eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Erwin Kawata
City & County of Honolulu
630 South Beretania Street
Public Service Bldg. Room 308
Honolulu, Hawaii 96843

Generated 3/23/2023 9:49:05 PM

JOB DESCRIPTION

RED-HILL
RUSH Weekly Red Hill

JOB NUMBER

380-35205-1

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

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Authorized for release by
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Table of Contents

Qualifiers

GC/MS Semi VOA

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

GC/MS Semi VOA TICs

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

LCMS

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Subcontract

Qualifier	Qualifier Description
U	This analyte was not detected.

Glossary

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

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

Job ID: 380-35205-1

Job ID: 380-35205-1

Laboratory: Eurofins Eaton Analytical Pomona

Narrative

Job Narrative
380-35205-1

Comments
No additional comments.

Receipt
The samples were received on 1/24/2023 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 0.2º C, 0.5º C and 1.1º C

GC/MS Semi VOA
Method 525.2: The continuing calibration verification (CCV) associated with batch 380-30742 recovered above the upper contro limit for Di-n-octyl phthalate. The samples associated with this CCV were non-detects for the affected analytes; therefore, the da have been reported. The associated samples are impacted: AIEA GULCH WELLS PUMP 2 (331-202-TP072) (380-35205-1), AI WELLS PUMPS 1&2 (260) (331-203-TP400) (380-35205-2), HALAWA WELLS UNITS 1 & 2 (331-206-TP065) (380-35205-3) an (CCVIS 380-30742/2).

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

LCMS
No analytical or quality issues were noted, other than those described 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: 380-35205-1

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Lab Sample ID: 380-35205-1

PWSID Number: HI0000331

No Detections.

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Lab Sample ID: 380-35205-2

PWSID Number: HI0000331

No Detections.

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)
Lab Sample ID: 380-35205-3

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)	2.0		2.0		ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	2.1		2.0		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.0		2.0		ng/L	1		537.1	Total/NA
Perfluorohexanoic acid (PFHxA)	2.0		2.0		ng/L	1		537.1	Total/NA
Perfluorooctanoic acid (PFOA)	2.1		2.0		ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.5		2.0		ng/L	1		537.1	Total/NA

Client Sample ID: TB:AIEA GULCH WELLS P2 (331-202-TP072)
Lab Sample ID: 380-35205-4

No Detections.

Client Sample ID: TB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Lab Sample ID: 380-35205-5

No Detections.

Client Sample ID: TB: HALAWA WELLS UNITS 1&2 (331-206-TP065)
Lab Sample ID: 380-35205-6

No Detections.

Client Sample ID: FB: AIEA GULCH WELLS P2
Lab Sample ID: 380-35205-7

No Detections.

Client Sample ID: FB: AIEA WELLS PUMPS 1&2
Lab Sample ID: 380-35205-8

No Detections.

Client Sample ID: FB: HALAWA WELLS UNITS 1&2
Lab Sample ID: 380-35205-9

No Detections.

This Detection Summary does not include radiochemical test results.

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

Job ID: 380-35205-1

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Date Collected: 01/23/23 11:04
Date Received: 01/24/23 09:30

Lab Sample ID: 380-35205-1
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		01/25/23 06:37	01/26/23 14:41	1
2,4'-DDE	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
2,4'-DDT	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
2,4-Dinitrotoluene	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
2,6-Dinitrotoluene	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
4,4'-DDD	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
4,4'-DDE	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
4,4'-DDT	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Acenaphthene	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Acenaphthylene	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Acetochlor	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Alachlor	ND		0.050		ug/L		01/25/23 06:37	01/26/23 14:41	1
alpha-BHC	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
alpha-Chlordane	ND		0.050		ug/L		01/25/23 06:37	01/26/23 14:41	1
Anthracene	ND		0.020		ug/L		01/25/23 06:37	01/26/23 14:41	1
Atrazine	ND		0.050		ug/L		01/25/23 06:37	01/26/23 14:41	1
Benz(a)anthracene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 14:41	1
Benzo[a]pyrene	ND		0.020		ug/L		01/25/23 06:37	01/26/23 14:41	1
Benzo[b]fluoranthene	ND		0.020		ug/L		01/25/23 06:37	01/26/23 14:41	1
Benzo[g,h,i]perylene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 14:41	1
Benzo[k]fluoranthene	ND		0.020		ug/L		01/25/23 06:37	01/26/23 14:41	1
beta-BHC	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Bromacil	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Butachlor	ND		0.050		ug/L		01/25/23 06:37	01/26/23 14:41	1
Butylbenzylphthalate	ND		0.50		ug/L		01/25/23 06:37	01/26/23 14:41	1
Caffeine	ND		0.050		ug/L		01/25/23 06:37	01/26/23 14:41	1
Chlorobenzilate	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Chloroneb	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Chlorothalonil (Draconil, Bravo)	ND	^3+	0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Chlorpyrifos	ND		0.050		ug/L		01/25/23 06:37	01/26/23 14:41	1
Chrysene	ND		0.020		ug/L		01/25/23 06:37	01/26/23 14:41	1
delta-BHC	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Di(2-ethylhexyl)adipate	ND		0.60		ug/L		01/25/23 06:37	01/26/23 14:41	1
Bis(2-ethylhexyl) phthalate	ND		0.60		ug/L		01/25/23 06:37	01/26/23 14:41	1
Diazinon (Qualitative)	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Dibenz(a,h)anthracene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 14:41	1
Diclorvos (DDVP)	ND		0.050		ug/L		01/25/23 06:37	01/26/23 14:41	1
Dieldrin	ND		0.20		ug/L		01/25/23 06:37	01/26/23 14:41	1
Diethylphthalate	ND		0.50		ug/L		01/25/23 06:37	01/26/23 14:41	1
Dimethoate	ND	*1	0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Dimethylphthalate	ND		0.50		ug/L		01/25/23 06:37	01/26/23 14:41	1
Di-n-butyl phthalate	ND		0.99		ug/L		01/25/23 06:37	01/26/23 14:41	1
Di-n-octyl phthalate	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Endosulfan I (Alpha)	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Endosulfan II (Beta)	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Endosulfan sulfate	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Endrin	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Endrin aldehyde	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Date Collected: 01/23/23 11:04
Date Received: 01/24/23 09:30

Lab Sample ID: 380-35205-1
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
EPTC	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Fluoranthene	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Fluorene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 14:41	1
gamma-Chlordane	ND		0.050		ug/L		01/25/23 06:37	01/26/23 14:41	1
Heptachlor	ND		0.040		ug/L		01/25/23 06:37	01/26/23 14:41	1
Heptachlor epoxide (isomer B)	ND		0.050		ug/L		01/25/23 06:37	01/26/23 14:41	1
Hexachlorobenzene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 14:41	1
Hexachlorocyclopentadiene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 14:41	1
Indeno[1,2,3-cd]pyrene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 14:41	1
Isophorone	ND		0.50		ug/L		01/25/23 06:37	01/26/23 14:41	1
Lindane	ND		0.040		ug/L		01/25/23 06:37	01/26/23 14:41	1
Malathion	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Methoxychlor	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Metolachlor	ND		0.050		ug/L		01/25/23 06:37	01/26/23 14:41	1
Metribuzin	ND		0.050		ug/L		01/25/23 06:37	01/26/23 14:41	1
Molinate	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Naphthalene	ND		0.30		ug/L		01/25/23 06:37	01/26/23 14:41	1
Parathion	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Pendimethalin (Penoxaline)	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Total Permethrin (mixed isomers)	ND		0.20		ug/L		01/25/23 06:37	01/26/23 14:41	1
Phenanthrene	ND		0.040		ug/L		01/25/23 06:37	01/26/23 14:41	1
Propachlor	ND		0.050		ug/L		01/25/23 06:37	01/26/23 14:41	1
Pyrene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 14:41	1
Simazine	ND		0.050		ug/L		01/25/23 06:37	01/26/23 14:41	1
Terbacil	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Terbuthylazine	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1
Thiobencarb	ND		0.20		ug/L		01/25/23 06:37	01/26/23 14:41	1
trans-Nonachlor	ND		0.050		ug/L		01/25/23 06:37	01/26/23 14:41	1
Trifluralin	ND		0.099		ug/L		01/25/23 06:37	01/26/23 14:41	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*			*N/A*	*01/25/23 06:37*	*01/26/23 14:41*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*99*		*70 - 130*	*01/25/23 06:37*	*01/26/23 14:41*	*1*
Triphenylphosphate	*97*		*70 - 130*	*01/25/23 06:37*	*01/26/23 14:41*	*1*
Perylene-d12	*96*		*70 - 130*	*01/25/23 06:37*	*01/26/23 14:41*	*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		02/01/23 12:11	02/03/23 06:21	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:21	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:21	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:21	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:21	1

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

Job ID: 380-35205-1

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Date Collected: 01/23/23 11:04
Date Received: 01/24/23 09:30

Lab Sample ID: 380-35205-1
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
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:21	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:21	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:21	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:21	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:21	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:21	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:21	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:21	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:21	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:21	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:21	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:21	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:21	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:21	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:21	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:21	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:21	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:21	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*81*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:21*	*1*
13C6 PFDA	*96*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:21*	*1*
13C5 PFHxA	*93*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:21*	*1*
13C4 PFHpA	*86*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:21*	*1*
13C8 PFOA	*88*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:21*	*1*
13C9 PFNA	*92*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:21*	*1*
13C7 PFUnA	*99*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:21*	*1*
13C2 PFDoA	*96*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:21*	*1*
13C4 PFBA	*90*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:21*	*1*
13C5 PFPeA	*87*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:21*	*1*
13C3 PFBS	*102*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:21*	*1*
13C3 PFHxS	*104*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:21*	*1*
13C8 PFOS	*102*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:21*	*1*
13C2-4:2-FTS	*116*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:21*	*1*
13C2-6:2-FTS	*114*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:21*	*1*
13C2-8:2-FTS	*115*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:21*	*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		01/25/23 06:40	01/26/23 21:28	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 21:28	1

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Lab Sample ID: 380-35205-1
Date Collected: 01/23/23 11:04
Matrix: Drinking Water
Date Received: 01/24/23 09:30
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 21:28	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 21:28	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 21:28	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 21:28	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 21:28	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 21:28	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 21:28	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 21:28	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 21:28	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 21:28	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 21:28	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 21:28	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 21:28	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 21:28	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 21:28	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 21:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*84*		*70 - 130*	*01/25/23 06:40*	*01/26/23 21:28*	*1*
13C2 PFHxA	*110*		*70 - 130*	*01/25/23 06:40*	*01/26/23 21:28*	*1*
13C2 PFDA	*97*		*70 - 130*	*01/25/23 06:40*	*01/26/23 21:28*	*1*
13C3-GenX	*107*		*70 - 130*	*01/25/23 06:40*	*01/26/23 21:28*	*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		01/20/23 00:00	02/12/23 21:36	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1
Acenaphthene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1
Acenaphthylene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1
Anthracene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1
Biphenyl	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1
Chrysene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1
Dibenzothiophene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		01/20/23 00:00	02/12/23 21:36	1

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

Lab Sample ID: 380-35205-1

Date Collected: 01/23/23 11:04
Date Received: 01/24/23 09:30

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
Fluoranthene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1
Fluorene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1
Naphthalene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1
Perylene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1
Phenanthrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1
Pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 21:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*75*		*27 - 133*	*01/20/23 00:00*	*02/12/23 21:36*	*1*
(d10-Phenanthrene)	*89*		*43 - 129*	*01/20/23 00:00*	*02/12/23 21:36*	*1*
(d12-Chrysene)	*144*		*52 - 144*	*01/20/23 00:00*	*02/12/23 21:36*	*1*
(d12-Perylene)	*123*		*36 - 161*	*01/20/23 00:00*	*02/12/23 21:36*	*1*
(d8-Naphthalene)	*40*		*25 - 125*	*01/20/23 00:00*	*02/12/23 21:36*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			01/26/23 16:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*82*		*60 - 140*		*01/26/23 16:02*	*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	0.028		mg/L			02/02/23 16:11	1
JP5	ND	U	0.056		mg/L			02/02/23 16:11	1
JP8	ND	U	0.056		mg/L			02/02/23 16:11	1
MOTOR OIL	ND	U	0.056		mg/L			02/02/23 16:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOBENZENE	*90*		*60 - 130*		*02/02/23 16:11*	*1*
HEXACOSANE	*101*		*60 - 130*		*02/02/23 16:11*	*1*

