 - 200

Lab Sample ID: 380-42734-C-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 36178 — **Prep Batch: 36057**

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		60.2	56.2		ng/L		93	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		60.2	52.0		ng/L		86	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		60.2	52.2		ng/L		87	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		60.2	54.7		ng/L		91	70 - 130
Perfluorobutanesulfonic acid (PFBS)	ND		60.2	53.4		ng/L		88	70 - 130
Perfluorodecanoic acid (PFDA)	ND		60.2	54.0		ng/L		90	70 - 130
Perfluorododecanoic acid (PFDoA)	ND		60.2	52.9		ng/L		88	70 - 130
Perfluoroheptanoic acid (PFHpA)	ND		60.2	54.0		ng/L		89	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	ND		60.2	55.5		ng/L		91	70 - 130
Perfluorohexanoic acid (PFHxA)	ND		60.2	53.3		ng/L		88	70 - 130
Perfluorononanoic acid (PFNA)	ND		60.2	57.1		ng/L		95	70 - 130
Perfluorooctanesulfonic acid (PFOS)	ND		60.2	53.3		ng/L		88	70 - 130
Perfluorooctanoic acid (PFOA)	ND		60.2	54.9		ng/L		90	70 - 130
Perfluoroundecanoic acid (PFUnA)	ND		60.2	56.0		ng/L		93	70 - 130
Perfluorobutanoic acid (PFBA)	ND		60.2	54.3		ng/L		90	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		60.2	53.9		ng/L		90	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		60.2	54.3		ng/L		90	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		60.2	57.7		ng/L		96	70 - 130

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

Lab Sample ID: 380-42734-C-1-A MS
Matrix: Water
Analysis Batch: 36178

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36057

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		60.2	49.9		ng/L		83	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		60.2	51.4		ng/L		85	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		60.2	53.8		ng/L		89	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		60.2	48.6		ng/L		81	70 - 130
Perfluoropentanoic acid (PFPeA)	ND		60.2	52.3		ng/L		86	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	ND		60.2	54.2		ng/L		90	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	ND		60.2	56.8		ng/L		94	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C3 HFPO-DA	*74*		*50 - 200*
13C6 PFDA	*93*		*50 - 200*
13C5 PFHxA	*79*		*50 - 200*
13C4 PFHpA	*81*		*50 - 200*
13C8 PFOA	*87*		*50 - 200*
13C9 PFNA	*88*		*50 - 200*
13C7 PFUnA	*92*		*50 - 200*
13C2 PFDoA	*104*		*50 - 200*
13C4 PFBA	*79*		*50 - 200*
13C5 PFPeA	*82*		*50 - 200*
13C3 PFBS	*106*		*50 - 200*
13C3 PFHxS	*99*		*50 - 200*
13C8 PFOS	*108*		*50 - 200*
13C2-4:2-FTS	*114*		*50 - 200*
13C2-6:2-FTS	*107*		*50 - 200*
13C2-8:2-FTS	*110*		*50 - 200*

Lab Sample ID: 380-42734-C-1-B MSD
Matrix: Water
Analysis Batch: 36178

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36057

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		60.2	55.2		ng/L		92	70 - 130	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		60.2	51.9		ng/L		86	70 - 130	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		60.2	49.0		ng/L		81	70 - 130	6	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		60.2	52.5		ng/L		87	70 - 130	4	30
Perfluorobutanesulfonic acid (PFBS)	ND		60.2	54.1		ng/L		89	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	ND		60.2	54.6		ng/L		91	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	ND		60.2	52.5		ng/L		87	70 - 130	1	30

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

Lab Sample ID: 380-42734-C-1-B MSD
Matrix: Water
Analysis Batch: 36178

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36057

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoroheptanoic acid (PFHpA)	ND		60.2	52.5		ng/L		86	70 - 130	3	30
Perfluorohexanesulfonic acid (PFHxS)	ND		60.2	53.4		ng/L		88	70 - 130	4	30
Perfluorohexanoic acid (PFHxA)	ND		60.2	57.4		ng/L		94	70 - 130	8	30
Perfluorononanoic acid (PFNA)	ND		60.2	53.5		ng/L		89	70 - 130	7	30
Perfluorooctanesulfonic acid (PFOS)	ND		60.2	52.0		ng/L		85	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	ND		60.2	55.4		ng/L		91	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	ND		60.2	55.8		ng/L		93	70 - 130	1	30
Perfluorobutanoic acid (PFBA)	ND		60.2	55.0		ng/L		91	70 - 130	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		60.2	53.6		ng/L		89	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		60.2	51.6		ng/L		86	70 - 130	5	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		60.2	54.7		ng/L		91	70 - 130	5	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		60.2	54.4		ng/L		90	70 - 130	9	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		60.2	53.1		ng/L		88	70 - 130	3	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		60.2	57.5		ng/L		95	70 - 130	7	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		60.2	48.2		ng/L		80	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)	ND		60.2	54.3		ng/L		89	70 - 130	4	30
Perfluoroheptanesulfonic acid (PFHpS)	ND		60.2	52.7		ng/L		87	70 - 130	3	30
Perfluoropentanesulfonic acid (PFPeS)	ND		60.2	52.4		ng/L		87	70 - 130	8	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C3 HFPO-DA	*74*		*50 - 200*
13C6 PFDA	*87*		*50 - 200*
13C5 PFHxA	*73*		*50 - 200*
13C4 PFHpA	*80*		*50 - 200*
13C8 PFOA	*80*		*50 - 200*
13C9 PFNA	*87*		*50 - 200*
13C7 PFUnA	*89*		*50 - 200*
13C2 PFDoA	*102*		*50 - 200*
13C4 PFBA	*76*		*50 - 200*
13C5 PFPeA	*80*		*50 - 200*
13C3 PFBS	*100*		*50 - 200*
13C3 PFHxS	*101*		*50 - 200*
13C8 PFOS	*104*		*50 - 200*
13C2-4:2-FTS	*109*		*50 - 200*
13C2-6:2-FTS	*101*		*50 - 200*
13C2-8:2-FTS	*104*		*50 - 200*

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

Lab Sample ID: MBL 380-34468/19-A
Matrix: Water
Analysis Batch: 34897

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34468

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 06:06	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 06:06	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 06:06	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 06:06	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 06:06	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 06:06	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 06:06	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 06:06	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 06:06	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 06:06	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 06:06	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 06:06	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 06:06	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 06:06	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 06:06	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 06:06	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 06:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		03/23/23 08:15	03/28/23 06:06	1

Surrogate	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*103*		*70 - 130*	*03/23/23 08:15*	*03/28/23 06:06*	*1*
13C2 PFHxA	*112*		*70 - 130*	*03/23/23 08:15*	*03/28/23 06:06*	*1*
13C2 PFDA	*119*		*70 - 130*	*03/23/23 08:15*	*03/28/23 06:06*	*1*
13C3-GenX	*115*		*70 - 130*	*03/23/23 08:15*	*03/28/23 06:06*	*1*

Lab Sample ID: LCS 380-34468/21-A
Matrix: Water
Analysis Batch: 34897

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34468

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	25.1	26.9		ng/L		108	70 - 130
Perfluorooctanesulfonic acid (PFOS)	23.2	23.5		ng/L		101	70 - 130
Perfluoroundecanoic acid (PFUnA)	25.1	25.9		ng/L		104	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.1	23.3		ng/L		93	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.1	21.7		ng/L		87	70 - 130
Perfluorohexanoic acid (PFHxA)	25.1	27.6		ng/L		110	70 - 130
Perfluorododecanoic acid (PFDoA)	25.1	26.5		ng/L		106	70 - 130
Perfluorooctanoic acid (PFOA)	25.1	27.9		ng/L		111	70 - 130
Perfluorodecanoic acid (PFDA)	25.1	26.8		ng/L		107	70 - 130

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

Lab Sample ID: LCS 380-34468/21-A
Matrix: Water
Analysis Batch: 34897

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34468

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanesulfonic acid (PFHxS)	22.9	24.1		ng/L		105	70 - 130
Perfluorobutanesulfonic acid (PFBS)	22.2	23.2		ng/L		105	70 - 130
Perfluoroheptanoic acid (PFHpA)	25.1	26.8		ng/L		107	70 - 130
Perfluorononanoic acid (PFNA)	25.1	27.4		ng/L		109	70 - 130
Perfluorotetradecanoic acid (PFTA)	25.1	24.4		ng/L		97	70 - 130
Perfluorotridecanoic acid (PFTrDA)	25.1	27.1		ng/L		108	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	23.4	24.5		ng/L		105	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	23.7	23.4		ng/L		99	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	23.7	27.4		ng/L		116	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
d5-NEtFOSAA	*94*		*70 - 130*
13C2 PFHxA	*119*		*70 - 130*
13C2 PFDA	*110*		*70 - 130*
13C3-GenX	*121*		*70 - 130*

Lab Sample ID: LCSD 380-34468/22-A
Matrix: Water
Analysis Batch: 34897

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34468

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	25.1	26.7		ng/L		107	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	23.2	24.3		ng/L		105	70 - 130	3	30
Perfluoroundecanoic acid (PFUnA)	25.1	28.1		ng/L		112	70 - 130	8	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.1	25.8		ng/L		103	70 - 130	10	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.1	23.7		ng/L		94	70 - 130	8	30
Perfluorohexanoic acid (PFHxA)	25.1	27.6		ng/L		110	70 - 130	0	30
Perfluorododecanoic acid (PFDoA)	25.1	27.1		ng/L		108	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	25.1	27.6		ng/L		110	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	25.1	27.5		ng/L		110	70 - 130	3	30
Perfluorohexanesulfonic acid (PFHxS)	22.9	24.1		ng/L		105	70 - 130	0	30
Perfluorobutanesulfonic acid (PFBS)	22.2	23.2		ng/L		105	70 - 130	0	30
Perfluoroheptanoic acid (PFHpA)	25.1	26.6		ng/L		106	70 - 130	1	30
Perfluorononanoic acid (PFNA)	25.1	28.3		ng/L		113	70 - 130	3	30
Perfluorotetradecanoic acid (PFTA)	25.1	25.8		ng/L		103	70 - 130	6	30

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

Lab Sample ID: LCSD 380-34468/22-A
Matrix: Water
Analysis Batch: 34897

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34468

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorotridecanoic acid (PFTrDA)			25.1	29.0		ng/L		116	70 - 130	7	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			23.4	25.1		ng/L		107	70 - 130	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			23.7	25.0		ng/L		106	70 - 130	7	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			23.7	25.8		ng/L		109	70 - 130	6	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
d5-NEtFOSAA	*106*		*70 - 130*
13C2 PFHxA	*119*		*70 - 130*
13C2 PFDA	*122*		*70 - 130*
13C3-GenX	*122*		*70 - 130*

Lab Sample ID: MRL 380-34468/20-A
Matrix: Water
Analysis Batch: 34897

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34468

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			2.00	2.06		ng/L		103	50 - 150		
Perfluorooctanesulfonic acid (PFOS)			1.86	1.96	J	ng/L		106	50 - 150		
Perfluoroundecanoic acid (PFUnA)			2.00	2.11		ng/L		105	50 - 150		
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			2.00	2.00		ng/L		100	50 - 150		
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			2.00	1.83	J	ng/L		91	50 - 150		
Perfluorohexanoic acid (PFHxA)			2.00	2.19		ng/L		109	50 - 150		
Perfluorododecanoic acid (PFDoA)			2.00	2.20		ng/L		110	50 - 150		
Perfluorooctanoic acid (PFOA)			2.00	2.65		ng/L		132	50 - 150		
Perfluorodecanoic acid (PFDA)			2.00	2.18		ng/L		109	50 - 150		
Perfluorohexanesulfonic acid (PFHxS)			1.83	1.93	J	ng/L		105	50 - 150		
Perfluorobutanesulfonic acid (PFBS)			1.77	1.93	J	ng/L		109	50 - 150		
Perfluoroheptanoic acid (PFHpA)			2.00	2.19		ng/L		109	50 - 150		
Perfluorononanoic acid (PFNA)			2.00	2.28		ng/L		114	50 - 150		
Perfluorotetradecanoic acid (PFTA)			2.00	2.08		ng/L		104	50 - 150		
Perfluorotridecanoic acid (PFTrDA)			2.00	2.24		ng/L		112	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			1.87	1.97	J	ng/L		105	50 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			1.89	1.95	J	ng/L		103	50 - 150		

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

Lab Sample ID: MRL 380-34468/20-A
Matrix: Water
Analysis Batch: 34897

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34468

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	2.11		ng/L		111	50 - 150

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
d5-NEtFOSAA	*101*		*70 - 130*
13C2 PFHxA	*119*		*70 - 130*
13C2 PFDA	*114*		*70 - 130*
13C3-GenX	*119*		*70 - 130*