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

Lab Sample ID: 380-35205-2

Date Collected: 01/23/23 10:37
Date Received: 01/24/23 09:30

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		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
2,4'-DDE	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
2,4'-DDT	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
2,4-Dinitrotoluene	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
2,6-Dinitrotoluene	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
4,4'-DDD	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
4,4'-DDE	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
4,4'-DDT	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Acenaphthene	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Acenaphthylene	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Lab Sample ID: 380-35205-2
Date Collected: 01/23/23 10:37
Matrix: Drinking Water
Date Received: 01/24/23 09:30
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Acetochlor	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Alachlor	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:02	1
alpha-BHC	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
alpha-Chlordane	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:02	1
Anthracene	ND		0.020		ug/L		01/25/23 06:37	01/26/23 15:02	1
Atrazine	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:02	1
Benz(a)anthracene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:02	1
Benzo[a]pyrene	ND		0.020		ug/L		01/25/23 06:37	01/26/23 15:02	1
Benzo[b]fluoranthene	ND		0.020		ug/L		01/25/23 06:37	01/26/23 15:02	1
Benzo[g,h,i]perylene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:02	1
Benzo[k]fluoranthene	ND		0.020		ug/L		01/25/23 06:37	01/26/23 15:02	1
beta-BHC	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Bromacil	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Butachlor	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:02	1
Butylbenzylphthalate	ND		0.50		ug/L		01/25/23 06:37	01/26/23 15:02	1
Caffeine	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:02	1
Chlorobenzilate	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Chloroneb	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Chlorothalonil (Draconil, Bravo)	ND	^3+	0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Chlorpyrifos	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:02	1
Chrysene	ND		0.020		ug/L		01/25/23 06:37	01/26/23 15:02	1
delta-BHC	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Di(2-ethylhexyl)adipate	ND		0.60		ug/L		01/25/23 06:37	01/26/23 15:02	1
Bis(2-ethylhexyl) phthalate	ND		0.60		ug/L		01/25/23 06:37	01/26/23 15:02	1
Diazinon (Qualitative)	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Dibenz(a,h)anthracene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:02	1
Diclorvos (DDVP)	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:02	1
Dieldrin	ND		0.20		ug/L		01/25/23 06:37	01/26/23 15:02	1
Diethylphthalate	ND		0.50		ug/L		01/25/23 06:37	01/26/23 15:02	1
Dimethoate	ND	*1	0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Dimethylphthalate	ND		0.50		ug/L		01/25/23 06:37	01/26/23 15:02	1
Di-n-butyl phthalate	ND		1.0		ug/L		01/25/23 06:37	01/26/23 15:02	1
Di-n-octyl phthalate	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Endosulfan I (Alpha)	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Endosulfan II (Beta)	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Endosulfan sulfate	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Endrin	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Endrin aldehyde	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
EPTC	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Fluoranthene	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Fluorene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:02	1
gamma-Chlordane	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:02	1
Heptachlor	ND		0.040		ug/L		01/25/23 06:37	01/26/23 15:02	1
Heptachlor epoxide (isomer B)	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:02	1
Hexachlorobenzene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:02	1
Hexachlorocyclopentadiene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:02	1
Indeno[1,2,3-cd]pyrene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:02	1
Isophorone	ND		0.50		ug/L		01/25/23 06:37	01/26/23 15:02	1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Date Collected: 01/23/23 10:37
Date Received: 01/24/23 09:30

Lab Sample ID: 380-35205-2
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
Lindane	ND		0.040		ug/L		01/25/23 06:37	01/26/23 15:02	1
Malathion	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Methoxychlor	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Metolachlor	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:02	1
Metribuzin	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:02	1
Molinate	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Naphthalene	ND		0.30		ug/L		01/25/23 06:37	01/26/23 15:02	1
Parathion	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Pendimethalin (Penoxaline)	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Total Permethrin (mixed isomers)	ND		0.20		ug/L		01/25/23 06:37	01/26/23 15:02	1
Phenanthrene	ND		0.040		ug/L		01/25/23 06:37	01/26/23 15:02	1
Propachlor	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:02	1
Pyrene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:02	1
Simazine	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:02	1
Terbacil	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Terbuthylazine	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1
Thiobencarb	ND		0.20		ug/L		01/25/23 06:37	01/26/23 15:02	1
trans-Nonachlor	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:02	1
Trifluralin	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:02	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*			*N/A*	*01/25/23 06:37*	*01/26/23 15:02*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*105*		*70 - 130*	*01/25/23 06:37*	*01/26/23 15:02*	*1*
Triphenylphosphate	*101*		*70 - 130*	*01/25/23 06:37*	*01/26/23 15:02*	*1*
Perylene-d12	*97*		*70 - 130*	*01/25/23 06:37*	*01/26/23 15:02*	*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		02/01/23 12:11	02/03/23 04:03	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 04:03	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 04:03	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 04:03	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 04:03	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 04:03	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 04:03	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 04:03	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 04:03	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 04:03	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 04:03	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 04:03	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 04:03	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 04:03	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 04:03	1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Date Collected: 01/23/23 10:37
Date Received: 01/24/23 09:30

Lab Sample ID: 380-35205-2
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
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 04:03	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 04:03	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 04:03	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 04:03	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 04:03	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 04:03	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 04:03	1
Perfluoropentanoic acid (PFPeA)	ND	F2	2.0		ng/L		02/01/23 12:11	02/03/23 04:03	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 04:03	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 04:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*83*		*50 - 200*	*02/01/23 12:11*	*02/03/23 04:03*	*1*
13C6 PFDA	*96*		*50 - 200*	*02/01/23 12:11*	*02/03/23 04:03*	*1*
13C5 PFHxA	*90*		*50 - 200*	*02/01/23 12:11*	*02/03/23 04:03*	*1*
13C4 PFHpA	*92*		*50 - 200*	*02/01/23 12:11*	*02/03/23 04:03*	*1*
13C8 PFOA	*93*		*50 - 200*	*02/01/23 12:11*	*02/03/23 04:03*	*1*
13C9 PFNA	*94*		*50 - 200*	*02/01/23 12:11*	*02/03/23 04:03*	*1*
13C7 PFUnA	*102*		*50 - 200*	*02/01/23 12:11*	*02/03/23 04:03*	*1*
13C2 PFDoA	*100*		*50 - 200*	*02/01/23 12:11*	*02/03/23 04:03*	*1*
13C4 PFBA	*90*		*50 - 200*	*02/01/23 12:11*	*02/03/23 04:03*	*1*
13C5 PFPeA	*89*		*50 - 200*	*02/01/23 12:11*	*02/03/23 04:03*	*1*
13C3 PFBS	*105*		*50 - 200*	*02/01/23 12:11*	*02/03/23 04:03*	*1*
13C3 PFHxS	*108*		*50 - 200*	*02/01/23 12:11*	*02/03/23 04:03*	*1*
13C8 PFOS	*103*		*50 - 200*	*02/01/23 12:11*	*02/03/23 04:03*	*1*
13C2-4:2-FTS	*120*		*50 - 200*	*02/01/23 12:11*	*02/03/23 04:03*	*1*
13C2-6:2-FTS	*114*		*50 - 200*	*02/01/23 12:11*	*02/03/23 04:03*	*1*
13C2-8:2-FTS	*114*		*50 - 200*	*02/01/23 12:11*	*02/03/23 04:03*	*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		01/25/23 06:40	01/26/23 19:20	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:20	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:20	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:20	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:20	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:20	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:20	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:20	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:20	1

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

Lab Sample ID: 380-35205-2

Date Collected: 01/23/23 10:37
Date Received: 01/24/23 09:30

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
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:20	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:20	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:20	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:20	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:20	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:20	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:20	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*102*		*70 - 130*	*01/25/23 06:40*	*01/26/23 19:20*	*1*
13C2 PFHxA	*106*		*70 - 130*	*01/25/23 06:40*	*01/26/23 19:20*	*1*
13C2 PFDA	*101*		*70 - 130*	*01/25/23 06:40*	*01/26/23 19:20*	*1*
13C3-GenX	*106*		*70 - 130*	*01/25/23 06:40*	*01/26/23 19:20*	*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		01/20/23 00:00	02/12/23 23:20	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1
Acenaphthene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1
Acenaphthylene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1
Anthracene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1
Biphenyl	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1
Chrysene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1
Dibenzothiophene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		01/20/23 00:00	02/12/23 23:20	1
Fluoranthene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1
Fluorene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1
Naphthalene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1
Perylene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1
Phenanthrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1
Pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/12/23 23:20	1

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

Lab Sample ID: 380-35205-2

Date Collected: 01/23/23 10:37
Date Received: 01/24/23 09:30

Matrix: Drinking Water
PWSID Number: HI0000331

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*86*		*27 - 133*	*01/20/23 00:00*	*02/12/23 23:20*	*1*
(d10-Phenanthrene)	*92*		*43 - 129*	*01/20/23 00:00*	*02/12/23 23:20*	*1*
(d12-Chrysene)	*93*		*52 - 144*	*01/20/23 00:00*	*02/12/23 23:20*	*1*
(d12-Perylene)	*84*		*36 - 161*	*01/20/23 00:00*	*02/12/23 23:20*	*1*
(d8-Naphthalene)	*69*		*25 - 125*	*01/20/23 00:00*	*02/12/23 23:20*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			01/26/23 18:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*82*		*60 - 140*		*01/26/23 18:27*	*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			02/02/23 16:29	1
JP5	ND	U	0.051		mg/L			02/02/23 16:29	1
JP8	ND	U	0.051		mg/L			02/02/23 16:29	1
MOTOR OIL	ND	U	0.051		mg/L			02/02/23 16:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOBENZENE	*88*		*60 - 130*		*02/02/23 16:29*	*1*
HEXACOSANE	*93*		*60 - 130*		*02/02/23 16:29*	*1*

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

Lab Sample ID: 380-35205-3

Date Collected: 01/23/23 10:03
Date Received: 01/24/23 09:30

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		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
2,4'-DDE	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
2,4'-DDT	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
2,4-Dinitrotoluene	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
2,6-Dinitrotoluene	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
4,4'-DDD	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
4,4'-DDE	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
4,4'-DDT	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Acenaphthene	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Acenaphthylene	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Acetochlor	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Alachlor	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:23	1
alpha-BHC	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
alpha-Chlordane	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:23	1
Anthracene	ND		0.020		ug/L		01/25/23 06:37	01/26/23 15:23	1
Atrazine	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:23	1
Benz(a)anthracene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:23	1
Benzo[a]pyrene	ND		0.020		ug/L		01/25/23 06:37	01/26/23 15:23	1
Benzo[b]fluoranthene	ND		0.020		ug/L		01/25/23 06:37	01/26/23 15:23	1

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

Job ID: 380-35205-1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)
Date Collected: 01/23/23 10:03
Date Received: 01/24/23 09:30

Lab Sample ID: 380-35205-3
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzo[g,h,i]perylene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:23	1
Benzo[k]fluoranthene	ND		0.020		ug/L		01/25/23 06:37	01/26/23 15:23	1
beta-BHC	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Bromacil	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Butachlor	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:23	1
Butylbenzylphthalate	ND		0.50		ug/L		01/25/23 06:37	01/26/23 15:23	1
Caffeine	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:23	1
Chlorobenzilate	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Chloroneb	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Chlorothalonil (Draconil, Bravo)	ND	^3+	0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Chlorpyrifos	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:23	1
Chrysene	ND		0.020		ug/L		01/25/23 06:37	01/26/23 15:23	1
delta-BHC	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Di(2-ethylhexyl)adipate	ND		0.60		ug/L		01/25/23 06:37	01/26/23 15:23	1
Bis(2-ethylhexyl) phthalate	ND		0.60		ug/L		01/25/23 06:37	01/26/23 15:23	1
Diazinon (Qualitative)	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Dibenz(a,h)anthracene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:23	1
Diclorvos (DDVP)	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:23	1
Dieldrin	ND		0.20		ug/L		01/25/23 06:37	01/26/23 15:23	1
Diethylphthalate	ND		0.50		ug/L		01/25/23 06:37	01/26/23 15:23	1
Dimethoate	ND	*1	0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Dimethylphthalate	ND		0.50		ug/L		01/25/23 06:37	01/26/23 15:23	1
Di-n-butyl phthalate	ND		1.0		ug/L		01/25/23 06:37	01/26/23 15:23	1
Di-n-octyl phthalate	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Endosulfan I (Alpha)	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Endosulfan II (Beta)	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Endosulfan sulfate	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Endrin	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Endrin aldehyde	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
EPTC	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Fluoranthene	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Fluorene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:23	1
gamma-Chlordane	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:23	1
Heptachlor	ND		0.040		ug/L		01/25/23 06:37	01/26/23 15:23	1
Heptachlor epoxide (isomer B)	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:23	1
Hexachlorobenzene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:23	1
Hexachlorocyclopentadiene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:23	1
Indeno[1,2,3-cd]pyrene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:23	1
Isophorone	ND		0.50		ug/L		01/25/23 06:37	01/26/23 15:23	1
Lindane	ND		0.040		ug/L		01/25/23 06:37	01/26/23 15:23	1
Malathion	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Methoxychlor	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Metolachlor	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:23	1
Metribuzin	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:23	1
Molinate	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Naphthalene	ND		0.30		ug/L		01/25/23 06:37	01/26/23 15:23	1
Parathion	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Pendimethalin (Penoxaline)	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1

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

Job ID: 380-35205-1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)
Date Collected: 01/23/23 10:03
Date Received: 01/24/23 09:30