Lab Sample ID: 380-41092-B-1-A MS
Matrix: Water
Analysis Batch: 34897

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 34468

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		50.2	55.0		ng/L		110	70 - 130
Perfluorooctanesulfonic acid (PFOS)	ND		46.5	46.2		ng/L		98	70 - 130
Perfluoroundecanoic acid (PFUnA)	ND		50.2	51.3		ng/L		102	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		50.2	45.9		ng/L		91	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		50.2	43.3		ng/L		86	70 - 130
Perfluorohexanoic acid (PFHxA)	4.9		50.2	59.9		ng/L		109	70 - 130
Perfluorododecanoic acid (PFDoA)	ND		50.2	53.4		ng/L		106	70 - 130
Perfluorooctanoic acid (PFOA)	4.3		50.2	57.2		ng/L		105	70 - 130
Perfluorodecanoic acid (PFDA)	ND		50.2	52.2		ng/L		104	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	2.7		45.8	50.0		ng/L		103	70 - 130
Perfluorobutanesulfonic acid (PFBS)	4.5		44.4	51.1		ng/L		105	70 - 130
Perfluoroheptanoic acid (PFHpA)	2.2		50.2	55.0		ng/L		105	70 - 130
Perfluorononanoic acid (PFNA)	ND		50.2	53.2		ng/L		106	70 - 130
Perfluorotetradecanoic acid (PFTA)	ND		50.2	51.9		ng/L		103	70 - 130
Perfluorotridecanoic acid (PFTrDA)	ND		50.2	53.7		ng/L		107	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		46.9	46.9		ng/L		100	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		47.4	46.8		ng/L		99	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		47.4	52.3		ng/L		110	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
d5-NEtFOSAA	*96*		*70 - 130*
13C2 PFHxA	*124*		*70 - 130*
13C2 PFDA	*112*		*70 - 130*

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

Lab Sample ID: 380-41092-B-1-A MS
Matrix: Water
Analysis Batch: 34897

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 34468

Surrogate	MS %Recovery	MS Qualifier	Limits
13C3-GenX	125		70 - 130

Lab Sample ID: 380-41092-C-1-A MSD
Matrix: Water
Analysis Batch: 34897

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 34468

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		50.2	57.1		ng/L		114	70 - 130	4	30
Perfluorooctanesulfonic acid (PFOS)	ND		46.5	48.0		ng/L		101	70 - 130	4	30
Perfluoroundecanoic acid (PFUnA)	ND		50.2	52.3		ng/L		104	70 - 130	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		50.2	48.5		ng/L		97	70 - 130	5	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		50.2	45.0		ng/L		90	70 - 130	4	30
Perfluorohexanoic acid (PFHxA)	4.9		50.2	59.6		ng/L		109	70 - 130	0	30
Perfluorododecanoic acid (PFDoA)	ND		50.2	53.3		ng/L		106	70 - 130	0	30
Perfluorooctanoic acid (PFOA)	4.3		50.2	57.2		ng/L		105	70 - 130	0	30
Perfluorodecanoic acid (PFDA)	ND		50.2	53.1		ng/L		106	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)	2.7		45.8	50.3		ng/L		104	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	4.5		44.4	52.4		ng/L		108	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	2.2		50.2	54.1		ng/L		103	70 - 130	2	30
Perfluorononanoic acid (PFNA)	ND		50.2	54.1		ng/L		108	70 - 130	2	30
Perfluorotetradecanoic acid (PFTA)	ND		50.2	54.2		ng/L		108	70 - 130	4	30
Perfluorotridecanoic acid (PFTrDA)	ND		50.2	54.2		ng/L		108	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		46.9	50.0		ng/L		106	70 - 130	6	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		47.4	49.1		ng/L		104	70 - 130	5	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		47.4	50.3		ng/L		106	70 - 130	4	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
d5-NEtFOSAA	97		70 - 130
13C2 PFHxA	126		70 - 130
13C2 PFDA	113		70 - 130
13C3-GenX	120		70 - 130

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

Lab Sample ID: MBL 380-34952/21-A
Matrix: Water
Analysis Batch: 35253

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34952

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 01:46	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 01:46	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 01:46	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 01:46	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 01:46	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 01:46	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 01:46	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 01:46	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 01:46	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 01:46	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 01:46	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 01:46	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 01:46	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 01:46	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 01:46	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 01:46	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		03/28/23 05:45	03/31/23 01:46	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.965	J B	2.0		ng/L		03/28/23 05:45	03/31/23 01:46	1

Surrogate	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*104*		*70 - 130*	*03/28/23 05:45*	*03/31/23 01:46*	*1*
13C2 PFHxA	*117*		*70 - 130*	*03/28/23 05:45*	*03/31/23 01:46*	*1*
13C2 PFDA	*104*		*70 - 130*	*03/28/23 05:45*	*03/31/23 01:46*	*1*
13C3-GenX	*106*		*70 - 130*	*03/28/23 05:45*	*03/31/23 01:46*	*1*

Lab Sample ID: LCS 380-34952/23-A
Matrix: Water
Analysis Batch: 35253

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34952

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			25.0	25.6		ng/L		102	70 - 130		
Perfluorooctanesulfonic acid (PFOS)			23.2	24.0		ng/L		104	70 - 130		
Perfluoroundecanoic acid (PFUnA)			25.0	24.9		ng/L		100	70 - 130		
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			25.0	25.3		ng/L		101	70 - 130		
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			25.0	25.2		ng/L		101	70 - 130		
Perfluorohexanoic acid (PFHxA)			25.0	26.9		ng/L		108	70 - 130		
Perfluorododecanoic acid (PFDoA)			25.0	24.5		ng/L		98	70 - 130		
Perfluorooctanoic acid (PFOA)			25.0	26.3		ng/L		105	70 - 130		
Perfluorodecanoic acid (PFDA)			25.0	25.7		ng/L		103	70 - 130		

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

Lab Sample ID: LCS 380-34952/23-A
Matrix: Water
Analysis Batch: 35253

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34952

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanesulfonic acid (PFHxS)	22.8	24.4		ng/L		107	70 - 130
Perfluorobutanesulfonic acid (PFBS)	22.1	23.8		ng/L		108	70 - 130
Perfluoroheptanoic acid (PFHpA)	25.0	26.6		ng/L		106	70 - 130
Perfluorononanoic acid (PFNA)	25.0	27.7		ng/L		111	70 - 130
Perfluorotetradecanoic acid (PFTA)	25.0	24.8		ng/L		99	70 - 130
Perfluorotridecanoic acid (PFTrDA)	25.0	25.9		ng/L		104	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	23.4	23.8		ng/L		102	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	23.6	23.1		ng/L		98	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	23.6	25.6		ng/L		108	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
d5-NEtFOSAA	*105*		*70 - 130*
13C2 PFHxA	*120*		*70 - 130*
13C2 PFDA	*110*		*70 - 130*
13C3-GenX	*115*		*70 - 130*

Lab Sample ID: LCSD 380-34952/24-A
Matrix: Water
Analysis Batch: 35253

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34952

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	25.0	26.0		ng/L		104	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	23.2	23.7		ng/L		102	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	25.0	25.3		ng/L		101	70 - 130	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.0	26.1		ng/L		104	70 - 130	3	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.0	25.9		ng/L		104	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)	25.0	27.8		ng/L		111	70 - 130	3	30
Perfluorododecanoic acid (PFDoA)	25.0	25.4		ng/L		102	70 - 130	4	30
Perfluorooctanoic acid (PFOA)	25.0	27.3		ng/L		109	70 - 130	3	30
Perfluorodecanoic acid (PFDA)	25.0	26.3		ng/L		105	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)	22.8	24.4		ng/L		107	70 - 130	0	30
Perfluorobutanesulfonic acid (PFBS)	22.1	23.4		ng/L		106	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	25.0	27.2		ng/L		109	70 - 130	2	30
Perfluorononanoic acid (PFNA)	25.0	27.9		ng/L		111	70 - 130	0	30
Perfluorotetradecanoic acid (PFTA)	25.0	25.4		ng/L		101	70 - 130	2	30

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

Lab Sample ID: LCSD 380-34952/24-A
Matrix: Water
Analysis Batch: 35253

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34952

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorotridecanoic acid (PFTrDA)			25.0	25.9		ng/L		104	70 - 130	0	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			23.4	24.5		ng/L		105	70 - 130	3	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			23.6	23.3		ng/L		99	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			23.6	25.5		ng/L		108	70 - 130	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
d5-NEtFOSAA	*96*		*70 - 130*
13C2 PFHxA	*106*		*70 - 130*
13C2 PFDA	*104*		*70 - 130*
13C3-GenX	*106*		*70 - 130*

Lab Sample ID: MRL 380-34952/22-A
Matrix: Water
Analysis Batch: 35253

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34952

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			2.00	2.01		ng/L		100	50 - 150		
Perfluorooctanesulfonic acid (PFOS)			1.86	1.78	J	ng/L		96	50 - 150		
Perfluoroundecanoic acid (PFUnA)			2.00	2.03		ng/L		101	50 - 150		
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			2.00	1.98	J	ng/L		99	50 - 150		
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			2.00	1.88	J	ng/L		94	50 - 150		
Perfluorohexanoic acid (PFHxA)			2.00	2.18		ng/L		109	50 - 150		
Perfluorododecanoic acid (PFDoA)			2.00	2.08		ng/L		104	50 - 150		
Perfluorooctanoic acid (PFOA)			2.00	2.23		ng/L		111	50 - 150		
Perfluorodecanoic acid (PFDA)			2.00	1.96	J	ng/L		98	50 - 150		
Perfluorohexanesulfonic acid (PFHxS)			1.83	1.91	J	ng/L		104	50 - 150		
Perfluorobutanesulfonic acid (PFBS)			1.77	1.74	J	ng/L		98	50 - 150		
Perfluoroheptanoic acid (PFHpA)			2.00	2.09		ng/L		104	50 - 150		
Perfluorononanoic acid (PFNA)			2.00	2.21		ng/L		110	50 - 150		
Perfluorotetradecanoic acid (PFTA)			2.00	1.95	J	ng/L		97	50 - 150		
Perfluorotridecanoic acid (PFTrDA)			2.00	2.07		ng/L		103	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			1.87	1.77	J	ng/L		95	50 - 150		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			1.89	1.79	J	ng/L		94	50 - 150		

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

Lab Sample ID: MRL 380-34952/22-A
Matrix: Water
Analysis Batch: 35253

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34952

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			1.89	2.30		ng/L		121	50 - 150		

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
d5-NEtFOSAA	*97*		*70 - 130*
13C2 PFHxA	*115*		*70 - 130*
13C2 PFDA	*103*		*70 - 130*
13C3-GenX	*112*		*70 - 130*

Lab Sample ID: 380-41200-3 MS
Matrix: Drinking Water
Analysis Batch: 35253

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)
Prep Type: Total/NA
Prep Batch: 34952

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		25.1	25.3		ng/L		101	70 - 130		
Perfluorooctanesulfonic acid (PFOS)	ND		23.2	25.2		ng/L		100	70 - 130		
Perfluoroundecanoic acid (PFUnA)	ND		25.1	24.6		ng/L		98	70 - 130		
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		25.1	25.7		ng/L		102	70 - 130		
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		25.1	26.0		ng/L		104	70 - 130		
Perfluorohexanoic acid (PFHxA)	ND		25.1	28.3		ng/L		106	70 - 130		
Perfluorododecanoic acid (PFDoA)	ND		25.1	25.4		ng/L		101	70 - 130		
Perfluorooctanoic acid (PFOA)	2.0		25.1	28.6		ng/L		106	70 - 130		
Perfluorodecanoic acid (PFDA)	ND		25.1	25.2		ng/L		101	70 - 130		
Perfluorohexanesulfonic acid (PFHxS)	2.6		22.9	26.9		ng/L		106	70 - 130		
Perfluorobutanesulfonic acid (PFBS)	ND		22.2	25.0		ng/L		107	70 - 130		
Perfluoroheptanoic acid (PFHpA)	ND		25.1	28.1		ng/L		107	70 - 130		
Perfluorononanoic acid (PFNA)	ND		25.1	26.7		ng/L		106	70 - 130		
Perfluorotetradecanoic acid (PFTA)	ND		25.1	24.4		ng/L		97	70 - 130		
Perfluorotridecanoic acid (PFTrDA)	ND		25.1	25.7		ng/L		102	70 - 130		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		23.5	24.0		ng/L		102	70 - 130		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		23.7	24.0		ng/L		101	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	B	23.7	26.5		ng/L		112	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
d5-NEtFOSAA	*103*		*70 - 130*
13C2 PFHxA	*119*		*70 - 130*
13C2 PFDA	*104*		*70 - 130*

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

Lab Sample ID: 380-41200-3 MS
Matrix: Drinking Water
Analysis Batch: 35253

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)
Prep Type: Total/NA
Prep Batch: 34952

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
13C3-GenX	*111*		*70 - 130*

Lab Sample ID: 380-41200-4 DU
Matrix: Drinking Water
Analysis Batch: 35253

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Prep Type: Total/NA
Prep Batch: 34952

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)	ND		ND		ng/L		NC	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
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	B	ND	B	ng/L		NC	30

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
d5-NEtFOSAA	*95*		*70 - 130*
13C2 PFHxA	*109*		*70 - 130*
13C2 PFDA	*94*		*70 - 130*
13C3-GenX	*101*		*70 - 130*

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

Lab Sample ID: 104678-B1
Matrix: BlankMatrix
Analysis Batch: O-41014

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-41014_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
Acenaphthene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
Acenaphthylene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
Anthracene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
Biphenyl	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
Chrysene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
Dibenzothiophene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		03/23/23 00:00	04/04/23 21:23	1
Fluoranthene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
Fluorene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
Naphthalene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
Perylene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
Phenanthrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1
Pyrene	ND		0.005	0.001	µg/L		03/23/23 00:00	04/04/23 21:23	1

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*90*		*27 - 133*	*03/23/23 00:00*	*04/04/23 21:23*	*1*
(d10-Phenanthrene)	*94*		*43 - 129*	*03/23/23 00:00*	*04/04/23 21:23*	*1*
(d12-Chrysene)	*103*		*52 - 144*	*03/23/23 00:00*	*04/04/23 21:23*	*1*
(d12-Perylene)	*88*		*36 - 161*	*03/23/23 00:00*	*04/04/23 21:23*	*1*
(d8-Naphthalene)	*82*		*25 - 125*	*03/23/23 00:00*	*04/04/23 21:23*	*1*

Lab Sample ID: 104678-BS1
Matrix: BlankMatrix
Analysis Batch: O-41014

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-41014_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.5	0.434		µg/L		87	31 - 128
1-Methylphenanthrene	0.5	0.452		µg/L		90	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.463		µg/L		93	55 - 122
2,6-Dimethylnaphthalene	0.5	0.447		µg/L		89	48 - 120
2-Methylnaphthalene	0.5	0.441		µg/L		88	47 - 130
Acenaphthene	0.5	0.449		µg/L		90	53 - 131
Acenaphthylene	0.5	0.445		µg/L		89	43 - 140
Anthracene	0.5	0.456		µg/L		91	58 - 135

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

Lab Sample ID: 104678-BS1
Matrix: BlankMatrix
Analysis Batch: O-41014

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-41014_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benz[a]anthracene			0.5	0.425		µg/L		85	55 - 145		
Benzo[a]pyrene			0.5	0.444		µg/L		89	51 - 143		
Benzo[b]fluoranthene			0.5	0.453		µg/L		91	46 - 165		
Benzo[e]pyrene			0.5	0.454		µg/L		91	42 - 152		
Benzo[g,h,i]perylene			0.5	0.459		µg/L		92	63 - 133		
Benzo[k]fluoranthene			0.5	0.45		µg/L		90	56 - 145		
Biphenyl			0.5	0.46		µg/L		92	56 - 119		
Chrysene			0.5	0.432		µg/L		86	56 - 141		
Dibenz[a,h]anthracene			0.5	0.454		µg/L		91	55 - 150		
Dibenzo[a,l]pyrene			0.5	0.459		µg/L		92	50 - 150		
Dibenzothiophene			0.5	0.482		µg/L		96	46 - 126		
Disalicylidenepropanediamine			50	41.7		µg/L		83	50 - 150		
Fluoranthene			0.5	0.457		µg/L		91	60 - 146		
Fluorene			0.5	0.459		µg/L		92	58 - 131		
Indeno[1,2,3-cd]pyrene			0.5	0.449		µg/L		90	50 - 151		
Naphthalene			0.5	0.428		µg/L		86	41 - 126		
Perylene			0.5	0.442		µg/L		88	48 - 141		
Phenanthrene			0.5	0.461		µg/L		92	67 - 127		
Pyrene			0.5	0.449		µg/L		90	54 - 156		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
(d10-Acenaphthene)	*89*		*27 - 133*
(d10-Phenanthrene)	*95*		*43 - 129*
(d12-Chrysene)	*94*		*52 - 144*
(d12-Perylene)	*89*		*36 - 161*
(d8-Naphthalene)	*80*		*25 - 125*

Lab Sample ID: 104678-BS2
Matrix: BlankMatrix
Analysis Batch: O-41014

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-41014_P

Analyte			Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene			0.5	0.417		µg/L		83	31 - 128	5	30
1-Methylphenanthrene			0.5	0.451		µg/L		90	66 - 127	0	30
2,3,5-Trimethylnaphthalene			0.5	0.45		µg/L		90	55 - 122	3	30
2,6-Dimethylnaphthalene			0.5	0.429		µg/L		86	48 - 120	3	30
2-Methylnaphthalene			0.5	0.416		µg/L		83	47 - 130	6	30
Acenaphthene			0.5	0.43		µg/L		86	53 - 131	5	30
Acenaphthylene			0.5	0.427		µg/L		85	43 - 140	5	30
Anthracene			0.5	0.454		µg/L		91	58 - 135	0	30
Benz[a]anthracene			0.5	0.428		µg/L		86	55 - 145	1	30
Benzo[a]pyrene			0.5	0.435		µg/L		87	51 - 143	2	30
Benzo[b]fluoranthene			0.5	0.455		µg/L		91	46 - 165	0	30
Benzo[e]pyrene			0.5	0.455		µg/L		91	42 - 152	0	30
Benzo[g,h,i]perylene			0.5	0.461		µg/L		92	63 - 133	0	30
Benzo[k]fluoranthene			0.5	0.456		µg/L		91	56 - 145	1	30
Biphenyl			0.5	0.438		µg/L		88	56 - 119	4	30
Chrysene			0.5	0.433		µg/L		87	56 - 141	1	30

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

Lab Sample ID: 104678-BS2
Matrix: BlankMatrix
Analysis Batch: O-41014

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-41014_P

Analyte			Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dibenz[a,h]anthracene			0.5	0.453		µg/L		91	55 - 150	0	30
Dibenzo[a,l]pyrene			0.5	0.456		µg/L		91	50 - 150	1	30
Dibenzothiophene			0.5	0.476		µg/L		95	46 - 126	1	30
Disalicylidenepropanediamine			50	47.8		µg/L		96	50 - 150	15	30
Fluoranthene			0.5	0.451		µg/L		90	60 - 146	1	30
Fluorene			0.5	0.447		µg/L		89	58 - 131	3	30
Indeno[1,2,3-cd]pyrene			0.5	0.443		µg/L		89	50 - 151	1	30
Naphthalene			0.5	0.407		µg/L		81	41 - 126	6	30
Perylene			0.5	0.441		µg/L		88	48 - 141	0	30
Phenanthrene			0.5	0.458		µg/L		92	67 - 127	0	30
Pyrene			0.5	0.447		µg/L		89	54 - 156	1	30

Surrogate	*LCS DUP %Recovery*	*LCS DUP Qualifier*	*Limits*
(d10-Acenaphthene)	*85*		*27 - 133*
(d10-Phenanthrene)	*95*		*43 - 129*
(d12-Chrysene)	*94*		*52 - 144*
(d12-Perylene)	*90*		*36 - 161*
(d8-Naphthalene)	*76*		*25 - 125*

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

Lab Sample ID: 23VGH7C08B
Matrix: WATER
Analysis Batch: 23VGH7C08

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	0.02		mg/L			03/24/23 11:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE					*03/24/23 11:57*	*1*

Lab Sample ID: 23VGH7C08L
Matrix: WATER
Analysis Batch: 23VGH7C08

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
GASOLINE			0.5	0.493		mg/L		99	60 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
BROMOFLUOROBENZENE	*115*		*70 - 130*

Lab Sample ID: 23C313-01M
Matrix: WATER
Analysis Batch: 23VGH7C08

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		0.5	0.461		mg/L		92	50 - 130

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

Lab Sample ID: 23C313-01M
Matrix: WATER
Analysis Batch: 23VGH7C08

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

Surrogate	MS %Recovery	MS Qualifier	Limits
BROMOFLUOROBENZENE	110		60 - 140

Lab Sample ID: 23C313-01S
Matrix: WATER
Analysis Batch: 23VGH7C08

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		0.5	0.464		mg/L		93	50 - 130	1	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
BROMOFLUOROBENZENE	111		60 - 140

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

Lab Sample ID: 23DSC034WB
Matrix: WATER
Analysis Batch: 23DSC034W

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			03/31/23 17:35	1
JP5	ND	U	0.05		mg/L			03/31/23 17:35	1
JP8	ND	U	0.05		mg/L			03/31/23 17:35	1
MOTOR OIL	ND	U	0.05		mg/L			03/31/23 17:35	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE					03/31/23 17:35	1
HEXACOSANE					03/31/23 17:35	1

Lab Sample ID: 23DSC034WL
Matrix: WATER
Analysis Batch: 23DSC034W

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
DIESEL			2.5	2.74		mg/L		110	50 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOBENZENE	82		60 - 130
HEXACOSANE	99		60 - 130

Lab Sample ID: 23J5C034WL
Matrix: WATER
Analysis Batch: 23DSC034W

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
JP5			2.5	1.81		mg/L		72	30 - 160		

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

Lab Sample ID: 23J5C034WL
Matrix: WATER
Analysis Batch: 23DSC034W

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

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
BROMOBENZENE	*84*		*60 - 130*
HEXACOSANE	*101*		*60 - 130*

Lab Sample ID: 23J8C034WL
Matrix: WATER
Analysis Batch: 23DSC034W

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
JP8			2.5	1.89		mg/L		76	30 - 160		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
BROMOBENZENE	*87*		*60 - 130*
HEXACOSANE	*102*		*60 - 130*

GC/MS Semi VOA

Prep Batch: 34654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-41200-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	525.2	
380-41200-2	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TF	Total/NA	Drinking Water	525.2	
380-41200-3	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP0(	Total/NA	Drinking Water	525.2	
380-41200-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	525.2	
MB 380-34654/1-A	Method Blank	Total/NA	Water	525.2	
LCS 380-34654/3-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-34654/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-34654/2-A	Lab Control Sample	Total/NA	Water	525.2	
380-41173-AN-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-41185-AP-1-A DU	Duplicate	Total/NA	Water	525.2	

Analysis Batch: 34861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-41200-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	525.2	34654
380-41200-2	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TF	Total/NA	Drinking Water	525.2	34654
380-41200-3	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP0(	Total/NA	Drinking Water	525.2	34654
380-41200-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	525.2	34654
MB 380-34654/1-A	Method Blank	Total/NA	Water	525.2	34654
LCS 380-34654/3-A	Lab Control Sample	Total/NA	Water	525.2	34654
LCSD 380-34654/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	34654
MRL 380-34654/2-A	Lab Control Sample	Total/NA	Water	525.2	34654
380-41173-AN-1-A MS	Matrix Spike	Total/NA	Water	525.2	34654
380-41185-AP-1-A DU	Duplicate	Total/NA	Water	525.2	34654

LCMS

Prep Batch: 34468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-41200-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	537.1 DW	
380-41200-2	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TF	Total/NA	Drinking Water	537.1 DW	
380-41200-9	FB: MOANALUA WELLS	Total/NA	Water	537.1 DW	
380-41200-10	FB: AIEA GULCH WELLS PUMP 2	Total/NA	Water	537.1 DW	
MBL 380-34468/19-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-34468/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
LCSD 380-34468/22-A	Lab Control Sample Dup	Total/NA	Water	537.1 DW	
MRL 380-34468/20-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-41092-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-41092-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 34897

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-41200-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	537.1	34468
380-41200-2	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TF	Total/NA	Drinking Water	537.1	34468
380-41200-9	FB: MOANALUA WELLS	Total/NA	Water	537.1	34468
380-41200-10	FB: AIEA GULCH WELLS PUMP 2	Total/NA	Water	537.1	34468
MBL 380-34468/19-A	Method Blank	Total/NA	Water	537.1	34468
LCS 380-34468/21-A	Lab Control Sample	Total/NA	Water	537.1	34468
LCSD 380-34468/22-A	Lab Control Sample Dup	Total/NA	Water	537.1	34468
MRL 380-34468/20-A	Lab Control Sample	Total/NA	Water	537.1	34468
380-41092-B-1-A MS	Matrix Spike	Total/NA	Water	537.1	34468
380-41092-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	34468

LCMS

Prep Batch: 34952

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-41200-3	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP0(	Total/NA	Drinking Water	537.1 DW	
380-41200-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1 DW	
380-41200-11	FB: AIEA WELLS PUMPS 1&2 (260)	Total/NA	Water	537.1 DW	
380-41200-12	FB: HALAWA WELLS UNITS 1&2	Total/NA	Water	537.1 DW	
MBL 380-34952/21-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-34952/23-A	Lab Control Sample	Total/NA	Water	537.1 DW	
LCSD 380-34952/24-A	Lab Control Sample Dup	Total/NA	Water	537.1 DW	
MRL 380-34952/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-41200-3 MS	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP0(	Total/NA	Drinking Water	537.1 DW	
380-41200-4 DU	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1 DW	

Analysis Batch: 35253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-41200-3	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP0(	Total/NA	Drinking Water	537.1	34952
380-41200-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1	34952
380-41200-11	FB: AIEA WELLS PUMPS 1&2 (260)	Total/NA	Water	537.1	34952
380-41200-12	FB: HALAWA WELLS UNITS 1&2	Total/NA	Water	537.1	34952
MBL 380-34952/21-A	Method Blank	Total/NA	Water	537.1	34952
LCS 380-34952/23-A	Lab Control Sample	Total/NA	Water	537.1	34952
LCSD 380-34952/24-A	Lab Control Sample Dup	Total/NA	Water	537.1	34952
MRL 380-34952/22-A	Lab Control Sample	Total/NA	Water	537.1	34952
380-41200-3 MS	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP0(	Total/NA	Drinking Water	537.1	34952
380-41200-4 DU	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1	34952

Prep Batch: 35468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-41200-2	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TF	Total/NA	Drinking Water	533	
380-41200-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	
380-41200-10	FB: AIEA GULCH WELLS PUMP 2	Total/NA	Water	533	
380-41200-11	FB: AIEA WELLS PUMPS 1&2 (260)	Total/NA	Water	533	
MBL 380-35468/21-A	Method Blank	Total/NA	Water	533	
LCS 380-35468/23-A	Lab Control Sample	Total/NA	Water	533	
LCSD 380-35468/24-A	Lab Control Sample Dup	Total/NA	Water	533	
LLCS 380-35468/22-A	Lab Control Sample	Total/NA	Water	533	
380-40835-E-1-A MS	Matrix Spike	Total/NA	Water	533	
380-40835-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 35557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-41200-2	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TF	Total/NA	Drinking Water	533	35468
380-41200-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	35468
380-41200-10	FB: AIEA GULCH WELLS PUMP 2	Total/NA	Water	533	35468
380-41200-11	FB: AIEA WELLS PUMPS 1&2 (260)	Total/NA	Water	533	35468
MBL 380-35468/21-A	Method Blank	Total/NA	Water	533	35468
LCS 380-35468/23-A	Lab Control Sample	Total/NA	Water	533	35468
LCSD 380-35468/24-A	Lab Control Sample Dup	Total/NA	Water	533	35468
LLCS 380-35468/22-A	Lab Control Sample	Total/NA	Water	533	35468
380-40835-E-1-A MS	Matrix Spike	Total/NA	Water	533	35468
380-40835-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	35468