Lab Sample ID: 380-35205-3
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Permethrin (mixed isomers)	ND		0.20		ug/L		01/25/23 06:37	01/26/23 15:23	1
Phenanthrene	ND		0.040		ug/L		01/25/23 06:37	01/26/23 15:23	1
Propachlor	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:23	1
Pyrene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:23	1
Simazine	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:23	1
Terbacil	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Terbuthylazine	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1
Thiobencarb	ND		0.20		ug/L		01/25/23 06:37	01/26/23 15:23	1
trans-Nonachlor	ND		0.050		ug/L		01/25/23 06:37	01/26/23 15:23	1
Trifluralin	ND		0.10		ug/L		01/25/23 06:37	01/26/23 15:23	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*			*N/A*	*01/25/23 06:37*	*01/26/23 15:23*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*103*		*70 - 130*	*01/25/23 06:37*	*01/26/23 15:23*	*1*
Triphenylphosphate	*103*		*70 - 130*	*01/25/23 06:37*	*01/26/23 15:23*	*1*
Perylene-d12	*96*		*70 - 130*	*01/25/23 06:37*	*01/26/23 15:23*	*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		02/01/23 12:11	02/03/23 06:30	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:30	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:30	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:30	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:30	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:30	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:30	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:30	1
Perfluorohexanesulfonic acid (PFHxS)	**2.2**		2.0		ng/L		02/01/23 12:11	02/03/23 06:30	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:30	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:30	1
Perfluorooctanesulfonic acid (PFOS)	**2.0**		2.0		ng/L		02/01/23 12:11	02/03/23 06:30	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:30	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:30	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:30	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:30	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:30	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:30	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:30	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:30	1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)
Date Collected: 01/23/23 10:03
Date Received: 01/24/23 09:30

Lab Sample ID: 380-35205-3
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
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:30	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:30	1
Perfluoropentanoic acid (PFPeA)	**2.1**		2.0		ng/L		02/01/23 12:11	02/03/23 06:30	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:30	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:30	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*80*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:30*	*1*
13C6 PFDA	*89*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:30*	*1*
13C5 PFHxA	*86*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:30*	*1*
13C4 PFHpA	*87*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:30*	*1*
13C8 PFOA	*85*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:30*	*1*
13C9 PFNA	*88*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:30*	*1*
13C7 PFUnA	*94*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:30*	*1*
13C2 PFDoA	*94*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:30*	*1*
13C4 PFBA	*93*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:30*	*1*
13C5 PFPeA	*90*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:30*	*1*
13C3 PFBS	*103*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:30*	*1*
13C3 PFHxS	*104*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:30*	*1*
13C8 PFOS	*103*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:30*	*1*
13C2-4:2-FTS	*121*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:30*	*1*
13C2-6:2-FTS	*117*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:30*	*1*
13C2-8:2-FTS	*114*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:30*	*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		01/25/23 06:40	01/26/23 19:30	1
Perfluorooctanesulfonic acid (PFOS)	**2.0**		2.0		ng/L		01/25/23 06:40	01/26/23 19:30	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:30	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:30	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:30	1
Perfluorohexanoic acid (PFHxA)	**2.0**		2.0		ng/L		01/25/23 06:40	01/26/23 19:30	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:30	1
Perfluorooctanoic acid (PFOA)	**2.1**		2.0		ng/L		01/25/23 06:40	01/26/23 19:30	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:30	1
Perfluorohexanesulfonic acid (PFHxS)	**2.5**		2.0		ng/L		01/25/23 06:40	01/26/23 19:30	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:30	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:30	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:30	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:30	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:30	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:30	1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)
Lab Sample ID: 380-35205-3
Date Collected: 01/23/23 10:03
Matrix: Drinking Water
Date Received: 01/24/23 09:30
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:30	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*96*		*70 - 130*	*01/25/23 06:40*	*01/26/23 19:30*	*1*
13C2 PFHxA	*112*		*70 - 130*	*01/25/23 06:40*	*01/26/23 19:30*	*1*
13C2 PFDA	*102*		*70 - 130*	*01/25/23 06:40*	*01/26/23 19:30*	*1*
13C3-GenX	*107*		*70 - 130*	*01/25/23 06:40*	*01/26/23 19:30*	*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		01/20/23 00:00	02/13/23 01:05	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1
Acenaphthene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1
Acenaphthylene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1
Anthracene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1
Biphenyl	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1
Chrysene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1
Dibenzothiophene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 01:05	1
Fluoranthene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1
Fluorene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1
Naphthalene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1
Perylene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1
Phenanthrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1
Pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 01:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*96*		*27 - 133*	*01/20/23 00:00*	*02/13/23 01:05*	*1*
(d10-Phenanthrene)	*95*		*43 - 129*	*01/20/23 00:00*	*02/13/23 01:05*	*1*
(d12-Chrysene)	*95*		*52 - 144*	*01/20/23 00:00*	*02/13/23 01:05*	*1*
(d12-Perylene)	*88*		*36 - 161*	*01/20/23 00:00*	*02/13/23 01:05*	*1*
(d8-Naphthalene)	*87*		*25 - 125*	*01/20/23 00:00*	*02/13/23 01:05*	*1*

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

Lab Sample ID: 380-35205-3

Date Collected: 01/23/23 10:03
Date Received: 01/24/23 09:30

Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			01/26/23 19:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*83*		*60 - 140*		*01/26/23 19:03*	*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			02/02/23 16:48	1
JP5	ND	U	0.050		mg/L			02/02/23 16:48	1
JP8	ND	U	0.050		mg/L			02/02/23 16:48	1
MOTOR OIL	ND	U	0.050		mg/L			02/02/23 16:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOBENZENE	*85*		*60 - 130*		*02/02/23 16:48*	*1*
HEXACOSANE	*102*		*60 - 130*		*02/02/23 16:48*	*1*

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

Lab Sample ID: 380-35205-4

Date Collected: 01/23/23 11:04
Date Received: 01/24/23 09:30

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	0.020		mg/L			01/26/23 14:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*83*		*60 - 140*		*01/26/23 14:13*	*1*

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

Lab Sample ID: 380-35205-5

Date Collected: 01/23/23 10:37
Date Received: 01/24/23 09:30

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	0.020		mg/L			01/26/23 14:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*83*		*60 - 140*		*01/26/23 14:50*	*1*

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

Lab Sample ID: 380-35205-6

Date Collected: 01/23/23 10:03
Date Received: 01/24/23 09:30

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	0.020		mg/L			01/26/23 15:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*84*		*60 - 140*		*01/26/23 15:26*	*1*

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

Job ID: 380-35205-1

Client Sample ID: FB: AIEA GULCH WELLS P2
Date Collected: 01/23/23 11:04
Date Received: 01/24/23 09:30

Lab Sample ID: 380-35205-7
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		02/01/23 12:11	02/03/23 06:40	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:40	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:40	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:40	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:40	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:40	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:40	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:40	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:40	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:40	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:40	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:40	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:40	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:40	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:40	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:40	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:40	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:40	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:40	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:40	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:40	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:40	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:40	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*99*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:40*	*1*
13C6 PFDA	*99*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:40*	*1*
13C5 PFHxA	*102*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:40*	*1*
13C4 PFHpA	*105*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:40*	*1*
13C8 PFOA	*100*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:40*	*1*
13C9 PFNA	*103*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:40*	*1*
13C7 PFUnA	*100*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:40*	*1*
13C2 PFDoA	*97*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:40*	*1*
13C4 PFBA	*105*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:40*	*1*
13C5 PFPeA	*112*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:40*	*1*
13C3 PFBS	*101*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:40*	*1*
13C3 PFHxS	*104*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:40*	*1*
13C8 PFOS	*101*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:40*	*1*

Client Sample ID: FB: AIEA GULCH WELLS P2

Lab Sample ID: 380-35205-7

Date Collected: 01/23/23 11:04

Matrix: Water

Date Received: 01/24/23 09:30

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-4:2-FTS	108		50 - 200	02/01/23 12:11	02/03/23 06:40	1
13C2-6:2-FTS	109		50 - 200	02/01/23 12:11	02/03/23 06:40	1
13C2-8:2-FTS	111		50 - 200	02/01/23 12:11	02/03/23 06:40	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		01/25/23 06:40	01/26/23 19:39	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:39	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:39	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:39	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:39	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:39	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:39	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:39	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:39	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:39	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:39	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:39	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:39	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:39	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	102		70 - 130	01/25/23 06:40	01/26/23 19:39	1
13C2 PFHxA	112		70 - 130	01/25/23 06:40	01/26/23 19:39	1
13C2 PFDA	102		70 - 130	01/25/23 06:40	01/26/23 19:39	1
13C3-GenX	109		70 - 130	01/25/23 06:40	01/26/23 19:39	1

Client Sample ID: FB: AIEA WELLS PUMPS 1&2

Lab Sample ID: 380-35205-8

Date Collected: 01/23/23 10:37

Matrix: Water

Date Received: 01/24/23 09:30

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1

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

Job ID: 380-35205-1

Client Sample ID: FB: AIEA WELLS PUMPS 1&2
Date Collected: 01/23/23 10:37
Date Received: 01/24/23 09:30

Lab Sample ID: 380-35205-8
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*98*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:49*	*1*
13C6 PFDA	*102*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:49*	*1*
13C5 PFHxA	*107*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:49*	*1*
13C4 PFHpA	*104*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:49*	*1*
13C8 PFOA	*104*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:49*	*1*
13C9 PFNA	*105*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:49*	*1*
13C7 PFUnA	*102*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:49*	*1*
13C2 PFDoA	*98*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:49*	*1*
13C4 PFBA	*103*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:49*	*1*
13C5 PFPeA	*105*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:49*	*1*
13C3 PFBS	*101*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:49*	*1*
13C3 PFHxS	*102*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:49*	*1*
13C8 PFOS	*102*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:49*	*1*
13C2-4:2-FTS	*111*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:49*	*1*
13C2-6:2-FTS	*110*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:49*	*1*
13C2-8:2-FTS	*112*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:49*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:49	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:49	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:49	1

Client Sample ID: FB: AIEA WELLS PUMPS 1&2

Lab Sample ID: 380-35205-8

Date Collected: 01/23/23 10:37

Matrix: Water

Date Received: 01/24/23 09:30

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:49	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:49	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:49	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:49	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:49	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:49	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:49	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:49	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:49	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:49	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:49	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:49	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:49	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*100*		*70 - 130*	*01/25/23 06:40*	*01/26/23 19:49*	*1*
13C2 PFHxA	*111*		*70 - 130*	*01/25/23 06:40*	*01/26/23 19:49*	*1*
13C2 PFDA	*106*		*70 - 130*	*01/25/23 06:40*	*01/26/23 19:49*	*1*
13C3-GenX	*111*		*70 - 130*	*01/25/23 06:40*	*01/26/23 19:49*	*1*

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

Lab Sample ID: 380-35205-9

Date Collected: 01/23/23 10:03

Matrix: Water

Date Received: 01/24/23 09:30

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1

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

Job ID: 380-35205-1

Client Sample ID: FB: HALAWA WELLS UNITS 1&2
Date Collected: 01/23/23 10:03
Date Received: 01/24/23 09:30

Lab Sample ID: 380-35205-9
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 06:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*101*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:59*	*1*
13C6 PFDA	*101*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:59*	*1*
13C5 PFHxA	*101*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:59*	*1*
13C4 PFHpA	*100*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:59*	*1*
13C8 PFOA	*103*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:59*	*1*
13C9 PFNA	*101*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:59*	*1*
13C7 PFUnA	*96*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:59*	*1*
13C2 PFDoA	*96*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:59*	*1*
13C4 PFBA	*103*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:59*	*1*
13C5 PFPeA	*104*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:59*	*1*
13C3 PFBS	*99*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:59*	*1*
13C3 PFHxS	*102*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:59*	*1*
13C8 PFOS	*100*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:59*	*1*
13C2-4:2-FTS	*109*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:59*	*1*
13C2-6:2-FTS	*102*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:59*	*1*
13C2-8:2-FTS	*108*		*50 - 200*	*02/01/23 12:11*	*02/03/23 06:59*	*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		01/25/23 06:40	01/26/23 19:58	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:58	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:58	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:58	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:58	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:58	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:58	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:58	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:58	1

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

Job ID: 380-35205-1

Client Sample ID: FB: HALAWA WELLS UNITS 1&2
Date Collected: 01/23/23 10:03
Date Received: 01/24/23 09:30

Lab Sample ID: 380-35205-9
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:58	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:58	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:58	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:58	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:58	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:58	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 19:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*97*		*70 - 130*	*01/25/23 06:40*	*01/26/23 19:58*	*1*
13C2 PFHxA	*109*		*70 - 130*	*01/25/23 06:40*	*01/26/23 19:58*	*1*
13C2 PFDA	*99*		*70 - 130*	*01/25/23 06:40*	*01/26/23 19:58*	*1*
13C3-GenX	*105*		*70 - 130*	*01/25/23 06:40*	*01/26/23 19:58*	*1*

Action Limit Summary

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

Job ID: 380-35205-1

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

Lab Sample ID: 380-35205-1

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) (331-203-TP400)

Lab Sample ID: 380-35205-2

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	0.050	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	0.10	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	0.10	525.2	Total/NA
Simazine	ND		ug/L	4	0.050	525.2	Total/NA