LCMS

Prep Batch: 35797

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-41200-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	
380-41200-3	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP0(	Total/NA	Drinking Water	533	
380-41200-9	FB: MOANALUA WELLS	Total/NA	Water	533	
MBL 380-35797/21-A	Method Blank	Total/NA	Water	533	
LCS 380-35797/23-A	Lab Control Sample	Total/NA	Water	533	
LCSD 380-35797/24-A	Lab Control Sample Dup	Total/NA	Water	533	
MRL 380-35797/22-A	Lab Control Sample	Total/NA	Water	533	
380-41200-1 LMS	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	
380-41200-1 LMSD	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	

Analysis Batch: 35877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-41200-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	35797
380-41200-3	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP0(	Total/NA	Drinking Water	533	35797
380-41200-9	FB: MOANALUA WELLS	Total/NA	Water	533	35797
MBL 380-35797/21-A	Method Blank	Total/NA	Water	533	35797
LCS 380-35797/23-A	Lab Control Sample	Total/NA	Water	533	35797
LCSD 380-35797/24-A	Lab Control Sample Dup	Total/NA	Water	533	35797
MRL 380-35797/22-A	Lab Control Sample	Total/NA	Water	533	35797
380-41200-1 LMS	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	35797
380-41200-1 LMSD	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	35797

Prep Batch: 36057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-41200-12	FB: HALAWA WELLS UNITS 1&2	Total/NA	Water	533	
MBL 380-36057/21-A	Method Blank	Total/NA	Water	533	
LCS 380-36057/23-A	Lab Control Sample	Total/NA	Water	533	
LCSD 380-36057/24-A	Lab Control Sample Dup	Total/NA	Water	533	
MRL 380-36057/22-A	Lab Control Sample	Total/NA	Water	533	
380-42734-C-1-A MS	Matrix Spike	Total/NA	Water	533	
380-42734-C-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 36178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-41200-12	FB: HALAWA WELLS UNITS 1&2	Total/NA	Water	533	36057
MBL 380-36057/21-A	Method Blank	Total/NA	Water	533	36057
LCS 380-36057/23-A	Lab Control Sample	Total/NA	Water	533	36057
LCSD 380-36057/24-A	Lab Control Sample Dup	Total/NA	Water	533	36057
MRL 380-36057/22-A	Lab Control Sample	Total/NA	Water	533	36057
380-42734-C-1-A MS	Matrix Spike	Total/NA	Water	533	36057
380-42734-C-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	533	36057

Subcontract

Analysis Batch: O-41014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-41200-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-41014_P
380-41200-2	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TF	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-41014_P
380-41200-3	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP0(	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-41014_P

Subcontract (Continued)

Analysis Batch: O-41014 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-41200-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-41014_P
104678-B1	Method Blank	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-41014_P
104678-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-41014_P
104678-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-41014_P

Analysis Batch: 23DSC034W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-41200-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/JP8	
380-41200-2	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TF	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/JP8	
380-41200-3	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP0(	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/JP8	
380-41200-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/JP8	
23DSC034WB	Method Blank	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	
23DSC034WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	
23J5C034WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	
23J8C034WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	

Analysis Batch: 23VGH7C08

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-41200-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-41200-2	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TF	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-41200-3	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP0(	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-41200-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-41200-5	TB:MOANALUA WELLS (331-223-TP202)	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-41200-6	TB:AIEA GULCH WELLS P2 (331-202-TP072)	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	

Subcontract (Continued)

Analysis Batch: 23VGH7C08 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-41200-7	TB: AIEA WELLS PUMPS 1&2 P2 (260) (331-203	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-41200-8	TB: HALAWA WELLS UNITS 1&2 P1 (331-206-TI	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
23VGH7C08B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23VGH7C08L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23C313-01M	Matrix Spike	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23C313-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Prep Batch: O-41014_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-41200-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	EPA_625	
380-41200-2	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TF	Total/NA	Drinking Water	EPA_625	
380-41200-3	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP0(	Total/NA	Drinking Water	EPA_625	
380-41200-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	EPA_625	
104678-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
104678-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
104678-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	

Lab Chronicle

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

Job ID: 380-41200-1

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

Lab Sample ID: 380-41200-1

Date Collected: 03/20/23 10:04
Date Received: 03/22/23 10:15

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			34654	OTM3	EA POM	03/24/23 06:34
Total/NA	Analysis	525.2		1	34861	Q8LA	EA POM	03/27/23 10:56
Total/NA	Prep	533			35797	EE6W	EA POM	04/05/23 13:59
Total/NA	Analysis	533		1	35877	UKYM	EA POM	04/06/23 17:59
Total/NA	Prep	537.1 DW			34468	US1B	EA POM	03/23/23 08:15
Total/NA	Analysis	537.1		1	34897	UKYM	EA POM	03/28/23 08:12
Total/NA	Prep	EPA_625		1	O-41014_P			03/23/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-41014	YC		04/05/23 02:43
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VGH7C08	SCerva		03/24/23 13:49
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSC034W	SDees		03/31/23 19:45

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)

Lab Sample ID: 380-41200-2

Date Collected: 03/20/23 10:59
Date Received: 03/22/23 10:15

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			34654	OTM3	EA POM	03/24/23 06:34
Total/NA	Analysis	525.2		1	34861	Q8LA	EA POM	03/27/23 11:16
Total/NA	Prep	533			35468	J9ZD	EA POM	04/02/23 13:24
Total/NA	Analysis	533		1	35557	UKYM	EA POM	04/04/23 10:15
Total/NA	Prep	537.1 DW			34468	US1B	EA POM	03/23/23 08:15
Total/NA	Analysis	537.1		1	34897	UKYM	EA POM	03/28/23 08:21
Total/NA	Prep	EPA_625		1	O-41014_P			03/23/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-41014	YC		04/05/23 04:30
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VGH7C08	SCerva		03/24/23 15:41
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSC034W	SDees		03/31/23 20:03

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)

Lab Sample ID: 380-41200-3

Date Collected: 03/20/23 10:36
Date Received: 03/22/23 10:15

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			34654	OTM3	EA POM	03/24/23 06:34
Total/NA	Analysis	525.2		1	34861	Q8LA	EA POM	03/27/23 11:36
Total/NA	Prep	533			35797	EE6W	EA POM	04/05/23 13:59
Total/NA	Analysis	533		1	35877	UKYM	EA POM	04/06/23 20:25
Total/NA	Prep	537.1 DW			34952	US1B	EA POM	03/28/23 05:45
Total/NA	Analysis	537.1		1	35253	UKYM	EA POM	03/31/23 02:26

Lab Chronicle

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

Job ID: 380-41200-1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)

Lab Sample ID: 380-41200-3

Date Collected: 03/20/23 10:36
Date Received: 03/22/23 10:15

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA_625		1	O-41014_P			03/23/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-41014	YC		04/05/23 06:17
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VGH7C08	SCerva		03/24/23 16:18
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSC034W	SDees		03/31/23 20:22

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

Lab Sample ID: 380-41200-4

Date Collected: 03/20/23 11:31
Date Received: 03/22/23 10:15

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			34654	OTM3	EA POM	03/24/23 06:34
Total/NA	Analysis	525.2		1	34861	Q8LA	EA POM	03/27/23 11:56
Total/NA	Prep	533			35468	J9ZD	EA POM	04/02/23 13:24
Total/NA	Analysis	533		1	35557	UKYM	EA POM	04/04/23 10:25
Total/NA	Prep	537.1 DW			34952	US1B	EA POM	03/28/23 05:45
Total/NA	Analysis	537.1		1	35253	UKYM	EA POM	03/31/23 02:45
Total/NA	Prep	EPA_625		1	O-41014_P			03/23/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-41014	YC		04/05/23 08:04
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VGH7C08	SCerva		03/24/23 17:33
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSC034W	SDees		03/31/23 20:40

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

Lab Sample ID: 380-41200-5

Date Collected: 03/20/23 10:04
Date Received: 03/22/23 10:15

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	23VGH7C08	SCerva		03/24/23 18:10

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

Lab Sample ID: 380-41200-6

Date Collected: 03/20/23 11:31
Date Received: 03/22/23 10:15

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	23VGH7C08	SCerva		03/24/23 18:48

Lab Chronicle

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

Job ID: 380-41200-1

Client Sample ID: TB: AIEA WELLS PUMPS 1&2 P2 (260) (331-203-TP400)

Lab Sample ID: 380-41200-7

Date Collected: 03/20/23 10:59
Date Received: 03/22/23 10:15

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	23VGH7C08	SCerva		03/24/23 19:25

Client Sample ID: TB: HALAWA WELLS UNITS 1&2 P1 (331-206-TP065)

Lab Sample ID: 380-41200-8

Date Collected: 03/20/23 10:36
Date Received: 03/22/23 10:15

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	23VGH7C08	SCerva		03/24/23 20:02

Client Sample ID: FB: MOANALUA WELLS

Lab Sample ID: 380-41200-9

Date Collected: 03/20/23 10:04
Date Received: 03/22/23 10:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			35797	EE6W	EA POM	04/05/23 13:59
Total/NA	Analysis	533		1	35877	UKYM	EA POM	04/06/23 20:35
Total/NA	Prep	537.1 DW			34468	US1B	EA POM	03/23/23 08:15
Total/NA	Analysis	537.1		1	34897	UKYM	EA POM	03/28/23 08:31

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-41200-10

Date Collected: 03/20/23 11:31
Date Received: 03/22/23 10:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			35468	J9ZD	EA POM	04/02/23 13:24
Total/NA	Analysis	533		1	35557	UKYM	EA POM	04/04/23 10:34
Total/NA	Prep	537.1 DW			34468	US1B	EA POM	03/23/23 08:15
Total/NA	Analysis	537.1		1	34897	UKYM	EA POM	03/28/23 08:51

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

Lab Sample ID: 380-41200-11

Date Collected: 03/20/23 10:59
Date Received: 03/22/23 10:15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			35468	J9ZD	EA POM	04/02/23 13:24
Total/NA	Analysis	533		1	35557	UKYM	EA POM	04/04/23 10:44
Total/NA	Prep	537.1 DW			34952	US1B	EA POM	03/28/23 05:45
Total/NA	Analysis	537.1		1	35253	UKYM	EA POM	03/31/23 05:11

Lab Chronicle

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

Job ID: 380-41200-1

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

Lab Sample ID: 380-41200-12

Date Collected: 03/20/23 10:36

Matrix: Water

Date Received: 03/22/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			36057	EE6W	EA POM	04/07/23 13:38
Total/NA	Analysis	533		1	36178	UKYM	EA POM	04/11/23 01:04
Total/NA	Prep	537.1 DW			34952	US1B	EA POM	03/28/23 05:45
Total/NA	Analysis	537.1		1	35253	UKYM	EA POM	03/31/23 05:21

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: 380-41200-1

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)

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: 380-41200-1

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: 380-41200-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-41200-1	MOANALUA WELLS (331-223-TP202)	Drinking Water	03/20/23 10:04	03/22/23 10:15	HI0000331
380-41200-2	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)	Drinking Water	03/20/23 10:59	03/22/23 10:15	HI0000331
380-41200-3	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	Drinking Water	03/20/23 10:36	03/22/23 10:15	HI0000331
380-41200-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Drinking Water	03/20/23 11:31	03/22/23 10:15	HI0000331
380-41200-5	TB:MOANALUA WELLS (331-223-TP202)	Water	03/20/23 10:04	03/22/23 10:15	
380-41200-6	TB:AIEA GULCH WELLS P2 (331-202-TP072)	Water	03/20/23 11:31	03/22/23 10:15	
380-41200-7	TB: AIEA WELLS PUMPS 1&2 P2 (260) (331-203-TP400)	Water	03/20/23 10:59	03/22/23 10:15	
380-41200-8	TB: HALAWA WELLS UNITS 1&2 P1 (331-206-TP065)	Water	03/20/23 10:36	03/22/23 10:15	
380-41200-9	FB: MOANALUA WELLS	Water	03/20/23 10:04	03/22/23 10:15	
380-41200-10	FB: AIEA GULCH WELLS PUMP 2	Water	03/20/23 11:31	03/22/23 10:15	
380-41200-11	FB: AIEA WELLS PUMPS 1&2 (260)	Water	03/20/23 10:59	03/22/23 10:15	
380-41200-12	FB: HALAWA WELLS UNITS 1&2	Water	03/20/23 10:36	03/22/23 10:15	

EMAX LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 04-11-2023
EMAX Batch No.: 23C313

Attn: Jackie Contreras

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

Subject: Laboratory Report
Project: 380-41200

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

Sample ID	Control #	Col Date	Matrix	Analysis
380-41200-1	C313-01	03/20/23	WATER	TPH GASOLINE
				TPH
380-41200-2	C313-02	03/20/23	WATER	TPH GASOLINE
				TPH
380-41200-3	C313-03	03/20/23	WATER	TPH GASOLINE
				TPH
380-41200-4	C313-04	03/20/23	WATER	TPH GASOLINE
				TPH
380-41200-5	C313-05	03/20/23	WATER	TPH GASOLINE
380-41200-6	C313-06	03/20/23	WATER	TPH GASOLINE
380-41200-7	C313-07	03/20/23	WATER	TPH GASOLINE
380-41200-8	C313-08	03/20/23	WATER	TPH GASOLINE
380-41200-1MS	C313-01M	03/20/23	WATER	TPH GASOLINE
380-41200-1MSD	C313-01S	03/20/23	WATER	TPH GASOLINE

The results are summarized on the following pages.