Action Limit Summary

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

Job ID: 380-35205-1

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

Lab Sample ID: 380-35205-3

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	0.050	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	0.10	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	0.10	525.2	Total/NA
Simazine	ND		ug/L	4	0.050	525.2	Total/NA

Surrogate Summary

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

Job ID: 380-35205-1

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)
380-35205-1	AIEA GULCH WELLS PUMP 2 (	99	97	96
380-35205-1 MS	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	102	101	101
380-35205-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	105	101	97
380-35205-2 DU	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	100	103	98
380-35205-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	103	103	96

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)
LCS 380-30612/3-A	Lab Control Sample	100	101	97
LCSD 380-30612/4-A	Lab Control Sample Dup	100	103	99
MB 380-30612/1-A	Method Blank	100	102	95
MRL 380-30612/2-A	Lab Control Sample	102	101	97

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)
380-35205-1	AIEA GULCH WELLS PUMP 2 (	84	110	97	107
380-35205-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	102	106	101	106
380-35205-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	96	112	102	107

Surrogate Legend

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

Surrogate Summary

Client: City & County of Honolulu
Job ID: 380-35205-1
Project/Site: RED-HILL

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-35138-G-1-A DU	Duplicate	103	109	102	105
380-35205-7	FB: AIEA GULCH WELLS P2	102	112	102	109
380-35205-8	FB: AIEA WELLS PUMPS 1&2	100	111	106	111
380-35205-9	FB: HALAWA WELLS UNITS 1&2	97	109	99	105
380-35132-AY-1-A MS	Matrix Spike	100	108	106	105
LCS 380-30613/18-A	Lab Control Sample	94	113	103	108
LCSD 380-30613/19-A	Lab Control Sample Dup	102	110	104	105
MBL 380-30613/16-A	Method Blank	99	105	103	103
MRL 380-30613/17-A	Lab Control Sample	104	108	106	102

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)				
Lab Sample ID	Client Sample ID	Acenapht (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PRY (36-161)
103823-B1	Method Blank	93	94	108	88	91
103823-BS1	Lab Control Sample	96	93	96	85	93
103823-BS2	Lab Control Sample Dup	94	94	95	90	93

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)				
Lab Sample ID	Client Sample ID	Acenapht (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PRY (36-161)
380-35205-1	AIEA GULCH WELLS PUMP 2 (	75	89	144	40	123
380-35205-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	86	92	93	69	84
380-35205-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	96	95	95	87	88

Surrogate Legend

(d10-Acenaphthene) = (d10-Acenaphthene)
(d10-Phenanthrene) = (d10-Phenanthrene)
CRY = (d12-Chrysene)
NPT = (d8-Naphthalene)
PRY = (d12-Perylene)

Surrogate Summary

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

Job ID: 380-35205-1

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)
380-35205-1	AIEA GULCH WELLS PUMP 2 (	82
380-35205-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	82
380-35205-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	83

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)
23A298-01M	Matrix Spike	109
23A298-01S	Matrix Spike Duplicate	106

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	
23VG39A13B	Method Blank	

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	(70-130)
23VG39A13C	LCD	106
23VG39A13L	Lab Control Sample	103

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)
380-35205-4	TB:AIEA GULCH WELLS P2 (33	83
380-35205-5	TB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	83
380-35205-6	TB: HALAWA WELLS UNITS 1&2 (331-206-TP065)	84

Surrogate Summary

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

Job ID: 380-35205-1

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)
380-35205-1	AIEA GULCH WELLS PUMP 2 (	90	101
380-35205-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	88	93
380-35205-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	85	102

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)
23DSB002WC	LCD	89	95
23DSB002WL	Lab Control Sample	91	90
23J5B002WC	LCD	92	89
23J5B002WL	Lab Control Sample	93	88
23J8B002WC	LCD	100	88
23J8B002WL	Lab Control Sample	100	88

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		
23DSB002WB	Method Blank		

Surrogate Legend

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

Isotope Dilution Summary

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

Job ID: 380-35205-1

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)
380-35205-1	AIEA GULCH WELLS PUMP 2 (	81	96	93	86	88	92	99	96
380-35205-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	83	96	90	92	93	94	102	100
380-35205-2 LMS	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	93	105	100	99	101	100	103	98
380-35205-2 LMSD	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	74	93	84	86	88	92	97	95
380-35205-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	80	89	86	87	85	88	94	94

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-35205-1	AIEA GULCH WELLS PUMP 2 (	90	87	102	104	102	116	114	115
380-35205-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	90	89	105	108	103	120	114	114
380-35205-2 LMS	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	99	101	103	101	100	115	105	112
380-35205-2 LMSD	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	86	82	104	108	106	119	113	109
380-35205-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	93	90	103	104	103	121	117	114

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)
380-35205-7	FB: AIEA GULCH WELLS P2	99	99	102	105	100	103	100	97
380-35205-8	FB: AIEA WELLS PUMPS 1&2	98	102	107	104	104	105	102	98
380-35205-9	FB: HALAWA WELLS UNITS 1&2	101	101	101	100	103	101	96	96
LCS 380-31276/23-A	Lab Control Sample	107	110	114	111	110	113	109	107
LCSD 380-31276/24-A	Lab Control Sample Dup	102	105	109	105	109	105	108	104

Isotope Dilution Summary

Client: City & County of Honolulu
Job ID: 380-35205-1
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)
MBL 380-31276/21-A	Method Blank	106	108	112	113	111	112	104	107
MRL 380-31276/22-A	Lab Control Sample	109	111	121	115	115	113	110	110

		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)
380-35205-7	FB: AIEA GULCH WELLS P2	105	112	101	104	101	108	109	111
380-35205-8	FB: AIEA WELLS PUMPS 1&2	103	105	101	102	102	111	110	112
380-35205-9	FB: HALAWA WELLS UNITS 1&2	103	104	99	102	100	109	102	108
LCS 380-31276/23-A	Lab Control Sample	107	107	102	106	106	115	113	112
LCSD 380-31276/24-A	Lab Control Sample Dup	106	110	102	104	102	119	108	112
MBL 380-31276/21-A	Method Blank	113	116	107	115	113	130	124	128
MRL 380-31276/22-A	Lab Control Sample	112	114	110	114	113	120	124	115

Surrogate Legend

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

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

Lab Sample ID: MB 380-30612/1-A
Matrix: Water
Analysis Batch: 30742

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30612

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
2,4'-DDE	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
2,4'-DDT	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
2,4-Dinitrotoluene	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
2,6-Dinitrotoluene	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
4,4'-DDD	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
4,4'-DDE	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
4,4'-DDT	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Acenaphthene	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Acenaphthylene	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Acetochlor	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Alachlor	ND		0.050		ug/L		01/25/23 06:37	01/26/23 12:38	1
alpha-BHC	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
alpha-Chlordane	ND		0.050		ug/L		01/25/23 06:37	01/26/23 12:38	1
Anthracene	ND		0.020		ug/L		01/25/23 06:37	01/26/23 12:38	1
Atrazine	ND		0.050		ug/L		01/25/23 06:37	01/26/23 12:38	1
Benz(a)anthracene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 12:38	1
Benzo[a]pyrene	ND		0.020		ug/L		01/25/23 06:37	01/26/23 12:38	1
Benzo[b]fluoranthene	ND		0.020		ug/L		01/25/23 06:37	01/26/23 12:38	1
Benzo[g,h,i]perylene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 12:38	1
Benzo[k]fluoranthene	ND		0.020		ug/L		01/25/23 06:37	01/26/23 12:38	1
beta-BHC	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Bromacil	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Butachlor	ND		0.050		ug/L		01/25/23 06:37	01/26/23 12:38	1
Butylbenzylphthalate	ND		0.50		ug/L		01/25/23 06:37	01/26/23 12:38	1
Caffeine	ND		0.050		ug/L		01/25/23 06:37	01/26/23 12:38	1
Chlorobenzilate	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Chloroneb	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Chlorothalonil (Draconil, Bravo)	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Chlorpyrifos	ND		0.050		ug/L		01/25/23 06:37	01/26/23 12:38	1
Chrysene	ND		0.020		ug/L		01/25/23 06:37	01/26/23 12:38	1
delta-BHC	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Di(2-ethylhexyl)adipate	ND		0.60		ug/L		01/25/23 06:37	01/26/23 12:38	1
Bis(2-ethylhexyl) phthalate	ND		0.60		ug/L		01/25/23 06:37	01/26/23 12:38	1
Diazinon (Qualitative)	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Dibenz(a,h)anthracene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 12:38	1
Diclorvos (DDVP)	ND		0.050		ug/L		01/25/23 06:37	01/26/23 12:38	1
Dieldrin	ND		0.20		ug/L		01/25/23 06:37	01/26/23 12:38	1
Diethylphthalate	ND		0.50		ug/L		01/25/23 06:37	01/26/23 12:38	1
Dimethoate	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Dimethylphthalate	ND		0.50		ug/L		01/25/23 06:37	01/26/23 12:38	1
Di-n-butyl phthalate	ND		0.99		ug/L		01/25/23 06:37	01/26/23 12:38	1
Di-n-octyl phthalate	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Endosulfan I (Alpha)	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Endosulfan II (Beta)	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Endosulfan sulfate	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Endrin	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Endrin aldehyde	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1

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

Lab Sample ID: MB 380-30612/1-A
Matrix: Water
Analysis Batch: 30742

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30612

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
EPTC	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Fluoranthene	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Fluorene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 12:38	1
gamma-Chlordane	ND		0.050		ug/L		01/25/23 06:37	01/26/23 12:38	1
Heptachlor	ND		0.040		ug/L		01/25/23 06:37	01/26/23 12:38	1
Heptachlor epoxide (isomer B)	ND		0.050		ug/L		01/25/23 06:37	01/26/23 12:38	1
Hexachlorobenzene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 12:38	1
Hexachlorocyclopentadiene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 12:38	1
Indeno[1,2,3-cd]pyrene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 12:38	1
Isophorone	ND		0.50		ug/L		01/25/23 06:37	01/26/23 12:38	1
Lindane	ND		0.040		ug/L		01/25/23 06:37	01/26/23 12:38	1
Malathion	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Methoxychlor	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Metolachlor	ND		0.050		ug/L		01/25/23 06:37	01/26/23 12:38	1
Metribuzin	ND		0.050		ug/L		01/25/23 06:37	01/26/23 12:38	1
Molinate	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Naphthalene	ND		0.30		ug/L		01/25/23 06:37	01/26/23 12:38	1
Parathion	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Pendimethalin (Penoxaline)	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Total Permethrin (mixed isomers)	ND		0.20		ug/L		01/25/23 06:37	01/26/23 12:38	1
Phenanthrene	ND		0.040		ug/L		01/25/23 06:37	01/26/23 12:38	1
Propachlor	ND		0.050		ug/L		01/25/23 06:37	01/26/23 12:38	1
Pyrene	ND		0.050		ug/L		01/25/23 06:37	01/26/23 12:38	1
Simazine	ND		0.050		ug/L		01/25/23 06:37	01/26/23 12:38	1
Terbacil	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Terbuthylazine	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1
Thiobencarb	ND		0.20		ug/L		01/25/23 06:37	01/26/23 12:38	1
trans-Nonachlor	ND		0.050		ug/L		01/25/23 06:37	01/26/23 12:38	1
Trifluralin	ND		0.099		ug/L		01/25/23 06:37	01/26/23 12:38	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
n-Hexadecanoic acid	*0.713*	*T J N*	*ug/L*		*5.70*	*57-10-3*	*01/25/23 06:37*	*01/26/23 12:38*	*1*
9-Octadecenamide, (Z)-	*1.46*	*T J N*	*ug/L*		*7.29*	*301-02-0*	*01/25/23 06:37*	*01/26/23 12:38*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*100*		*70 - 130*	*01/25/23 06:37*	*01/26/23 12:38*	*1*
Triphenylphosphate	*102*		*70 - 130*	*01/25/23 06:37*	*01/26/23 12:38*	*1*
Perylene-d12	*95*		*70 - 130*	*01/25/23 06:37*	*01/26/23 12:38*	*1*

Lab Sample ID: LCS 380-30612/3-A
Matrix: Water
Analysis Batch: 30742

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30612

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	1.99	1.85		ug/L		93	70 - 130
2,4'-DDE	1.99	1.90		ug/L		96	70 - 130
2,4'-DDT	1.99	2.03		ug/L		102	70 - 130
2,4-Dinitrotoluene	1.99	2.00		ug/L		101	70 - 130