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

Sincerely yours,

Caspar J. Pang
Laboratory Director

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 23C313

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-43487.1
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 #: 380-41200-1
Address: 3051 Fujita Street, ,	Due Date Requested: 4/5/2023			
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) (380-41200-1)	3/20/23	10:15 Hawaiian		Water			X	X	6	See Attached Instructions
2	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400) (380-4120	3/20/23	10:59 Hawaiian		Water			X	X	6	See Attached Instructions
3	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065) (380-41200-	3/20/23	10:36 Hawaiian		Water			X	X	6	See Attached Instructions
4	AIEA GULCH WELLS PUMP 2 (331-202-TP072) (380-41200-4)	3/20/23	11:31 Hawaiian		Water			X	X	6	See Attached Instructions
5	TB:MOANALUA WELLS (331-223-TP202) (380-41200-5)	3/20/23	10:15 Hawaiian		Water			X		2	See Attached Instructions
6	TB:AIEA GULCH WELLS P2 (331-202-TP072) (380-41200-6)	3/20/23	11:31 Hawaiian		Water			X		2	See Attached Instructions
7	TB: AIEA WELLS PUMPS 1&2 P2 (260) (331-203-TP400) (380-4	3/20/23	10:59 Hawaiian		Water			X		2	See Attached Instructions
8	TB: HALAWA WELLS UNITS 1&2 P1 (331-206-TP065) (380-4120	3/20/23	10:36 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: 3/23/23 1154	Company CGA	Received by:	Date/Time: 3/23/23 1154	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: Temp. 5.5/5.3 [CF: -0.2]

Ver: 06/08/2021

SAMPLE RECEIPT FORM 1

Type of Delivery	Airbill / Tracking Number	ECN 23C313
☐ Fedex ☐ UPS ☐ GSO ☐ Others		Recipient Dereck Snell
☐ EMAX Courier ☒ Client Delivery		Date 03/23/23 Time 11:54

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 5.5/5.3 °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* 221052760	*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
1	5,6	D22	2nd time reads 10:04	R1
1-4	5,6,11,12,17,18,23,24	D1	JP5/JP8 not indicated on label	↓
8	32	D22	Label reads: 3/13/23 at 10:45	

03/23/23

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time. NB 3/24/23

NOTES/OBSERVATIONS:

SAMPLE MATRIX IS DRINKING WATER? ☐ YES ☐ NO

LEGEND:

☐ Continue to next page.

Code	Description- Sample Management
(D1)	Analysis is not indicated in label
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)	2nd date/time on label is incorrect
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 maria rivera Date 03/23/23 | 3/23/23

SRF Date 3/23/23

PM NB Date 3/24/23

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

380-41200

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

SDG#: 23C313

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-41200

SDG : 23C313

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

A total of eight(8) water samples were received on 03/23/23 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. VGH7C08B - 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. VGH7C08L/VGH7C08C 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 C313-01M/C313-01S. 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 : 380-41200

SDG NO. : 23C313
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	VGH7C08B	1	NA	03/24/2311:57	03/24/2311:57	AC24005A	AC24004A	23VGH7C08	Method Blank
LCS1W	VGH7C08L	1	NA	03/24/2312:34	03/24/2312:34	AC24006A	AC24004A	23VGH7C08	Lab Control Sample (LCS)
LCD1W	VGH7C08C	1	NA	03/24/2313:12	03/24/2313:12	AC24007A	AC24004A	23VGH7C08	LCS Duplicate
380-41200-1	C313-01	1	NA	03/24/2313:49	03/24/2313:49	AC24008A	AC24004A	23VGH7C08	Field Sample
380-41200-1MS	C313-01M	1	NA	03/24/2314:26	03/24/2314:26	AC24009A	AC24004A	23VGH7C08	Matrix Spike Sample (MS)
380-41200-1MSD	C313-01S	1	NA	03/24/2315:04	03/24/2315:04	AC24010A	AC24004A	23VGH7C08	MS Duplicate (MSD)
380-41200-2	C313-02	1	NA	03/24/2315:41	03/24/2315:41	AC24011A	AC24004A	23VGH7C08	Field Sample
380-41200-3	C313-03	1	NA	03/24/2316:18	03/24/2316:18	AC24012A	AC24004A	23VGH7C08	Field Sample
380-41200-4	C313-04	1	NA	03/24/2317:33	03/24/2317:33	AC24014A	AC24013A	23VGH7C08	Field Sample
380-41200-5	C313-05	1	NA	03/24/2318:10	03/24/2318:10	AC24015A	AC24013A	23VGH7C08	Field Sample
380-41200-6	C313-06	1	NA	03/24/2318:48	03/24/2318:48	AC24016A	AC24013A	23VGH7C08	Field Sample
380-41200-7	C313-07	1	NA	03/24/2319:25	03/24/2319:25	AC24017A	AC24013A	23VGH7C08	Field Sample
380-41200-8	C313-08	1	NA	03/24/2320:02	03/24/2320:02	AC24018A	AC24013A	23VGH7C08	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: 03/20/23 10:15
Project : 380-41200	Date Received: 03/23/23
Batch No. : 23C313	Date Extracted: 03/24/23 13:49
Sample ID : 380-41200-1	Date Analyzed: 03/24/23 13:49
Lab Samp ID: C313-01	Dilution Factor: 1
Lab File ID: AC24008A	Matrix: WATER
Ext Btch ID: 23VGH7C08	% Moisture: NA
Calib. Ref.: AC24004A	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	0.0392	0.0400	98	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: 03/20/23 10:59
Project : 380-41200	Date Received: 03/23/23
Batch No. : 23C313	Date Extracted: 03/24/23 15:41
Sample ID : 380-41200-2	Date Analyzed: 03/24/23 15:41
Lab Samp ID: C313-02	Dilution Factor: 1
Lab File ID: AC24011A	Matrix: WATER
Ext Btch ID: 23VGH7C08	% Moisture: NA
Calib. Ref.: AC24004A	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	0.0398	0.0400	99	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: 03/20/23 10:36
Project : 380-41200	Date Received: 03/23/23
Batch No. : 23C313	Date Extracted: 03/24/23 16:18
Sample ID : 380-41200-3	Date Analyzed: 03/24/23 16:18
Lab Samp ID: C313-03	Dilution Factor: 1
Lab File ID: AC24012A	Matrix: WATER
Ext Btch ID: 23VGH7C08	% Moisture: NA
Calib. Ref.: AC24004A	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: 03/20/23 11:31
Project : 380-41200	Date Received: 03/23/23
Batch No. : 23C313	Date Extracted: 03/24/23 17:33
Sample ID : 380-41200-4	Date Analyzed: 03/24/23 17:33
Lab Samp ID: C313-04	Dilution Factor: 1
Lab File ID: AC24014A	Matrix: WATER
Ext Btch ID: 23VGH7C08	% Moisture: NA
Calib. Ref.: AC24013A	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

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

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/20/23 10:15
Project : 380-41200	Date Received: 03/23/23
Batch No. : 23C313	Date Extracted: 03/24/23 18:10
Sample ID : 380-41200-5	Date Analyzed: 03/24/23 18:10
Lab Samp ID: C313-05	Dilution Factor: 1
Lab File ID: AC24015A	Matrix: WATER
Ext Btch ID: 23VGH7C08	% Moisture: NA
Calib. Ref.: AC24013A	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:	03/20/23 11:31
Project	: 380-41200	Date Received:	03/23/23
Batch No.	: 23C313	Date Extracted:	03/24/23 18:48
Sample ID	: 380-41200-6	Date Analyzed:	03/24/23 18:48
Lab Samp ID:	C313-06	Dilution Factor:	1
Lab File ID:	AC24016A	Matrix:	WATER
Ext Btch ID:	23VGH7C08	% Moisture:	NA
Calib. Ref.:	AC24013A	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	0.0370	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:	03/20/23 10:59
Project	: 380-41200	Date Received:	03/23/23
Batch No.	: 23C313	Date Extracted:	03/24/23 19:25
Sample ID	: 380-41200-7	Date Analyzed:	03/24/23 19:25
Lab Samp ID:	C313-07	Dilution Factor:	1
Lab File ID:	AC24017A	Matrix:	WATER
Ext Btch ID:	23VGH7C08	% Moisture:	NA
Calib. Ref.:	AC24013A	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	0.0384	0.0400	96	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: 03/20/23 10:36
Project : 380-41200	Date Received: 03/23/23
Batch No. : 23C313	Date Extracted: 03/24/23 20:02
Sample ID : 380-41200-8	Date Analyzed: 03/24/23 20:02
Lab Samp ID: C313-08	Dilution Factor: 1
Lab File ID: AC24018A	Matrix: WATER
Ext Btch ID: 23VGH7C08	% Moisture: NA
Calib. Ref.: AC24013A	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

QC SUMMARIES

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/24/23 11:57
Project	: 380-41200	Date Received:	03/24/23
Batch No.	: 23C313	Date Extracted:	03/24/23 11:57
Sample ID	: MBLK1W	Date Analyzed:	03/24/23 11:57
Lab Samp ID:	VGH7C08B	Dilution Factor:	1
Lab File ID:	AC24005A	Matrix:	WATER
Ext Btch ID:	23VGH7C08	% Moisture:	NA
Calib. Ref.:	AC24004A	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	0.0357	0.0400	89	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 : 380-41200
BATCH NO. : 23C313
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: VGH7C08B	VGH7C08L	VGH7C08C
LAB FILE ID	: AC24005A	AC24006A	AC24007A
DATE PREPARED	: 03/24/23 11:57	03/24/23 12:34	03/24/23 13:12
DATE ANALYZED	: 03/24/23 11:57	03/24/23 12:34	03/24/23 13:12
PREP BATCH	: 23VGH7C08	23VGH7C08	23VGH7C08
CALIBRATION REF	: AC24004A	AC24004A	AC24004A

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	0.493	99	0.500	0.465	93	6	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0460	115	0.0400	0.0446	112	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 : 380-41200
BATCH NO. : 23C313
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: 380-41200-1	380-41200-1MS	380-41200-1MSD
LAB SAMPLE ID	: C313-01	C313-01M	C313-01S
LAB FILE ID	: AC24008A	AC24009A	AC24010A
DATE PREPARED	: 03/24/23 13:49	03/24/23 14:26	03/24/23 15:04
DATE ANALYZED	: 03/24/23 13:49	03/24/23 14:26	03/24/23 15:04
PREP BATCH	: 23VGH7C08	23VGH7C08	23VGH7C08
CALIBRATION REF	: AC24004A	AC24004A	AC24004A

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	0.461	92	0.500	0.464	93	1	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0439	110	0.0400	0.0442	111	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-41200

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 23C313

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-41200

SDG : 23C313

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 03/23/23 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. DSC034WB - 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. DSC034WL/DSC034WC 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: 380-41200

SDG : 23C313

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 03/23/23 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. DSC034WB - 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. J5C034WL/J5C034WC 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: 380-41200

SDG : 23C313

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 03/23/23 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. DSC034WB - 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. J8C034WL/J8C034WC 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 : 380-41200

SDG NO. : 23C313
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	DSC034WB	1	NA	03/31/2317:35	03/30/2312:30	LC31014A	LC31008A	23DSC034W	Method Blank
LCS1W	DSC034WL	1	NA	03/31/2317:53	03/30/2312:30	LC31015A	LC31008A	23DSC034W	Lab Control Sample (LCS)
LCD1W	DSC034WC	1	NA	03/31/2318:12	03/30/2312:30	LC31016A	LC31008A	23DSC034W	LCS Duplicate
380-41200-1	C313-01	1	NA	03/31/2319:45	03/30/2312:30	LC31021A	LC31008A	23DSC034W	Field Sample
380-41200-2	C313-02	1	NA	03/31/2320:03	03/30/2312:30	LC31022A	LC31008A	23DSC034W	Field Sample
380-41200-3	C313-03	1	NA	03/31/2320:22	03/30/2312:30	LC31023A	LC31008A	23DSC034W	Field Sample
380-41200-4	C313-04	1	NA	03/31/2320:40	03/30/2312:30	LC31024A	LC31008A	23DSC034W	Field Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
Project : 380-41200

SDG NO. : 23C313
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	DSC034WB	1	NA	03/31/2317:35	03/30/2312:30	LC31014A	LC31009A	23DSC034W	Method Blank
LCS1W	J5C034WL	1	NA	03/31/2318:31	03/30/2312:30	LC31017A	LC31009A	23DSC034W	Lab Control Sample (LCS)
LCD1W	J5C034WC	1	NA	03/31/2318:49	03/30/2312:30	LC31018A	LC31009A	23DSC034W	LCS Duplicate
380-41200-1	C313-01	1	NA	03/31/2319:45	03/30/2312:30	LC31021A	LC31009A	23DSC034W	Field Sample
380-41200-2	C313-02	1	NA	03/31/2320:03	03/30/2312:30	LC31022A	LC31009A	23DSC034W	Field Sample
380-41200-3	C313-03	1	NA	03/31/2320:22	03/30/2312:30	LC31023A	LC31009A	23DSC034W	Field Sample
380-41200-4	C313-04	1	NA	03/31/2320:40	03/30/2312:30	LC31024A	LC31009A	23DSC034W	Field Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
Project : 380-41200