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

Lab Sample ID: LCS 380-30612/3-A
Matrix: Water
Analysis Batch: 30742

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30612

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,6-Dinitrotoluene	1.99	2.00		ug/L		101	70 - 130
4,4'-DDD	1.99	2.09		ug/L		105	70 - 130
4,4'-DDE	1.99	1.94		ug/L		98	70 - 130
4,4'-DDT	1.99	2.08		ug/L		105	70 - 130
Acenaphthene	1.99	1.98		ug/L		99	70 - 130
Acenaphthylene	1.99	1.98		ug/L		99	70 - 130
Acetochlor	1.99	2.15		ug/L		108	70 - 130
Alachlor	1.99	2.05		ug/L		103	70 - 130
alpha-BHC	1.99	2.03		ug/L		102	70 - 130
alpha-Chlordane	1.99	1.82		ug/L		91	70 - 130
Anthracene	1.99	1.90		ug/L		96	70 - 130
Atrazine	1.99	2.06		ug/L		103	70 - 130
Benz(a)anthracene	1.99	2.09		ug/L		105	70 - 130
Benzo[a]pyrene	1.99	2.09		ug/L		105	70 - 130
Benzo[b]fluoranthene	1.99	2.07		ug/L		104	70 - 130
Benzo[g,h,i]perylene	1.99	1.96		ug/L		99	70 - 130
Benzo[k]fluoranthene	1.99	2.15		ug/L		108	70 - 130
beta-BHC	1.99	2.08		ug/L		105	70 - 130
Bromacil	1.99	2.34		ug/L		118	70 - 130
Butachlor	1.99	2.13		ug/L		107	70 - 130
Butylbenzylphthalate	1.99	2.26		ug/L		114	70 - 130
Caffeine	1.99	1.64		ug/L		82	45 - 137
Chlorobenzilate	1.99	2.11		ug/L		106	70 - 130
Chloroneb	1.99	1.94		ug/L		98	70 - 130
Chlorothalonil (Draconil, Bravo)	1.99	1.92		ug/L		97	70 - 130
Chlorpyrifos	1.99	2.11		ug/L		106	70 - 130
Chrysene	1.99	1.95		ug/L		98	70 - 130
delta-BHC	1.99	2.03		ug/L		102	70 - 130
Di(2-ethylhexyl)adipate	1.99	2.34		ug/L		118	70 - 130
Bis(2-ethylhexyl) phthalate	1.99	2.10		ug/L		105	70 - 130
Diazinon (Qualitative)	1.99	2.01		ug/L		101	15 - 132
Dibenz(a,h)anthracene	1.99	2.09		ug/L		105	70 - 130
Diclorvos (DDVP)	1.99	2.35		ug/L		118	70 - 130
Dieldrin	1.99	1.97		ug/L		99	70 - 130
Diethylphthalate	1.99	2.10		ug/L		106	70 - 130
Dimethoate	1.99	1.04		ug/L		52	35 - 100
Dimethylphthalate	1.99	2.07		ug/L		104	70 - 130
Di-n-butyl phthalate	3.98	4.07		ug/L		102	70 - 130
Di-n-octyl phthalate	1.99	2.11		ug/L		106	70 - 130
Endosulfan I (Alpha)	1.99	1.88		ug/L		95	70 - 130
Endosulfan II (Beta)	1.99	2.09		ug/L		105	70 - 130
Endosulfan sulfate	1.99	2.16		ug/L		108	70 - 130
Endrin	1.99	2.44		ug/L		122	70 - 130
Endrin aldehyde	1.99	1.79		ug/L		90	70 - 130
EPTC	1.99	2.07		ug/L		104	70 - 130
Fluoranthene	1.99	2.04		ug/L		102	70 - 130
Fluorene	1.99	2.03		ug/L		102	70 - 130
gamma-Chlordane	1.99	1.79		ug/L		90	70 - 130
Heptachlor	1.99	2.06		ug/L		104	70 - 130

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

Lab Sample ID: LCS 380-30612/3-A
Matrix: Water
Analysis Batch: 30742

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30612

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Heptachlor epoxide (isomer B)	1.99	1.90		ug/L		95	70 - 130
Hexachlorobenzene	1.99	1.83		ug/L		92	70 - 130
Hexachlorocyclopentadiene	1.99	2.00		ug/L		100	70 - 130
Indeno[1,2,3-cd]pyrene	1.99	2.09		ug/L		105	70 - 130
Isophorone	1.99	2.16		ug/L		108	70 - 130
Lindane	1.99	1.97		ug/L		99	70 - 130
Malathion	1.99	2.19		ug/L		110	70 - 130
Methoxychlor	1.99	2.27		ug/L		114	70 - 130
Metolachlor	1.99	2.22		ug/L		111	70 - 130
Metribuzin	1.99	2.24		ug/L		113	70 - 130
Molinate	1.99	2.16		ug/L		109	70 - 130
Naphthalene	1.99	1.97		ug/L		99	70 - 130
Parathion	1.99	2.33		ug/L		117	70 - 130
Pendimethalin (Penoxaline)	1.99	2.02		ug/L		101	70 - 130
Phenanthrene	1.99	1.92		ug/L		96	70 - 130
Propachlor	1.99	2.17		ug/L		109	70 - 130
Pyrene	1.99	2.04		ug/L		102	70 - 130
Simazine	1.99	2.10		ug/L		106	70 - 130
Terbacil	1.99	2.38		ug/L		120	70 - 130
Terbuthylazine	1.99	2.07		ug/L		104	70 - 130
Thiobencarb	1.99	2.28		ug/L		115	70 - 130
trans-Nonachlor	1.99	1.79		ug/L		90	70 - 130
Trifluralin	1.99	1.89		ug/L		95	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Nitro-m-xylene	*100*		*70 - 130*
Triphenylphosphate	*101*		*70 - 130*
Perylene-d12	*97*		*70 - 130*

Lab Sample ID: LCSD 380-30612/4-A
Matrix: Water
Analysis Batch: 30742

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30612

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4'-DDD	1.99	1.98		ug/L		100	70 - 130	7	20
2,4'-DDE	1.99	2.00		ug/L		100	70 - 130	5	20
2,4'-DDT	1.99	2.21		ug/L		111	70 - 130	9	20
2,4-Dinitrotoluene	1.99	2.10		ug/L		106	70 - 130	5	20
2,6-Dinitrotoluene	1.99	2.20		ug/L		111	70 - 130	9	20
4,4'-DDD	1.99	2.23		ug/L		112	70 - 130	6	20
4,4'-DDE	1.99	2.04		ug/L		103	70 - 130	5	20
4,4'-DDT	1.99	2.27		ug/L		114	70 - 130	9	20
Acenaphthene	1.99	2.01		ug/L		101	70 - 130	2	20
Acenaphthylene	1.99	1.99		ug/L		100	70 - 130	1	20
Acetochlor	1.99	2.29		ug/L		115	70 - 130	7	20
Alachlor	1.99	2.21		ug/L		111	70 - 130	8	20
alpha-BHC	1.99	2.09		ug/L		105	70 - 130	3	20
alpha-Chlordane	1.99	1.94		ug/L		98	70 - 130	7	20

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

Lab Sample ID: LCSD 380-30612/4-A
Matrix: Water
Analysis Batch: 30742

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30612

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Anthracene			1.99	2.01		ug/L		101	70 - 130	5	20
Atrazine			1.99	2.12		ug/L		106	70 - 130	3	20
Benz(a)anthracene			1.99	2.17		ug/L		109	70 - 130	4	20
Benzo[a]pyrene			1.99	2.20		ug/L		111	70 - 130	5	20
Benzo[b]fluoranthene			1.99	2.20		ug/L		111	70 - 130	6	20
Benzo[g,h,i]perylene			1.99	2.11		ug/L		106	70 - 130	7	20
Benzo[k]fluoranthene			1.99	2.07		ug/L		104	70 - 130	4	20
beta-BHC			1.99	2.22		ug/L		112	70 - 130	6	20
Bromacil			1.99	2.53		ug/L		127	70 - 130	8	20
Butachlor			1.99	2.31		ug/L		116	70 - 130	8	20
Butylbenzylphthalate			1.99	2.40		ug/L		121	70 - 130	6	20
Caffeine			1.99	1.85		ug/L		93	45 - 137	12	20
Chlorobenzilate			1.99	2.26		ug/L		114	70 - 130	7	20
Chloroneb			1.99	2.01		ug/L		101	70 - 130	4	20
Chlorothalonil (Draconil, Bravo)			1.99	2.01		ug/L		101	70 - 130	5	20
Chlorpyrifos			1.99	2.25		ug/L		113	70 - 130	6	20
Chrysene			1.99	2.01		ug/L		101	70 - 130	3	20
delta-BHC			1.99	2.25		ug/L		113	70 - 130	10	20
Di(2-ethylhexyl)adipate			1.99	2.50		ug/L		126	70 - 130	7	20
Bis(2-ethylhexyl) phthalate			1.99	2.25		ug/L		113	70 - 130	7	20
Diazinon (Qualitative)			1.99	2.14		ug/L		108	15 - 132	6	20
Dibenz(a,h)anthracene			1.99	2.29		ug/L		115	70 - 130	9	20
Diclorvos (DDVP)			1.99	2.39		ug/L		120	70 - 130	2	20
Dieldrin			1.99	2.13		ug/L		107	70 - 130	8	20
Diethylphthalate			1.99	2.18		ug/L		110	70 - 130	4	20
Dimethoate			1.99	1.68	*1	ug/L		84	35 - 100	47	20
Dimethylphthalate			1.99	2.16		ug/L		109	70 - 130	4	20
Di-n-butyl phthalate			3.98	4.36		ug/L		110	70 - 130	7	20
Di-n-octyl phthalate			1.99	2.29		ug/L		115	70 - 130	8	20
Endosulfan I (Alpha)			1.99	1.95		ug/L		98	70 - 130	4	20
Endosulfan II (Beta)			1.99	2.18		ug/L		110	70 - 130	4	20
Endosulfan sulfate			1.99	2.39		ug/L		120	70 - 130	10	20
Endrin			1.99	2.47		ug/L		124	70 - 130	1	20
Endrin aldehyde			1.99	1.85		ug/L		93	70 - 130	3	20
EPTC			1.99	2.09		ug/L		105	70 - 130	1	20
Fluoranthene			1.99	2.11		ug/L		106	70 - 130	3	20
Fluorene			1.99	2.06		ug/L		104	70 - 130	2	20
gamma-Chlordane			1.99	1.92		ug/L		96	70 - 130	7	20
Heptachlor			1.99	2.18		ug/L		110	70 - 130	6	20
Heptachlor epoxide (isomer B)			1.99	1.98		ug/L		100	70 - 130	4	20
Hexachlorobenzene			1.99	1.90		ug/L		96	70 - 130	4	20
Hexachlorocyclopentadiene			1.99	2.04		ug/L		103	70 - 130	2	20
Indeno[1,2,3-cd]pyrene			1.99	2.29		ug/L		115	70 - 130	9	20
Isophorone			1.99	2.26		ug/L		114	70 - 130	5	20
Lindane			1.99	2.04		ug/L		103	70 - 130	3	20
Malathion			1.99	2.41		ug/L		121	70 - 130	9	20
Methoxychlor			1.99	2.40		ug/L		121	70 - 130	6	20
Metolachlor			1.99	2.39		ug/L		120	70 - 130	7	20
Metribuzin			1.99	2.44		ug/L		123	70 - 130	8	20

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

Lab Sample ID: LCSD 380-30612/4-A
Matrix: Water
Analysis Batch: 30742

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30612

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Molinate			1.99	2.20		ug/L		111	70 - 130	2	20
Naphthalene			1.99	2.00		ug/L		101	70 - 130	2	20
Parathion			1.99	2.48		ug/L		125	70 - 130	6	20
Pendimethalin (Penoxaline)			1.99	2.16		ug/L		109	70 - 130	7	20
Phenanthrene			1.99	2.00		ug/L		100	70 - 130	4	20
Propachlor			1.99	2.31		ug/L		116	70 - 130	6	20
Pyrene			1.99	2.13		ug/L		107	70 - 130	5	20
Simazine			1.99	2.25		ug/L		113	70 - 130	7	20
Terbacil			1.99	2.47		ug/L		124	70 - 130	4	20
Terbuthylazine			1.99	2.22		ug/L		112	70 - 130	7	20
Thiobencarb			1.99	2.38		ug/L		120	70 - 130	4	20
trans-Nonachlor			1.99	1.89		ug/L		95	70 - 130	5	20
Trifluralin			1.99	2.01		ug/L		101	70 - 130	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Nitro-m-xylene	*100*		*70 - 130*
Triphenylphosphate	*103*		*70 - 130*
Perylene-d12	*99*		*70 - 130*

Lab Sample ID: MRL 380-30612/2-A
Matrix: Water
Analysis Batch: 30742

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30612

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
2,4'-DDD			0.0992	0.133		ug/L		134	50 - 150		
2,4'-DDE			0.0992	0.0939	J	ug/L		95	50 - 150		
2,4'-DDT			0.0992	0.107		ug/L		107	50 - 150		
2,4-Dinitrotoluene			0.0992	0.0976	J	ug/L		98	50 - 150		
2,6-Dinitrotoluene			0.0992	0.0953	J	ug/L		96	50 - 150		
4,4'-DDD			0.0992	0.108		ug/L		108	50 - 150		
4,4'-DDE			0.0992	0.0989	J	ug/L		100	50 - 150		
4,4'-DDT			0.0992	0.113		ug/L		114	50 - 150		
Acenaphthene			0.0992	0.103		ug/L		104	50 - 150		
Acenaphthylene			0.0992	0.0999		ug/L		101	50 - 150		
Acetochlor			0.0496	0.0527	J	ug/L		106	50 - 150		
Alachlor			0.0496	0.0589		ug/L		119	50 - 150		
alpha-BHC			0.0992	0.109		ug/L		110	50 - 150		
alpha-Chlordane			0.0248	ND		ug/L		102	50 - 150		
Anthracene			0.0198	0.0212		ug/L		107	50 - 150		
Atrazine			0.0496	ND		ug/L		96	50 - 150		
Benz(a)anthracene			0.0496	0.0501		ug/L		101	50 - 150		
Benzo[a]pyrene			0.0198	0.0205		ug/L		103	50 - 150		
Benzo[b]fluoranthene			0.0198	0.0217		ug/L		109	50 - 150		
Benzo[g,h,i]perylene			0.0496	0.0470	J	ug/L		95	50 - 150		
Benzo[k]fluoranthene			0.0198	0.0189	J	ug/L		95	50 - 150		
beta-BHC			0.0992	0.113		ug/L		114	50 - 150		
Bromacil			0.0992	0.128		ug/L		129	50 - 150		
Butachlor			0.0496	0.0545		ug/L		110	50 - 150		

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

Lab Sample ID: MRL 380-30612/2-A
Matrix: Water
Analysis Batch: 30742

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30612

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Butylbenzylphthalate	0.149	0.183	J	ug/L		123	50 - 150
Caffeine	0.0496	0.0415	J	ug/L		84	50 - 150
Chlorobenzilate	0.0992	0.110		ug/L		111	50 - 150
Chloroneb	0.0992	0.0998		ug/L		101	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0992	0.191	^3+	ug/L		192	50 - 150
Chlorpyrifos	0.0496	0.0681		ug/L		137	50 - 150
Chrysene	0.0198	0.0206		ug/L		104	50 - 150
delta-BHC	0.0992	0.120		ug/L		121	50 - 150
Di(2-ethylhexyl)adipate	0.298	0.410	J	ug/L		138	50 - 150
Bis(2-ethylhexyl) phthalate	0.595	0.791		ug/L		133	50 - 150
Diazinon (Qualitative)	0.0992	0.128		ug/L		129	15 - 132
Dibenz(a,h)anthracene	0.0496	0.0527		ug/L		106	50 - 150
Diclorvos (DDVP)	0.0496	0.0716		ug/L		144	50 - 150
Dieldrin	0.0992	0.100	J	ug/L		101	50 - 150
Diethylphthalate	0.149	0.171	J	ug/L		115	50 - 150
Dimethoate	0.0992	0.0871	J	ug/L		88	35 - 100
Dimethylphthalate	0.298	0.317	J	ug/L		106	50 - 150
Di-n-butyl phthalate	0.298	0.377	J	ug/L		127	49 - 243
Di-n-octyl phthalate	0.0992	0.109		ug/L		110	50 - 150
Endosulfan I (Alpha)	0.0992	0.126		ug/L		127	50 - 150
Endosulfan II (Beta)	0.0992	0.114		ug/L		114	50 - 150
Endosulfan sulfate	0.0992	0.121		ug/L		121	50 - 150
Endrin	0.0992	0.114		ug/L		115	50 - 150
Endrin aldehyde	0.0992	ND		ug/L		82	50 - 150
EPTC	0.0992	0.116		ug/L		117	50 - 150
Fluoranthene	0.0496	0.0512	J	ug/L		103	50 - 150
Fluorene	0.0496	0.0529		ug/L		107	50 - 150
gamma-Chlordane	0.0248	0.0224	J	ug/L		90	50 - 150
Heptachlor	0.0397	0.0513		ug/L		129	50 - 150
Heptachlor epoxide (isomer B)	0.0496	0.0489	J	ug/L		99	50 - 150
Hexachlorobenzene	0.0496	0.0458	J	ug/L		92	50 - 150
Hexachlorocyclopentadiene	0.0496	0.0503		ug/L		101	50 - 150
Indeno[1,2,3-cd]pyrene	0.0496	0.0478	J	ug/L		96	50 - 150
Isophorone	0.0992	0.120	J	ug/L		121	50 - 150
Lindane	0.0397	0.0398	J	ug/L		100	50 - 150
Malathion	0.0992	0.108		ug/L		109	50 - 150
Methoxychlor	0.0992	0.108		ug/L		109	50 - 150
Metolachlor	0.0496	0.0542		ug/L		109	50 - 150
Metribuzin	0.0496	0.0501		ug/L		101	50 - 150
Molinate	0.0992	0.116		ug/L		117	50 - 150
Naphthalene	0.0992	0.114	J	ug/L		115	50 - 150
Parathion	0.0992	0.0997		ug/L		101	50 - 150
Pendimethalin (Penoxaline)	0.0992	0.0803	J	ug/L		81	50 - 150
Phenanthrene	0.0198	0.0230	J	ug/L		116	50 - 150
Propachlor	0.0496	0.0558		ug/L		113	50 - 150
Pyrene	0.0496	0.0519		ug/L		105	50 - 150
Simazine	0.0496	0.0600		ug/L		121	50 - 150
Terbacil	0.0992	0.108		ug/L		109	50 - 150
Terbuthylazine	0.0992	0.106		ug/L		107	50 - 150

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

Lab Sample ID: MRL 380-30612/2-A
Matrix: Water
Analysis Batch: 30742

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30612

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Thiobencarb			0.0992	0.111	J	ug/L		112	50 - 150		
trans-Nonachlor			0.0248	ND		ug/L		103	50 - 150		
Trifluralin			0.0992	0.0856	J	ug/L		86	50 - 150		

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
2-Nitro-m-xylene	*102*		*70 - 130*
Triphenylphosphate	*101*		*70 - 130*
Perylene-d12	*97*		*70 - 130*

Lab Sample ID: 380-35205-1 MS
Matrix: Drinking Water
Analysis Batch: 30742

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Prep Type: Total/NA
Prep Batch: 30612

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
2,4'-DDD	ND		2.01	1.91		ug/L		95	70 - 130		
2,4'-DDE	ND		2.01	1.92		ug/L		95	70 - 130		
2,4'-DDT	ND		2.01	2.14		ug/L		106	70 - 130		
2,4-Dinitrotoluene	ND		2.01	2.18		ug/L		108	70 - 130		
2,6-Dinitrotoluene	ND		2.01	2.22		ug/L		110	70 - 130		
4,4'-DDD	ND		2.01	2.17		ug/L		108	70 - 130		
4,4'-DDE	ND		2.01	1.97		ug/L		98	70 - 130		
4,4'-DDT	ND		2.01	2.14		ug/L		106	70 - 130		
Acenaphthene	ND		2.01	2.06		ug/L		102	70 - 130		
Acenaphthylene	ND		2.01	2.10		ug/L		104	70 - 130		
Acetochlor	ND		2.01	2.27		ug/L		113	70 - 130		
Alachlor	ND		2.01	2.17		ug/L		108	70 - 130		
alpha-BHC	ND		2.01	2.11		ug/L		105	70 - 130		
alpha-Chlordane	ND		2.01	1.89		ug/L		94	70 - 130		
Anthracene	ND		2.01	1.43		ug/L		71	70 - 130		
Atrazine	ND		2.01	2.14		ug/L		106	70 - 130		
Benz(a)anthracene	ND		2.01	2.04		ug/L		101	70 - 130		
Benzo[a]pyrene	ND		2.01	2.03		ug/L		101	70 - 130		
Benzo[b]fluoranthene	ND		2.01	2.29		ug/L		114	70 - 130		
Benzo[g,h,i]perylene	ND		2.01	2.19		ug/L		109	70 - 130		
Benzo[k]fluoranthene	ND		2.01	2.22		ug/L		110	70 - 130		
beta-BHC	ND		2.01	2.20		ug/L		109	70 - 130		
Bromacil	ND		2.01	2.55		ug/L		127	70 - 130		
Butachlor	ND		2.01	2.28		ug/L		113	70 - 130		
Butylbenzylphthalate	ND		2.01	2.35		ug/L		117	70 - 130		
Caffeine	ND		2.01	2.08		ug/L		103	46 - 144		
Chlorobenzilate	ND		2.01	2.26		ug/L		112	70 - 130		
Chloroneb	ND		2.01	2.01		ug/L		100	70 - 130		
Chlorothalonil (Draconil, Bravo)	ND	^3+	2.01	1.98		ug/L		98	70 - 130		
Chlorpyrifos	ND		2.01	2.20		ug/L		109	70 - 130		
Chrysene	ND		2.01	2.07		ug/L		103	70 - 130		
delta-BHC	ND		2.01	2.13		ug/L		106	70 - 130		
Di(2-ethylhexyl)adipate	ND		2.01	2.32		ug/L		115	70 - 130		
Bis(2-ethylhexyl) phthalate	ND		2.01	2.19		ug/L		109	70 - 130		

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

Lab Sample ID: 380-35205-1 MS
Matrix: Drinking Water
Analysis Batch: 30742

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Prep Type: Total/NA
Prep Batch: 30612

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Diazinon (Qualitative)	ND		2.01	2.21		ug/L		110	15 - 132
Dibenz(a,h)anthracene	ND		2.01	2.31		ug/L		114	70 - 130
Diclorvos (DDVP)	ND		2.01	2.48		ug/L		123	70 - 130
Dieldrin	ND		2.01	2.08		ug/L		103	70 - 130
Diethylphthalate	ND		2.01	2.23		ug/L		111	70 - 130
Dimethoate	ND	*1	2.01	2.03		ug/L		101	34 - 111
Dimethylphthalate	ND		2.01	2.22		ug/L		110	70 - 130
Di-n-butyl phthalate	ND		4.03	4.31		ug/L		107	70 - 130
Di-n-octyl phthalate	ND		2.01	2.20		ug/L		109	70 - 130
Endosulfan I (Alpha)	ND		2.01	1.93		ug/L		96	70 - 130
Endosulfan II (Beta)	ND		2.01	2.19		ug/L		109	70 - 130
Endosulfan sulfate	ND		2.01	2.29		ug/L		114	70 - 130
Endrin	ND		2.01	2.37		ug/L		118	70 - 130
Endrin aldehyde	ND		2.01	1.80		ug/L		89	70 - 130
EPTC	ND		2.01	2.27		ug/L		113	70 - 130
Fluoranthene	ND		2.01	2.10		ug/L		104	70 - 130
Fluorene	ND		2.01	2.12		ug/L		105	70 - 130
gamma-Chlordane	ND		2.01	1.87		ug/L		93	70 - 130
Heptachlor	ND		2.01	2.18		ug/L		108	70 - 130
Heptachlor epoxide (isomer B)	ND		2.01	2.00		ug/L		99	70 - 130
Hexachlorobenzene	ND		2.01	1.93		ug/L		96	70 - 130
Hexachlorocyclopentadiene	ND		2.01	2.15		ug/L		107	70 - 130
Indeno[1,2,3-cd]pyrene	ND		2.01	2.24		ug/L		111	70 - 130
Isophorone	ND		2.01	2.32		ug/L		115	70 - 130
Lindane	ND		2.01	2.05		ug/L		102	70 - 130
Malathion	ND		2.01	2.31		ug/L		115	70 - 130
Methoxychlor	ND		2.01	2.53		ug/L		125	70 - 130
Metolachlor	ND		2.01	2.35		ug/L		117	70 - 130
Metribuzin	ND		2.01	2.45		ug/L		122	70 - 130
Molinate	ND		2.01	2.32		ug/L		115	70 - 130
Naphthalene	ND		2.01	2.07		ug/L		103	70 - 130
Parathion	ND		2.01	2.49		ug/L		124	70 - 130
Pendimethalin (Penoxaline)	ND		2.01	2.19		ug/L		109	70 - 130
Phenanthrene	ND		2.01	2.02		ug/L		101	70 - 130
Propachlor	ND		2.01	2.33		ug/L		116	70 - 130
Pyrene	ND		2.01	2.12		ug/L		105	70 - 130
Simazine	ND		2.01	2.29		ug/L		114	70 - 130
Terbacil	ND		2.01	2.57		ug/L		127	70 - 130
Terbuthylazine	ND		2.01	2.21		ug/L		110	70 - 130
Thiobencarb	ND		2.01	2.40		ug/L		119	70 - 130
trans-Nonachlor	ND		2.01	1.88		ug/L		93	70 - 130
Trifluralin	ND		2.01	2.00		ug/L		99	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Nitro-m-xylene	*102*		*70 - 130*
Triphenylphosphate	*101*		*70 - 130*
Perylene-d12	*101*		*70 - 130*

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

Lab Sample ID: 380-35205-2 DU
Matrix: Drinking Water
Analysis Batch: 30742

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Prep Type: Total/NA
Prep Batch: 30612

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

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

Lab Sample ID: 380-35205-2 DU
Matrix: Drinking Water
Analysis Batch: 30742

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Prep Type: Total/NA
Prep Batch: 30612