SDG NO. : 23C313
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	DSC034WB	1	NA	03/31/2317:35	03/30/2312:30	LC31014A	LC31010A	23DSC034W	Method Blank
LCS1W	J8C034WL	1	NA	03/31/2319:08	03/30/2312:30	LC31019A	LC31010A	23DSC034W	Lab Control Sample (LCS)
LCD1W	J8C034WC	1	NA	03/31/2319:26	03/30/2312:30	LC31020A	LC31010A	23DSC034W	LCS Duplicate
380-41200-1	C313-01	1	NA	03/31/2319:45	03/30/2312:30	LC31021A	LC31010A	23DSC034W	Field Sample
380-41200-2	C313-02	1	NA	03/31/2320:03	03/30/2312:30	LC31022A	LC31010A	23DSC034W	Field Sample
380-41200-3	C313-03	1	NA	03/31/2320:22	03/30/2312:30	LC31023A	LC31010A	23DSC034W	Field Sample
380-41200-4	C313-04	1	NA	03/31/2320:40	03/30/2312:30	LC31024A	LC31010A	23DSC034W	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/20/23 10:15
Project : 380-41200	Date Received: 03/23/23
Batch No. : 23C313	Date Extracted: 03/30/23 12:30
Sample ID : 380-41200-1	Date Analyzed: 03/31/23 19:45
Lab Samp ID: 23C313-01	Dilution Factor: 1
Lab File ID: LC31021A	Matrix: WATER
Ext Btch ID: 23DSC034W	% Moisture: NA
Calib. Ref.: LC31008A	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	0.412	0.525	78	60-130
Hexacosane	0.121	0.131	92	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 : POreto Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/20/23 10:15
Project : 380-41200	Date Received: 03/23/23
Batch No. : 23C313	Date Extracted: 03/30/23 12:30
Sample ID : 380-41200-1	Date Analyzed: 03/31/23 19:45
Lab Samp ID: 23C313-01	Dilution Factor: 1
Lab File ID: LC31021A	Matrix: WATER
Ext Btch ID: 23DSC034W	% Moisture: NA
Calib. Ref.: LC31009A	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	0.412	0.525	78	60-130
Hexacosane	0.121	0.131	92	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 : POreto Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/20/23 10:15
Project : 380-41200	Date Received: 03/23/23
Batch No. : 23C313	Date Extracted: 03/30/23 12:30
Sample ID : 380-41200-1	Date Analyzed: 03/31/23 19:45
Lab Samp ID: 23C313-01	Dilution Factor: 1
Lab File ID: LC31021A	Matrix: WATER
Ext Btch ID: 23DSC034W	% Moisture: NA
Calib. Ref.: LC31010A	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	0.412	0.525	78	60-130
Hexacosane	0.121	0.131	92	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 : POreto Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/20/23 10:59
Project	: 380-41200	Date Received:	03/23/23
Batch No.	: 23C313	Date Extracted:	03/30/23 12:30
Sample ID	: 380-41200-2	Date Analyzed:	03/31/23 20:03
Lab Samp ID:	23C313-02	Dilution Factor:	1
Lab File ID:	LC31022A	Matrix:	WATER
Ext Btch ID:	23DSC034W	% Moisture:	NA
Calib. Ref.:	LC31008A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Diesel	ND	0.027	0.014
Motor Oil	ND	0.055	0.027

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.434	0.545	80	60-130
Hexacosane	0.130	0.136	96	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 : 920ml Final Volume : 5ml
Prepared by : POreto Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/20/23 10:59
Project : 380-41200	Date Received: 03/23/23
Batch No. : 23C313	Date Extracted: 03/30/23 12:30
Sample ID : 380-41200-2	Date Analyzed: 03/31/23 20:03
Lab Samp ID: 23C313-02	Dilution Factor: 1
Lab File ID: LC31022A	Matrix: WATER
Ext Btch ID: 23DSC034W	% Moisture: NA
Calib. Ref.: LC31009A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.055	0.027

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.434	0.545	80	60-130
Hexacosane	0.130	0.136	96	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 : 920ml Final Volume : 5ml
Prepared by : POreto Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/20/23 10:59
Project	: 380-41200	Date Received:	03/23/23
Batch No.	: 23C313	Date Extracted:	03/30/23 12:30
Sample ID	: 380-41200-2	Date Analyzed:	03/31/23 20:03
Lab Samp ID:	23C313-02	Dilution Factor:	1
Lab File ID:	LC31022A	Matrix:	WATER
Ext Btch ID:	23DSC034W	% Moisture:	NA
Calib. Ref.:	LC31010A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.055	0.027

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.434	0.545	80	60-130
Hexacosane	0.130	0.136	96	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 : 920ml Final Volume : 5ml
Prepared by : POreto Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/20/23 10:36
Project	: 380-41200	Date Received:	03/23/23
Batch No.	: 23C313	Date Extracted:	03/30/23 12:30
Sample ID	: 380-41200-3	Date Analyzed:	03/31/23 20:22
Lab Samp ID:	23C313-03	Dilution Factor:	1
Lab File ID:	LC31023A	Matrix:	WATER
Ext Btch ID:	23DSC034W	% Moisture:	NA
Calib. Ref.:	LC31008A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Diesel	ND	0.027	0.013
Motor Oil	ND	0.053	0.027

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.370	0.530	70	60-130
Hexacosane	0.124	0.132	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	: 940ml	Final Volume	: 5ml
Prepared by	: POreto	Analyzed by	: SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/20/23 10:36
Project : 380-41200	Date Received: 03/23/23
Batch No. : 23C313	Date Extracted: 03/30/23 12:30
Sample ID : 380-41200-3	Date Analyzed: 03/31/23 20:22
Lab Samp ID: 23C313-03	Dilution Factor: 1
Lab File ID: LC31023A	Matrix: WATER
Ext Btch ID: 23DSC034W	% Moisture: NA
Calib. Ref.: LC31009A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.053	0.027

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.370	0.530	70	60-130
Hexacosane	0.124	0.132	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 : 940ml Final Volume : 5ml
Prepared by : POreto Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/20/23 10:36
Project	: 380-41200	Date Received:	03/23/23
Batch No.	: 23C313	Date Extracted:	03/30/23 12:30
Sample ID	: 380-41200-3	Date Analyzed:	03/31/23 20:22
Lab Samp ID:	23C313-03	Dilution Factor:	1
Lab File ID:	LC31023A	Matrix:	WATER
Ext Btch ID:	23DSC034W	% Moisture:	NA
Calib. Ref.:	LC31010A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.053	0.027

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.370	0.530	70	60-130
Hexacosane	0.124	0.132	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 : 940ml
Final Volume : 5ml
Prepared by : POreto
Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/20/23 11:31
Project : 380-41200	Date Received: 03/23/23
Batch No. : 23C313	Date Extracted: 03/30/23 12:30
Sample ID : 380-41200-4	Date Analyzed: 03/31/23 20:40
Lab Samp ID: 23C313-04	Dilution Factor: 1
Lab File ID: LC31024A	Matrix: WATER
Ext Btch ID: 23DSC034W	% Moisture: NA
Calib. Ref.: LC31008A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Diesel	ND	0.025	0.013
Motor Oil	ND	0.051	0.025

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.381	0.505	75	60-130
Hexacosane	0.117	0.126	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 : 990ml Final Volume : 5ml
Prepared by : POreto Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/20/23 11:31
Project : 380-41200	Date Received: 03/23/23
Batch No. : 23C313	Date Extracted: 03/30/23 12:30
Sample ID : 380-41200-4	Date Analyzed: 03/31/23 20:40
Lab Samp ID: 23C313-04	Dilution Factor: 1
Lab File ID: LC31024A	Matrix: WATER
Ext Btch ID: 23DSC034W	% Moisture: NA
Calib. Ref.: LC31009A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.051	0.025

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.381	0.505	75	60-130
Hexacosane	0.117	0.126	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 : 990ml
Final Volume : 5ml
Prepared by : POreto
Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/20/23 11:31
Project : 380-41200	Date Received: 03/23/23
Batch No. : 23C313	Date Extracted: 03/30/23 12:30
Sample ID : 380-41200-4	Date Analyzed: 03/31/23 20:40
Lab Samp ID: 23C313-04	Dilution Factor: 1
Lab File ID: LC31024A	Matrix: WATER
Ext Btch ID: 23DSC034W	% Moisture: NA
Calib. Ref.: LC31010A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.051	0.025

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.381	0.505	75	60-130
Hexacosane	0.117	0.126	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 : 990ml Final Volume : 5ml
Prepared by : POreto Analyzed by : SDeeso

QC SUMMARIES

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/30/23 12:30
Project : 380-41200	Date Received: 03/30/23
Batch No. : 23C313	Date Extracted: 03/30/23 12:30
Sample ID : MBLK1W	Date Analyzed: 03/31/23 17:35
Lab Samp ID: DSC034WB	Dilution Factor: 1
Lab File ID: LC31014A	Matrix: WATER
Ext Btch ID: 23DSC034W	% Moisture: NA
Calib. Ref.: LC31008A	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	0.416	0.500	83	60-130
Hexacosane	0.115	0.125	92	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 : POreto Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-41200
BATCH NO. : 23C313
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSC034WB	DSC034WL	DSC034WC
LAB FILE ID	: LC31014A	LC31015A	LC31016A
DATE PREPARED	: 03/30/23 12:30	03/30/23 12:30	03/30/23 12:30
DATE ANALYZED	: 03/31/23 17:35	03/31/23 17:53	03/31/23 18:12
PREP BATCH	: 23DSC034W	23DSC034W	23DSC034W
CALIBRATION REF:	LC31008A	LC31008A	LC31008A

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	2.74	110	2.50	2.71	108	1	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.409	82	0.500	0.380	76	60-130
Hexacosane	0.125	0.124	99	0.125	0.132	106	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: 03/30/23 12:30
Project : 380-41200	Date Received: 03/30/23
Batch No. : 23C313	Date Extracted: 03/30/23 12:30
Sample ID : MBLK1W	Date Analyzed: 03/31/23 17:35
Lab Samp ID: DSC034WB	Dilution Factor: 1
Lab File ID: LC31014A	Matrix: WATER
Ext Btch ID: 23DSC034W	% Moisture: NA
Calib. Ref.: LC31009A	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	0.416	0.500	83	60-130
Hexacosane	0.115	0.125	92	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 : POreto Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-41200
BATCH NO. : 23C313
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSC034WB	J5C034WL	J5C034WC
LAB FILE ID	: LC31014A	LC31017A	LC31018A
DATE PREPARED	: 03/30/23 12:30	03/30/23 12:30	03/30/23 12:30
DATE ANALYZED	: 03/31/23 17:35	03/31/23 18:31	03/31/23 18:49
PREP BATCH	: 23DSC034W	23DSC034W	23DSC034W
CALIBRATION REF:	LC31009A	LC31009A	LC31009A

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	1.81	72	2.50	1.98	79	9	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.420	84	0.500	0.456	91	60-130
Hexacosane	0.125	0.126	101	0.125	0.125	100	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: 03/30/23 12:30
Project : 380-41200	Date Received: 03/30/23
Batch No. : 23C313	Date Extracted: 03/30/23 12:30
Sample ID : MBLK1W	Date Analyzed: 03/31/23 17:35
Lab Samp ID: DSC034WB	Dilution Factor: 1
Lab File ID: LC31014A	Matrix: WATER
Ext Btch ID: 23DSC034W	% Moisture: NA
Calib. Ref.: LC31010A	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	0.416	0.500	83	60-130
Hexacosane	0.115	0.125	92	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 : POreto Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-41200
BATCH NO. : 23C313
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSC034WB	J8C034WL	J8C034WC
LAB FILE ID	: LC31014A	LC31019A	LC31020A
DATE PREPARED	: 03/30/23 12:30	03/30/23 12:30	03/30/23 12:30
DATE ANALYZED	: 03/31/23 17:35	03/31/23 19:08	03/31/23 19:26
PREP BATCH	: 23DSC034W	23DSC034W	23DSC034W
CALIBRATION REF:	LC31010A	LC31010A	LC31010A

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	1.89	76	2.50	2.49	100	27	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.437	87	0.500	0.494	99	60-130
Hexacosane	0.125	0.128	102	0.125	0.130	104	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 Project # 38001111 Job # 380-41200-1
Physis Project ID: 1407003-384

Dear Rachelle,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 3/23/2023. 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: 1407003-384

RED-HILL Project # 38001111 Job # 380-41200-1

Total Samples: 4

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
104679	MOANALUA WELLS	331-223-TP202 (380-41200-1)	3/20/2023	10:15	Samplewater	Not Specified
104680	AIEA WELLS PUMPS 1&2 (260)	331-203-TP400 (380-41200-2)	3/20/2023	10:59	Samplewater	Not Specified
104681	HALAWA WELLS UNITS 1 & 2	331-206-TP065 (380-41200-3)	3/20/2023	10:36	Samplewater	Not Specified
104682	AIEA GULCH WELLS PUMP 2	331-202-TP072 (380-41200-4)	3/20/2023	11:31	Samplewater	Not Specified

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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

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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.

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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.

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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

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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: 1407003-384
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-41200-1

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 104679-R1	**MOANALUA WELLS 331-223-TP202**	**Matrix:**	**Samplewater**				**Sampled:**	**20-Mar-23 10:15**		**Received:**	**23-Mar-23**
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41014	23-Mar-23	05-Apr-23
Sample ID: 104680-R1	**AIEA WELLS PUMPS 1&2 (260) P2 3**	**Matrix:**	**Samplewater**				**Sampled:**	**20-Mar-23 10:59**		**Received:**	**23-Mar-23**
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41014	23-Mar-23	05-Apr-23
Sample ID: 104681-R1	**HALAWA WELLS UNITS 1 & 2 P1 331**	**Matrix:**	**Samplewater**				**Sampled:**	**20-Mar-23 10:36**		**Received:**	**23-Mar-23**
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41014	23-Mar-23	05-Apr-23
Sample ID: 104682-R1	**AIEA GULCH WELLS PUMP 2 331-20**	**Matrix:**	**Samplewater**				**Sampled:**	**20-Mar-23 11:31**		**Received:**	**23-Mar-23**
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41014	23-Mar-23	05-Apr-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 104679-R1	**MOANALUA WELLS 331-223-TP202**	**Matrix: Samplewater**					**Sampled: 20-Mar-23 10:15**			**Received:**	**23-Mar-23**
(d10-Acenaphthene)	EPA 625.1	% Recovery	77	1			Total		O-41014	23-Mar-23	05-Apr-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	95	1			Total		O-41014	23-Mar-23	05-Apr-23
(d12-Chrysene)	EPA 625.1	% Recovery	106	1			Total		O-41014	23-Mar-23	05-Apr-23
(d12-Perylene)	EPA 625.1	% Recovery	95	1			Total		O-41014	23-Mar-23	05-Apr-23
(d8-Naphthalene)	EPA 625.1	% Recovery	67	1			Total		O-41014	23-Mar-23	05-Apr-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23

PHYSIS Project ID: 1407003-384
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-41200-1

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-41014	23-Mar-23	05-Apr-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 104680-R1	**AIEA WELLS PUMPS 1&2 (260) P2 3 Matrix: Samplewater**						**Sampled: 20-Mar-23 10:59**			**Received:**	**23-Mar-23**
(d10-Acenaphthene)	EPA 625.1	% Recovery	77	1			Total		O-41014	23-Mar-23	05-Apr-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	96	1			Total		O-41014	23-Mar-23	05-Apr-23
(d12-Chrysene)	EPA 625.1	% Recovery	112	1			Total		O-41014	23-Mar-23	05-Apr-23
(d12-Perylene)	EPA 625.1	% Recovery	95	1			Total		O-41014	23-Mar-23	05-Apr-23
(d8-Naphthalene)	EPA 625.1	% Recovery	69	1			Total		O-41014	23-Mar-23	05-Apr-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23

PHYSIS Project ID: 1407003-384
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-41200-1

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-41014	23-Mar-23	05-Apr-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 104681-R1	**HALAWA WELLS UNITS 1 & 2 P1 331 Matrix: Samplewater**						**Sampled: 20-Mar-23 10:36**			**Received:**	**23-Mar-23**
(d10-Acenaphthene)	EPA 625.1	% Recovery	76	1			Total		O-41014	23-Mar-23	05-Apr-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	95	1			Total		O-41014	23-Mar-23	05-Apr-23
(d12-Chrysene)	EPA 625.1	% Recovery	110	1			Total		O-41014	23-Mar-23	05-Apr-23
(d12-Perylene)	EPA 625.1	% Recovery	92	1			Total		O-41014	23-Mar-23	05-Apr-23
(d8-Naphthalene)	EPA 625.1	% Recovery	64	1			Total		O-41014	23-Mar-23	05-Apr-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 104682-R1	**AIEA GULCH WELLS PUMP 2 331-20 Matrix: Samplewater**						**Sampled:**	**20-Mar-23**	**11:31**	**Received:**	**23-Mar-23**
(d10-Acenaphthene)	EPA 625.1	% Recovery	78	1			Total		O-41014	23-Mar-23	05-Apr-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	95	1			Total		O-41014	23-Mar-23	05-Apr-23
(d12-Chrysene)	EPA 625.1	% Recovery	111	1			Total		O-41014	23-Mar-23	05-Apr-23
(d12-Perylene)	EPA 625.1	% Recovery	92	1			Total		O-41014	23-Mar-23	05-Apr-23
(d8-Naphthalene)	EPA 625.1	% Recovery	68	1			Total		O-41014	23-Mar-23	05-Apr-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23

PHYSIS Project ID: 1407003-384
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-41200-1

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-41014	23-Mar-23	05-Apr-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41014	23-Mar-23	05-Apr-23

QUALITY CONTROL REPORT

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

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: 104678-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**					**Received:**	
		Method: EPA 625.1				Batch ID: O-41014		Prepared: 23-Mar-23					Analyzed: 04-Apr-23	
Disalicylidenepropanediamine	Total	ND	1	0.05	0.1	µg/L								
Sample ID: 104678-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**					**Received:**	
		Method: EPA 625.1				Batch ID: O-41014		Prepared: 23-Mar-23					Analyzed: 04-Apr-23	
Disalicylidenepropanediamine	Total	41.7	1	0.05	0.1	µg/L	50	0	83	50 - 150%	PASS			
Sample ID: 104678-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**					**Received:**	
		Method: EPA 625.1				Batch ID: O-41014		Prepared: 23-Mar-23					Analyzed: 05-Apr-23	
Disalicylidenepropanediamine	Total	47.8	1	0.05	0.1	µg/L	50	0	96	50 - 150%	PASS	15	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: 104678-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**	
	Method: EPA 625.1					Batch ID: O-41014		Prepared: 23-Mar-23				Analyzed: 04-Apr-23	
(d10-Acenaphthene)	Total	90	1			% Recovery	100	90	27 - 133%	PASS			
(d10-Phenanthrene)	Total	94	1			% Recovery	100	94	43 - 129%	PASS			
(d12-Chrysene)	Total	103	1			% Recovery	100	103	52 - 144%	PASS			
(d12-Perylene)	Total	88	1			% Recovery	100	88	36 - 161%	PASS			
(d8-Naphthalene)	Total	82	1			% Recovery	100	82	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: 1407003-384
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-41200-1

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: 104678-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**	
		Method: EPA 625.1				Batch ID: O-41014		Prepared: 23-Mar-23				Analyzed: 04-Apr-23	
(d10-Acenaphthene)	Total	89	1			% Recovery	100	0	89	27 - 133%	PASS		
(d10-Phenanthrene)	Total	95	1			% Recovery	100	0	95	43 - 129%	PASS		
(d12-Chrysene)	Total	94	1			% Recovery	100	0	94	52 - 144%	PASS		
(d12-Perylene)	Total	89	1			% Recovery	100	0	89	36 - 161%	PASS		
(d8-Naphthalene)	Total	80	1			% Recovery	100	0	80	25 - 125%	PASS		
1-Methylnaphthalene	Total	0.434	1	0.001	0.005	µg/L	0.5	0	87	31 - 128%	PASS		
1-Methylphenanthrene	Total	0.452	1	0.001	0.005	µg/L	0.5	0	90	66 - 127%	PASS		
2,3,5-Trimethylnaphthalene	Total	0.463	1	0.001	0.005	µg/L	0.5	0	93	55 - 122%	PASS		
2,6-Dimethylnaphthalene	Total	0.447	1	0.001	0.005	µg/L	0.5	0	89	48 - 120%	PASS		
2-Methylnaphthalene	Total	0.441	1	0.001	0.005	µg/L	0.5	0	88	47 - 130%	PASS		
Acenaphthene	Total	0.449	1	0.001	0.005	µg/L	0.5	0	90	53 - 131%	PASS		
Acenaphthylene	Total	0.445	1	0.001	0.005	µg/L	0.5	0	89	43 - 140%	PASS		
Anthracene	Total	0.456	1	0.001	0.005	µg/L	0.5	0	91	58 - 135%	PASS		
Benz[a]anthracene	Total	0.425	1	0.001	0.005	µg/L	0.5	0	85	55 - 145%	PASS		
Benzo[a]pyrene	Total	0.444	1	0.001	0.005	µg/L	0.5	0	89	51 - 143%	PASS		
Benzo[b]fluoranthene	Total	0.453	1	0.001	0.005	µg/L	0.5	0	91	46 - 165%	PASS		
Benzo[e]pyrene	Total	0.454	1	0.001	0.005	µg/L	0.5	0	91	42 - 152%	PASS		
Benzo[g,h,i]perylene	Total	0.459	1	0.001	0.005	µg/L	0.5	0	92	63 - 133%	PASS		
Benzo[k]fluoranthene	Total	0.45	1	0.001	0.005	µg/L	0.5	0	90	56 - 145%	PASS		
Biphenyl	Total	0.46	1	0.001	0.005	µg/L	0.5	0	92	56 - 119%	PASS		
Chrysene	Total	0.432	1	0.001	0.005	µg/L	0.5	0	86	56 - 141%	PASS		
Dibenz[a,h]anthracene	Total	0.454	1	0.001	0.005	µg/L	0.5	0	91	55 - 150%	PASS		
Dibenzo[a,l]pyrene	Total	0.459	1	0.001	0.005	µg/L	0.5	0	92	50 - 150%	PASS		

PHYSIS Project ID: 1407003-384
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-41200-1

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	0.482	1	0.001	0.005	µg/L	0.5	0	96	46 - 126%	PASS			
Fluoranthene	Total	0.457	1	0.001	0.005	µg/L	0.5	0	91	60 - 146%	PASS			
Fluorene	Total	0.459	1	0.001	0.005	µg/L	0.5	0	92	58 - 131%	PASS			
Indeno[1,2,3-cd]pyrene	Total	0.449	1	0.001	0.005	µg/L	0.5	0	90	50 - 151%	PASS			
Naphthalene	Total	0.428	1	0.001	0.005	µg/L	0.5	0	86	41 - 126%	PASS			
Perylene	Total	0.442	1	0.001	0.005	µg/L	0.5	0	88	48 - 141%	PASS			
Phenanthrene	Total	0.461	1	0.001	0.005	µg/L	0.5	0	92	67 - 127%	PASS			
Pyrene	Total	0.449	1	0.001	0.005	µg/L	0.5	0	90	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: 104678-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**		
		Method: EPA 625.1				Batch ID: O-41014		Prepared: 23-Mar-23				Analyzed: 05-Apr-23		
(d10-Acenaphthene)	Total	85	1			% Recovery	100	0	85	27 - 133%	PASS	5	30	PASS
(d10-Phenanthrene)	Total	95	1			% Recovery	100	0	95	43 - 129%	PASS	0	30	PASS
(d12-Chrysene)	Total	94	1			% Recovery	100	0	94	52 - 144%	PASS	0	30	PASS
(d12-Perylene)	Total	90	1			% Recovery	100	0	90	36 - 161%	PASS	1	30	PASS
(d8-Naphthalene)	Total	76	1			% Recovery	100	0	76	25 - 125%	PASS	5	30	PASS
1-Methylnaphthalene	Total	0.417	1	0.001	0.005	µg/L	0.5	0	83	31 - 128%	PASS	5	30	PASS
1-Methylphenanthrene	Total	0.451	1	0.001	0.005	µg/L	0.5	0	90	66 - 127%	PASS	0	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.45	1	0.001	0.005	µg/L	0.5	0	90	55 - 122%	PASS	3	30	PASS
2,6-Dimethylnaphthalene	Total	0.429	1	0.001	0.005	µg/L	0.5	0	86	48 - 120%	PASS	3	30	PASS
2-Methylnaphthalene	Total	0.416	1	0.001	0.005	µg/L	0.5	0	83	47 - 130%	PASS	6	30	PASS
Acenaphthene	Total	0.43	1	0.001	0.005	µg/L	0.5	0	86	53 - 131%	PASS	5	30	PASS
Acenaphthylene	Total	0.427	1	0.001	0.005	µg/L	0.5	0	85	43 - 140%	PASS	5	30	PASS
Anthracene	Total	0.454	1	0.001	0.005	µg/L	0.5	0	91	58 - 135%	PASS	0	30	PASS
Benz[a]anthracene	Total	0.428	1	0.001	0.005	µg/L	0.5	0	86	55 - 145%	PASS	1	30	PASS
Benzo[a]pyrene	Total	0.435	1	0.001	0.005	µg/L	0.5	0	87	51 - 143%	PASS	2	30	PASS
Benzo[b]fluoranthene	Total	0.455	1	0.001	0.005	µg/L	0.5	0	91	46 - 165%	PASS	0	30	PASS
Benzo[e]pyrene	Total	0.455	1	0.001	0.005	µg/L	0.5	0	91	42 - 152%	PASS	0	30	PASS
Benzo[g,h,i]perylene	Total	0.461	1	0.001	0.005	µg/L	0.5	0	92	63 - 133%	PASS	0	30	PASS
Benzo[k]fluoranthene	Total	0.456	1	0.001	0.005	µg/L	0.5	0	91	56 - 145%	PASS	1	30	PASS
Biphenyl	Total	0.438	1	0.001	0.005	µg/L	0.5	0	88	56 - 119%	PASS	4	30	PASS
Chrysene	Total	0.433	1	0.001	0.005	µg/L	0.5	0	87	56 - 141%	PASS	1	30	PASS
Dibenz[a,h]anthracene	Total	0.453	1	0.001	0.005	µg/L	0.5	0	91	55 - 150%	PASS	0	30	PASS
Dibenzo[a,l]pyrene	Total	0.456	1	0.001	0.005	µg/L	0.5	0	91	50 - 150%	PASS	1	30	PASS

PHYSIS Project ID: 1407003-384
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-41200-1

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	0.476	1	0.001	0.005	µg/L	0.5	0	95	46 - 126%	PASS	1	30 PASS	
Fluoranthene	Total	0.451	1	0.001	0.005	µg/L	0.5	0	90	60 - 146%	PASS	1	30 PASS	
Fluorene	Total	0.447	1	0.001	0.005	µg/L	0.5	0	89	58 - 131%	PASS	3	30 PASS	
Indeno[1,2,3-cd]pyrene	Total	0.443	1	0.001	0.005	µg/L	0.5	0	89	50 - 151%	PASS	1	30 PASS	
Naphthalene	Total	0.407	1	0.001	0.005	µg/L	0.5	0	81	41 - 126%	PASS	6	30 PASS	
Perylene	Total	0.441	1	0.001	0.005	µg/L	0.5	0	88	48 - 141%	PASS	0	30 PASS	
Phenanthrene	Total	0.458	1	0.001	0.005	µg/L	0.5	0	92	67 - 127%	PASS	0	30 PASS	
Pyrene	Total	0.447	1	0.001	0.005	µg/L	0.5	0	89	54 - 156%	PASS	1	30 PASS	