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
EPTC	ND			ND		ug/L				NC	20
Fluoranthene	ND			ND		ug/L				NC	20
Fluorene	ND			ND		ug/L				NC	20
gamma-Chlordane	ND			ND		ug/L				NC	20
Heptachlor	ND			ND		ug/L				NC	20
Heptachlor epoxide (isomer B)	ND			ND		ug/L				NC	20
Hexachlorobenzene	ND			ND		ug/L				NC	20
Hexachlorocyclopentadiene	ND			ND		ug/L				NC	20
Indeno[1,2,3-cd]pyrene	ND			ND		ug/L				NC	20
Isophorone	ND			ND		ug/L				NC	20
Lindane	ND			ND		ug/L				NC	20
Malathion	ND			ND		ug/L				NC	20
Methoxychlor	ND			ND		ug/L				NC	20
Metolachlor	ND			ND		ug/L				NC	20
Metribuzin	ND			ND		ug/L				NC	20
Molinate	ND			ND		ug/L				NC	20
Naphthalene	ND			ND		ug/L				NC	20
Parathion	ND			ND		ug/L				NC	20
Pendimethalin (Penoxaline)	ND			ND		ug/L				NC	20
Total Permethrin (mixed isomers)	ND			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	*100*		*70 - 130*
Triphenylphosphate	*103*		*70 - 130*
Perylene-d12	*98*		*70 - 130*

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

Lab Sample ID: MBL 380-31276/21-A
Matrix: Water
Analysis Batch: 31452

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31276

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		02/01/23 12:11	02/03/23 03:24	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 03:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 03:24	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 03:24	1

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

Lab Sample ID: MBL 380-31276/21-A
Matrix: Water
Analysis Batch: 31452

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31276

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 03:24	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 03:24	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 03:24	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 03:24	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 03:24	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 03:24	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 03:24	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 03:24	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 03:24	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 03:24	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 03:24	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 03:24	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 03:24	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 03:24	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 03:24	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 03:24	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 03:24	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 03:24	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 03:24	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 03:24	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		02/01/23 12:11	02/03/23 03:24	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*106*		*50 - 200*	*02/01/23 12:11*	*02/03/23 03:24*	*1*
13C6 PFDA	*108*		*50 - 200*	*02/01/23 12:11*	*02/03/23 03:24*	*1*
13C5 PFHxA	*112*		*50 - 200*	*02/01/23 12:11*	*02/03/23 03:24*	*1*
13C4 PFHpA	*113*		*50 - 200*	*02/01/23 12:11*	*02/03/23 03:24*	*1*
13C8 PFOA	*111*		*50 - 200*	*02/01/23 12:11*	*02/03/23 03:24*	*1*
13C9 PFNA	*112*		*50 - 200*	*02/01/23 12:11*	*02/03/23 03:24*	*1*
13C7 PFUnA	*104*		*50 - 200*	*02/01/23 12:11*	*02/03/23 03:24*	*1*
13C2 PFDoA	*107*		*50 - 200*	*02/01/23 12:11*	*02/03/23 03:24*	*1*
13C4 PFBA	*113*		*50 - 200*	*02/01/23 12:11*	*02/03/23 03:24*	*1*
13C5 PFPeA	*116*		*50 - 200*	*02/01/23 12:11*	*02/03/23 03:24*	*1*
13C3 PFBS	*107*		*50 - 200*	*02/01/23 12:11*	*02/03/23 03:24*	*1*
13C3 PFHxS	*115*		*50 - 200*	*02/01/23 12:11*	*02/03/23 03:24*	*1*
13C8 PFOS	*113*		*50 - 200*	*02/01/23 12:11*	*02/03/23 03:24*	*1*
13C2-4:2-FTS	*130*		*50 - 200*	*02/01/23 12:11*	*02/03/23 03:24*	*1*
13C2-6:2-FTS	*124*		*50 - 200*	*02/01/23 12:11*	*02/03/23 03:24*	*1*
13C2-8:2-FTS	*128*		*50 - 200*	*02/01/23 12:11*	*02/03/23 03:24*	*1*

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

Lab Sample ID: LCS 380-31276/23-A
Matrix: Water
Analysis Batch: 31452

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31276

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.1	54.6		ng/L		91	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.1	55.5		ng/L		92	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.1	57.6		ng/L		96	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.1	59.4		ng/L		99	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.1	61.1		ng/L		102	70 - 130
Perfluorodecanoic acid (PFDA)	60.1	58.8		ng/L		98	70 - 130
Perfluorododecanoic acid (PFDoA)	60.1	59.9		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.1	57.4		ng/L		95	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.1	57.8		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	60.1	59.4		ng/L		99	70 - 130
Perfluorononanoic acid (PFNA)	60.1	58.6		ng/L		97	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.1	57.2		ng/L		95	70 - 130
Perfluorooctanoic acid (PFOA)	60.1	57.9		ng/L		96	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.1	59.6		ng/L		99	70 - 130
Perfluorobutanoic acid (PFBA)	60.1	59.0		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.1	59.5		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.1	59.1		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.1	57.2		ng/L		95	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.1	54.7		ng/L		91	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	60.1	58.6		ng/L		98	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.1	60.1		ng/L		100	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.1	56.6		ng/L		94	70 - 130
Perfluoropentanoic acid (PFPeA)	60.1	58.2		ng/L		97	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.1	57.2		ng/L		95	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	60.1	56.7		ng/L		94	70 - 130

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*107*		*50 - 200*
13C6 PFDA	*110*		*50 - 200*
13C5 PFHxA	*114*		*50 - 200*
13C4 PFHpA	*111*		*50 - 200*
13C8 PFOA	*110*		*50 - 200*
13C9 PFNA	*113*		*50 - 200*

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

Lab Sample ID: LCS 380-31276/23-A
Matrix: Water
Analysis Batch: 31452

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31276

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C7 PFUnA	*109*		*50 - 200*
13C2 PFDoA	*107*		*50 - 200*
13C4 PFBA	*107*		*50 - 200*
13C5 PFPeA	*107*		*50 - 200*
13C3 PFBS	*102*		*50 - 200*
13C3 PFHxS	*106*		*50 - 200*
13C8 PFOS	*106*		*50 - 200*
13C2-4:2-FTS	*115*		*50 - 200*
13C2-6:2-FTS	*113*		*50 - 200*
13C2-8:2-FTS	*112*		*50 - 200*

Lab Sample ID: LCSD 380-31276/24-A
Matrix: Water
Analysis Batch: 31452

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31276

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			60.1	57.4		ng/L		95	70 - 130	5	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			60.1	59.0		ng/L		98	70 - 130	6	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			60.1	59.0		ng/L		98	70 - 130	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			60.1	60.3		ng/L		100	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)			60.1	60.2		ng/L		100	70 - 130	1	30
Perfluorodecanoic acid (PFDA)			60.1	60.1		ng/L		100	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)			60.1	59.6		ng/L		99	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)			60.1	57.7		ng/L		96	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)			60.1	58.8		ng/L		98	70 - 130	2	30
Perfluorohexanoic acid (PFHxA)			60.1	60.5		ng/L		101	70 - 130	2	30
Perfluorononanoic acid (PFNA)			60.1	59.8		ng/L		99	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)			60.1	58.4		ng/L		97	70 - 130	2	30
Perfluorooctanoic acid (PFOA)			60.1	56.7		ng/L		94	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)			60.1	58.3		ng/L		97	70 - 130	2	30
Perfluorobutanoic acid (PFBA)			60.1	59.8		ng/L		100	70 - 130	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)			60.1	58.3		ng/L		97	70 - 130	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			60.1	58.1		ng/L		97	70 - 130	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			60.1	59.5		ng/L		99	70 - 130	4	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			60.1	54.3		ng/L		90	70 - 130	1	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			60.1	61.6		ng/L		102	70 - 130	5	30

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

Lab Sample ID: LCSD 380-31276/24-A
Matrix: Water
Analysis Batch: 31452

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31276

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoro-3-methoxypropanoic acid (PFMPA)			60.1	60.1		ng/L		100	70 - 130	0	30
Perfluoro-4-methoxybutanoic acid (PFMBA)			60.1	57.2		ng/L		95	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)			60.1	56.6		ng/L		94	70 - 130	3	30
Perfluoroheptanesulfonic acid (PFHpS)			60.1	59.7		ng/L		99	70 - 130	4	30
Perfluoropentanesulfonic acid (PFPeS)			60.1	61.0		ng/L		102	70 - 130	7	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*102*		*50 - 200*
13C6 PFDA	*105*		*50 - 200*
13C5 PFHxA	*109*		*50 - 200*
13C4 PFHpA	*105*		*50 - 200*
13C8 PFOA	*109*		*50 - 200*
13C9 PFNA	*105*		*50 - 200*
13C7 PFUnA	*108*		*50 - 200*
13C2 PFDoA	*104*		*50 - 200*
13C4 PFBA	*106*		*50 - 200*
13C5 PFPeA	*110*		*50 - 200*
13C3 PFBS	*102*		*50 - 200*
13C3 PFHxS	*104*		*50 - 200*
13C8 PFOS	*102*		*50 - 200*
13C2-4:2-FTS	*119*		*50 - 200*
13C2-6:2-FTS	*108*		*50 - 200*
13C2-8:2-FTS	*112*		*50 - 200*

Lab Sample ID: MRL 380-31276/22-A
Matrix: Water
Analysis Batch: 31452

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31276

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.00	1.72	J	ng/L		86	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			2.00	1.71	J	ng/L		86	50 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.00	1.88	J	ng/L		94	50 - 150		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			2.00	1.92	J	ng/L		96	50 - 150		
Perfluorobutanesulfonic acid (PFBS)			2.00	1.93	J	ng/L		96	50 - 150		
Perfluorodecanoic acid (PFDA)			2.00	2.01		ng/L		101	50 - 150		
Perfluorododecanoic acid (PFDoA)			2.00	1.88	J	ng/L		94	50 - 150		
Perfluoroheptanoic acid (PFHpA)			2.00	2.07		ng/L		103	50 - 150		
Perfluorohexanesulfonic acid (PFHxS)			2.00	1.92	J	ng/L		96	50 - 150		
Perfluorohexanoic acid (PFHxA)			2.00	1.92	J	ng/L		96	50 - 150		

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

Job ID: 380-35205-1

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

Lab Sample ID: MRL 380-31276/22-A
Matrix: Water
Analysis Batch: 31452

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31276

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanoic acid (PFNA)	2.00	1.98	J	ng/L		99	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	1.82	J	ng/L		91	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	1.96	J	ng/L		98	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.06		ng/L		103	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.16		ng/L		108	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.10		ng/L		105	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.00		ng/L		100	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	1.84	J	ng/L		92	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	1.79	J	ng/L		90	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.00	1.93	J	ng/L		96	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	1.97	J	ng/L		98	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	1.93	J	ng/L		96	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	1.97	J	ng/L		98	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	1.89	J	ng/L		95	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	1.85	J	ng/L		92	50 - 150

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*109*		*50 - 200*
13C6 PFDA	*111*		*50 - 200*
13C5 PFHxA	*121*		*50 - 200*
13C4 PFHpA	*115*		*50 - 200*
13C8 PFOA	*115*		*50 - 200*
13C9 PFNA	*113*		*50 - 200*
13C7 PFUnA	*110*		*50 - 200*
13C2 PFDoA	*110*		*50 - 200*
13C4 PFBA	*112*		*50 - 200*
13C5 PFPeA	*114*		*50 - 200*
13C3 PFBS	*110*		*50 - 200*
13C3 PFHxS	*114*		*50 - 200*
13C8 PFOS	*113*		*50 - 200*
13C2-4:2-FTS	*120*		*50 - 200*
13C2-6:2-FTS	*124*		*50 - 200*
13C2-8:2-FTS	*115*		*50 - 200*

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

Lab Sample ID: 380-35205-2 LMS
Matrix: Drinking Water
Analysis Batch: 31452

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Prep Type: Total/NA
Prep Batch: 31276

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	1.80	J	ng/L		89	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.01	1.90	J	ng/L		94	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.01	1.98	J	ng/L		99	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.01	2.01		ng/L		100	50 - 150
Perfluorobutanesulfonic acid (PFBS)	ND		2.01	2.22		ng/L		111	50 - 150
Perfluorodecanoic acid (PFDA)	ND		2.01	2.12		ng/L		105	50 - 150
Perfluorododecanoic acid (PFDoA)	ND		2.01	2.15		ng/L		107	50 - 150
Perfluoroheptanoic acid (PFHpA)	ND		2.01	2.32		ng/L		115	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	ND		2.01	2.58		ng/L		99	50 - 150
Perfluorohexanoic acid (PFHxA)	ND		2.01	2.64		ng/L		104	50 - 150
Perfluorononanoic acid (PFNA)	ND		2.01	2.13		ng/L		106	50 - 150
Perfluorooctanesulfonic acid (PFOS)	ND		2.01	2.31		ng/L		115	50 - 150
Perfluorooctanoic acid (PFOA)	ND		2.01	2.67		ng/L		104	50 - 150
Perfluoroundecanoic acid (PFUnA)	ND		2.01	2.20		ng/L		110	50 - 150
Perfluorobutanoic acid (PFBA)	ND		2.01	2.43		ng/L		121	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.01	1.90	J	ng/L		95	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.01	2.07		ng/L		103	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.01	2.14		ng/L		106	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.01	1.98	J	ng/L		99	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.01	1.98	J	ng/L		99	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.01	2.20		ng/L		110	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.01	2.00		ng/L		100	50 - 150
Perfluoropentanoic acid (PFPeA)	ND	F2	2.01	2.54		ng/L		97	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.01	2.10		ng/L		105	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	ND		2.01	2.18		ng/L		108	50 - 150