TENTATIVELY IDENTIFIED COMPOUNDS

Sample ID: 104679

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
36.2056	0.5471	1111	Anthracene-D10-	1517-22-2	92
59.7094	1.9605	3981	Oxybis(propane-1,2-diyl) dibenzoate	94-03-1	96
44.7114	0.8403	1706	1-Cyclohexene-1-carboxylic acid, 4-(1,5-dimethyl-3-oxohexyl)-, methyl ester, [R-(R*,R*)]-	17904-27-7	97
41.3860	0.6837	1389	1,3,6,10-Cyclotetradecatetraene, 3,7,11-trimethyl-14-(1-methylethyl)-, [S-(E,Z,E,E)]-	1898-13-1	88
53.1454	0.6518	1324	Tributyl acetylcitrate	77-90-7	97
33.4093	0.2212	449	n-Propyl benzoate	2315-68-6	80
10.9471	0.1881	382	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	91
50.4972	0.1311	266	Hexadecanoic acid, butyl ester	111-06-8	95
10.2993	0.1249	254	Cyclopentene, 1,2,3,4,5-pentamethyl-	1000154-28-6	95
10.7208	0.1158	235	Cyclohexane, 1-methyl-2-propyl-	4291-79-6	91
57.1805	0.0963	196	Octadecanoic acid, butyl ester	123-95-5	96
11.1401	0.0697	142	Phenol	108-95-2	95
68.5342	0.0695	141	Diethylene glycol dibenzoate	120-55-8	91
57.5673	0.0650	132	Hexanedioic acid, bis(2-ethylhexyl) ester	103-23-1	95
49.6176	0.0575	117	1-(Benzoyloxy)propan-2-yl benzoate	19224-26-1	92

Concentration estimated using the response for Anthracene-d10

Sample ID: 104680

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
36.2029	0.8426	1111	Anthracene-D10-	1719-06-8	94
60.2451	13.1554	17348	Benzeneacetic acid, .alpha.-oxo-, ethyl ester	1603-79-8	84
41.3845	4.8712	6424	1,3,6,10-Cyclotetradecatetraene, 3,7,11-trimethyl-14-(1-methylethyl)-, [S-(E,Z,E,E)]-	1898-13-1	89
59.7021	2.2548	2973	Oxybis(propane-1,2-diyl) dibenzoate	94-03-1	97
53.1484	1.2029	1586	Tributyl acetylcitrate	77-90-7	97
10.9464	0.3405	449	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	92
33.4121	0.3052	402	n-Propyl benzoate	2315-68-6	81
50.4940	0.2326	307	Hexadecanoic acid, butyl ester	111-06-8	95
10.7202	0.2198	290	Cyclohexane, 1-methyl-2-propyl-	4291-79-6	91
33.9293	0.1929	254	Benzoic acid, 1-methylethyl ester	939-48-0	85
57.1780	0.1785	235	Octadecanoic acid, butyl ester	123-95-5	96
10.2652	0.1768	233	Cyclopentane, 1,2,3,4,5-pentamethyl-	1000152-79-7	86
47.1428	0.1550	204	1-Cyclohexene-1-carboxylic acid, 4-(1,5-dimethyl-3-oxo-4-hexenyl)-, methyl ester, [R-(R*,R*)]-	16060-78-9	85
61.3945	0.1446	191	Benzene, 1,1'-(1,1,10,10-tetramethyl-1,10-decanediyl)bis[3,4-dimethyl-	63934-83-8	84
62.2518	0.1338	176	Phthalic acid, di(2-propylpentyl) ester	1000377-93-5	89
57.5626	0.1211	160	Hexanedioic acid, bis(2-ethylhexyl) ester	103-23-1	95

Concentration estimated using the response for Anthracene-d10

Sample ID: 104681

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
36.1990	0.6496	1111	Anthracene-D10-	1719-06-8	95
59.7034	2.3150	3960	Oxybis(propane-1,2-diyl) dibenzoate	94-03-1	93
41.3811	2.1471	3673	1,3,6,10-Cyclotetradecatetraene, 3,7,11-trimethyl-14-(1-methylethyl)-, [S-(E,Z,E,E)]-	1898-13-1	89
59.7045	1.3268	2269	1,3-Benzenediol, monobenzoate	136-36-7	87
53.1435	0.9273	1586	Tributyl acetylcitrate	77-90-7	97
44.7029	0.6732	1152	1-Cyclohexene-1-carboxylic acid, 4-(1,5-dimethyl-3-oxohexyl)-, methyl ester, [R-(R*,R*)]-	17904-27-7	97
60.2851	0.4240	725	1,2,5-Oxadiazole	288-37-9	96
32.2228	0.3717	636	Benzeneacetic acid, .alpha.-oxo-, ethyl ester	1603-79-8	89
28.1596	0.2686	459	Diethyl Phthalate	84-66-2	98
10.9442	0.2298	393	Oxalic acid, cyclohexyl propyl ester	1000309-30-3	93
33.4154	0.2058	352	Acetic benzoic anhydride	335872	80
50.4923	0.1888	323	Hexadecanoic acid, butyl ester	111-06-8	95
10.2990	0.1564	268	Cyclopentene, 1,2,3,4,5-pentamethyl-	1000154-28-6	92
37.4168	0.1547	265	'-ethenyl-1,2,3,4,4a,4b,5,6,7,9,10,10a-dodecahydro-1,1,4a,7-tetramethyl-, [4aS-(4a.alpha.,4b.beta.,7.b	1686-56-2	81
57.1737	0.1529	262	Octadecanoic acid, butyl ester	123-95-5	96
10.7199	0.1526	261	Cyclohexane, 1-methyl-2-propyl-	4291-79-6	91
57.5633	0.0946	162	Hexanedioic acid, bis(2-ethylhexyl) ester	103-23-1	95
61.3981	0.0888	152	Benzene, 1,1'-(1,1,10,10-tetramethyl-1,10-decanediyl)bis[3,4-dimethyl-	63934-83-8	84
68.5256	0.0761	130	Diethylene glycol dibenzoate	120-55-8	87
38.3264	0.0652	112	4-Chlorobutanoic anhydride	1000333-91-1	84
49.6135	0.0629	108	1-(Benzoyloxy)propan-2-yl benzoate	19224-26-1	95

Concentration estimated using the response for Anthracene-d10

Sample ID: 104682

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
36.2007	0.7288	1111	Anthracene-D10-	1719-06-8	94
41.3799	3.9127	5965	1,3,6,10-Cyclotetradecatetraene, 3,7,11-trimethyl-14-(1-methylethyl)-, [S-(E,Z,E,E)]-	1898-13-1	87
59.6997	1.9908	3035	Oxybis(propane-1,2-diyl) dibenzoate	94-03-1	97
53.1402	1.0005	1525	Tributyl acetylcitrate	77-90-7	97
44.7006	0.4885	745	1-Cyclohexene-1-carboxylic acid, 4-(1,5-dimethyl-3-oxohexyl)-, methyl ester, [R-(R*,R*)]-	17904-27-7	96
41.9579	0.4396	670	Kaur-16-ene, (8.beta.,13.beta.)-	20070-61-5	83
60.2453	0.2999	457	1,2,5-Oxadiazole	288-37-9	97
10.9440	0.2585	394	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	91
50.4918	0.2264	345	Hexadecanoic acid, butyl ester	111-06-8	95
33.4182	0.2079	317	n-Propyl benzoate	2315-68-6	80
28.1574	0.1991	304	Diethyl Phthalate	84-66-2	97
10.2988	0.1915	292	Cyclopentene, 1,2,3,4,5-pentamethyl-	1000154-28-6	92
10.7199	0.1884	287	Cyclohexane, 1-methyl-2-propyl-	4291-79-6	91
57.1744	0.1798	274	Octadecanoic acid, butyl ester	123-95-5	96
10.2647	0.1665	254	Cyclopentane, 1,2,3,4,5-pentamethyl-	1000152-79-7	86
57.5628	0.1080	165	Hexanedioic acid, bis(2-ethylhexyl) ester	103-23-1	94
32.8204	0.0732	112	Benzoic acid, 2-ethylhexyl ester	5444-75-7	97
46.4330	0.0731	111	epropanol, .alpha.-ethenyldecahydro-.alpha.,5,5,8a-tetramethyl-2-methylene-, [1S-[1.alpha.(R*),4a.be	1438-62-6	86

Concentration estimated using the response for Anthracene-d10

Sample ID: B1_41014

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
36.2533	5.1033	1111	Anthracene-D10	1517-22-2	93
10.9478	2.3950	521	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	92
10.2998	1.6463	358	Cyclopentene, 1,2,3,4,5-pentamethyl-	1000154-28-6	95
10.7211	1.5022	327	Cyclohexane, 1-methyl-2-propyl-	4291-79-6	91
10.2659	1.2776	278	Cyclopentane, 1,2,3,4,5-pentamethyl-	1000152-79-7	90
57.5957	1.1298	246	Hexanedioic acid, bis(2-ethylhexyl) ester	103-23-1	98

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: 380-43578.1
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 #: 380-41200-1
Address: 1904 Wright Circle, ,	Due Date Requested: 4/5/2023			
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) (380-41200-1)	3/20/23	10:15 Hawaiian		Water			X	2	See Attached Instructions
AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400) (380-4120	3/20/23	10:59 Hawaiian		Water			X	2	See Attached Instructions
HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065) (380-41200-	3/20/23	10:36 Hawaiian		Water			X	2	See Attached Instructions
AIEA GULCH WELLS PUMP 2 (331-202-TP072) (380-41200-4)	3/20/23	11:31 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:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	3/23/23 1253	EEA	[signature]	3/23/23 1253	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

5/24/2023

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Sample Receipt Summary

PHYSIS ENVIRONMENTAL LABORATORIES, INC. Innovative Solutions for Nature

Project Iteration ID: 1407003-384
Client Name: Eurofins Eaton Analytical
Project Name: RED-HILL Project # 38001111 Job # 380-41200-1
COC Page Number: 2 of 2
Bottle Label Color: NA

Receiving Info

1. Initials Received By: YC
2. Date Received: 3/23/23
3. Time Received: 1253
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): 5.3 Used I/R Thermometer # 1-2

Inspection Info

1. Initials Inspected By: AGH

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:

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

Chain of Custody Record

eurofins | Environment

Client Information	Sampler: Bailey	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-27939-2757.1
Client Contact: Dr. Ron Fenstemacher	Phone: 808-748-5840	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:

380-41200 COC

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	3/20/2023	1004	G	Water			X	X	X		X	X	X		
AIEA GULCH WELLS PUMP 2				Water											
AIEA WELLS PUMPS 1&2 (260)				Water											
HALAWA WELLS UNITS 1&2				Water											
MOANALUA WELLS				Water											
AIEA GULCH WELLS PUMP 2				Water											
AIEA WELLS PUMPS 1&2 (260)				Water											
HALAWA WELLS UNITS 1&2				Water											
MOANALUA WELLS				Water											
AIEA GULCH WELLS PUMP 2				Water											
AIEA WELLS PUMPS 1&2 (260) P2	03/20/2023	1059	G	Water			X	X	X	X	X	X	X		

7716 1978 9776 7716 1979 0151

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:

7716 1978 9581

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

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by: Bailey		HBWS	4401	3/22/23 10:15	FEA
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: 751A/ 1.8=1.6 2.8=2.6 Ice 4.8=4.6

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: 380-27939-2757.2
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	03/20/2023	1036	G	Water			X	X	X	X	X	X	X		
MOANALUA WELLS				Water											
AIEA GULCH WELLS PUMP 2				Water											
AIEA WELLS PUMPS 1&2 (260)				Water											
HALAWA WELLS UNITS 1&2				Water											
TB MOANALUA WELLS	03/20/2023	1004		Water							X				
TB AIEA GULCH WELLS PUMP2	03/20/2023	1131		Water							X				
TB AIEA WELLS PUMPS 1&2 (260) P2	03/20/2023	1059		Water							X				
TB HALAWA WELLS UNITS 1&2 P1	03/20/2023	1036		Water							X				
MOANALUA WELLS				Water											
AIEA GULCH WELLS PUMP 2	03/20/2023	1131	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:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by: Bailey		HBWS	4401	3/22/23 10:15	EET
Relinquished by:					
Relinquished by:					

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.6 / 2.6 / 4.6 GEF

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: 380-27939-2757.3
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											
HALAWA WELLS UNITS 1&2				Water											
FB: MOANALUA WELLS	03/23/2023	1004		Water								X	X		
FB: AIEA GULCH WELLS PUMP 2	03/23/2023	1131		Water								X	X		
FB: AIEA WELLS PUMPS 1&2 (260)	03/23/2023	1059		Water								X	X		
FB: HALAWA WELLS UNITS 1&2	03/23/2023	1036		Water								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:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
			4401	3/22/23 10:15	EET
Relinquished by: Bailey	Date/Time:	Company HBWS	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: 1.6 / 2.6 / 4.6 GF

Ver: 06/08/2021

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: ***3/15/2023 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: 380-41200-1

Login Number: 41200
List Number: 1
Creator: Sanchez Velasquez, Gustavo

List Source: Eurofins Eaton Analytical Pomona

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