Isotope Dilution	*LMS %Recovery*	*LMS Qualifier*	*Limits*
13C3 HFPO-DA	*93*		*50 - 200*
13C6 PFDA	*105*		*50 - 200*
13C5 PFHxA	*100*		*50 - 200*
13C4 PFHpA	*99*		*50 - 200*
13C8 PFOA	*101*		*50 - 200*
13C9 PFNA	*100*		*50 - 200*

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

Lab Sample ID: 380-35205-2 LMS
Matrix: Drinking Water
Analysis Batch: 31452

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Prep Type: Total/NA
Prep Batch: 31276

Isotope Dilution	*LMS %Recovery*	*LMS Qualifier*	*Limits*
13C7 PFUnA	*103*		*50 - 200*
13C2 PFDoA	*98*		*50 - 200*
13C4 PFBA	*99*		*50 - 200*
13C5 PFPeA	*101*		*50 - 200*
13C3 PFBS	*103*		*50 - 200*
13C3 PFHxS	*101*		*50 - 200*
13C8 PFOS	*100*		*50 - 200*
13C2-4:2-FTS	*115*		*50 - 200*
13C2-6:2-FTS	*105*		*50 - 200*
13C2-8:2-FTS	*112*		*50 - 200*

Lab Sample ID: 380-35205-2 LMSD
Matrix: Drinking Water
Analysis Batch: 31452

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Prep Type: Total/NA
Prep Batch: 31276

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	1.77	J	ng/L		88	50 - 150	1	50
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.01	1.89	J	ng/L		94	50 - 150	0	50
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.01	1.90	J	ng/L		94	50 - 150	4	50
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.01	2.04		ng/L		101	50 - 150	1	50
Perfluorobutanesulfonic acid (PFBS)	ND		2.01	2.41		ng/L		120	50 - 150	8	50
Perfluorodecanoic acid (PFDA)	ND		2.01	2.12		ng/L		105	50 - 150	0	50
Perfluorododecanoic acid (PFDoA)	ND		2.01	1.99	J	ng/L		99	50 - 150	8	50
Perfluoroheptanoic acid (PFHpA)	ND		2.01	2.36		ng/L		117	50 - 150	2	50
Perfluorohexanesulfonic acid (PFHxS)	ND		2.01	2.50		ng/L		95	50 - 150	3	50
Perfluorohexanoic acid (PFHxA)	ND		2.01	2.58		ng/L		100	50 - 150	2	50
Perfluorononanoic acid (PFNA)	ND		2.01	2.09		ng/L		104	50 - 150	2	50
Perfluorooctanesulfonic acid (PFOS)	ND		2.01	2.32		ng/L		115	50 - 150	0	50
Perfluorooctanoic acid (PFOA)	ND		2.01	2.74		ng/L		108	50 - 150	3	50
Perfluoroundecanoic acid (PFUnA)	ND		2.01	2.26		ng/L		112	50 - 150	2	50
Perfluorobutanoic acid (PFBA)	ND		2.01	2.28		ng/L		113	50 - 150	6	50
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.01	2.42		ng/L		120	50 - 150	24	50
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.01	1.98	J	ng/L		98	50 - 150	5	50
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.01	2.09		ng/L		104	50 - 150	2	50
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.01	1.87	J	ng/L		93	50 - 150	5	50
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.01	1.97	J	ng/L		98	50 - 150	0	50

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

Lab Sample ID: 380-35205-2 LMSD — **Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)**
Matrix: Drinking Water — **Prep Type: Total/NA**
Analysis Batch: 31452 — **Prep Batch: 31276**

Analyte	Sample Result	Sample Qualifier	Spike Added	LMSD Result	LMSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.01	2.02		ng/L		100	50 - 150	9	50
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.01	2.06		ng/L		103	50 - 150	3	50
Perfluoropentanoic acid (PFPeA)	ND	F2	2.01	2.52		ng/L		95	50 - 150	1	50
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.01	2.12		ng/L		105	50 - 150	1	50
Perfluoropentanesulfonic acid (PFPeS)	ND		2.01	2.12		ng/L		105	50 - 150	3	50

Isotope Dilution	*LMSD %Recovery*	*LMSD Qualifier*	*Limits*
13C3 HFPO-DA	*74*		*50 - 200*
13C6 PFDA	*93*		*50 - 200*
13C5 PFHxA	*84*		*50 - 200*
13C4 PFHpA	*86*		*50 - 200*
13C8 PFOA	*88*		*50 - 200*
13C9 PFNA	*92*		*50 - 200*
13C7 PFUnA	*97*		*50 - 200*
13C2 PFDoA	*95*		*50 - 200*
13C4 PFBA	*86*		*50 - 200*
13C5 PFPeA	*82*		*50 - 200*
13C3 PFBS	*104*		*50 - 200*
13C3 PFHxS	*108*		*50 - 200*
13C8 PFOS	*106*		*50 - 200*
13C2-4:2-FTS	*119*		*50 - 200*
13C2-6:2-FTS	*113*		*50 - 200*
13C2-8:2-FTS	*109*		*50 - 200*

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

Lab Sample ID: MBL 380-30613/16-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 30665 — **Prep Batch: 30613**

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 18:02	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 18:02	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 18:02	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 18:02	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 18:02	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 18:02	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 18:02	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 18:02	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 18:02	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 18:02	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 18:02	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 18:02	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 18:02	1

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

Lab Sample ID: MBL 380-30613/16-A
Matrix: Water
Analysis Batch: 30665

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30613

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 18:02	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 18:02	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 18:02	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 18:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		01/25/23 06:40	01/26/23 18:02	1

Surrogate	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*99*		*70 - 130*	*01/25/23 06:40*	*01/26/23 18:02*	*1*
13C2 PFHxA	*105*		*70 - 130*	*01/25/23 06:40*	*01/26/23 18:02*	*1*
13C2 PFDA	*103*		*70 - 130*	*01/25/23 06:40*	*01/26/23 18:02*	*1*
13C3-GenX	*103*		*70 - 130*	*01/25/23 06:40*	*01/26/23 18:02*	*1*

Lab Sample ID: LCS 380-30613/18-A
Matrix: Water
Analysis Batch: 30665

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30613

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			50.1	52.1		ng/L		104	70 - 130		
Perfluorooctanesulfonic acid (PFOS)			46.4	49.6		ng/L		107	70 - 130		
Perfluoroundecanoic acid (PFUnA)			50.1	51.4		ng/L		103	70 - 130		
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			50.1	48.7		ng/L		97	70 - 130		
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			50.1	47.9		ng/L		96	70 - 130		
Perfluorohexanoic acid (PFHxA)			50.1	55.5		ng/L		111	70 - 130		
Perfluorododecanoic acid (PFDoA)			50.1	49.2		ng/L		98	70 - 130		
Perfluorooctanoic acid (PFOA)			50.1	51.7		ng/L		103	70 - 130		
Perfluorodecanoic acid (PFDA)			50.1	53.2		ng/L		106	70 - 130		
Perfluorohexanesulfonic acid (PFHxS)			45.7	50.8		ng/L		111	70 - 130		
Perfluorobutanesulfonic acid (PFBS)			44.3	47.9		ng/L		108	70 - 130		
Perfluoroheptanoic acid (PFHpA)			50.1	54.6		ng/L		109	70 - 130		
Perfluorononanoic acid (PFNA)			50.1	53.2		ng/L		106	70 - 130		
Perfluorotetradecanoic acid (PFTA)			50.1	51.8		ng/L		103	70 - 130		
Perfluorotridecanoic acid (PFTrDA)			50.1	52.5		ng/L		105	70 - 130		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			46.8	50.9		ng/L		109	70 - 130		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			47.3	51.7		ng/L		109	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			47.3	49.9		ng/L		105	70 - 130		

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	94		70 - 130
13C2 PFHxA	113		70 - 130
13C2 PFDA	103		70 - 130
13C3-GenX	108		70 - 130

Lab Sample ID: LCSD 380-30613/19-A
Matrix: Water
Analysis Batch: 30665

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30613

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			50.1	49.4		ng/L		99	70 - 130	5	30
Perfluorooctanesulfonic acid (PFOS)			46.4	47.4		ng/L		102	70 - 130	5	30
Perfluoroundecanoic acid (PFUnA)			50.1	49.3		ng/L		98	70 - 130	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			50.1	48.6		ng/L		97	70 - 130	0	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			50.1	48.4		ng/L		97	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)			50.1	49.3		ng/L		98	70 - 130	12	30
Perfluorododecanoic acid (PFDoA)			50.1	48.6		ng/L		97	70 - 130	1	30
Perfluorooctanoic acid (PFOA)			50.1	49.1		ng/L		98	70 - 130	5	30
Perfluorodecanoic acid (PFDA)			50.1	50.2		ng/L		100	70 - 130	6	30
Perfluorohexanesulfonic acid (PFHxS)			45.7	47.1		ng/L		103	70 - 130	7	30
Perfluorobutanesulfonic acid (PFBS)			44.3	46.1		ng/L		104	70 - 130	4	30
Perfluoroheptanoic acid (PFHpA)			50.1	50.4		ng/L		101	70 - 130	8	30
Perfluorononanoic acid (PFNA)			50.1	50.2		ng/L		100	70 - 130	6	30
Perfluorotetradecanoic acid (PFTA)			50.1	49.1		ng/L		98	70 - 130	5	30
Perfluorotridecanoic acid (PFTrDA)			50.1	50.7		ng/L		101	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			46.8	49.2		ng/L		105	70 - 130	3	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			47.3	50.1		ng/L		106	70 - 130	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			47.3	46.2		ng/L		98	70 - 130	8	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
d5-NEtFOSAA	102		70 - 130
13C2 PFHxA	110		70 - 130
13C2 PFDA	104		70 - 130
13C3-GenX	105		70 - 130

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

Lab Sample ID: MRL 380-30613/17-A
Matrix: Water
Analysis Batch: 30665

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30613

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.02		ng/L		101	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.86	2.02		ng/L		109	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.24		ng/L		112	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.15		ng/L		107	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.19		ng/L		109	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.26		ng/L		113	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.09		ng/L		104	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.31		ng/L		115	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.24		ng/L		112	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.83	2.10		ng/L		115	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.77	1.89	J	ng/L		106	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.35		ng/L		117	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.28		ng/L		114	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.12		ng/L		106	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.13		ng/L		106	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.87	2.09		ng/L		112	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.89	2.01		ng/L		106	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	1.93	J	ng/L		102	50 - 150

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
d5-NEtFOSAA	*104*		*70 - 130*
13C2 PFHxA	*108*		*70 - 130*
13C2 PFDA	*106*		*70 - 130*
13C3-GenX	*102*		*70 - 130*

Lab Sample ID: 380-35132-AY-1-A MS
Matrix: Water
Analysis Batch: 30665

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30613

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	50.5		ng/L		101	70 - 130
Perfluorooctanesulfonic acid (PFOS)	ND		46.5	47.0		ng/L		101	70 - 130
Perfluoroundecanoic acid (PFUnA)	ND		50.2	48.6		ng/L		97	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		50.2	48.4		ng/L		96	70 - 130

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

Lab Sample ID: 380-35132-AY-1-A MS
Matrix: Water
Analysis Batch: 30665

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30613

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		50.2	47.0		ng/L		94	70 - 130
Perfluorohexanoic acid (PFHxA)	ND		50.2	49.4		ng/L		98	70 - 130
Perfluorododecanoic acid (PFDoA)	ND		50.2	48.3		ng/L		96	70 - 130
Perfluorooctanoic acid (PFOA)	ND		50.2	49.7		ng/L		99	70 - 130
Perfluorodecanoic acid (PFDA)	ND		50.2	50.1		ng/L		100	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	ND		45.8	46.3		ng/L		101	70 - 130
Perfluorobutanesulfonic acid (PFBS)	ND		44.4	46.2		ng/L		104	70 - 130
Perfluoroheptanoic acid (PFHpA)	ND		50.2	51.2		ng/L		102	70 - 130
Perfluorononanoic acid (PFNA)	ND		50.2	50.2		ng/L		100	70 - 130
Perfluorotetradecanoic acid (PFTA)	ND		50.2	50.2		ng/L		100	70 - 130
Perfluorotridecanoic acid (PFTrDA)	ND		50.2	50.6		ng/L		101	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		46.9	48.6		ng/L		103	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		47.4	51.9		ng/L		109	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		47.4	46.7		ng/L		99	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
d5-NEtFOSAA	*100*		*70 - 130*
13C2 PFHxA	*108*		*70 - 130*
13C2 PFDA	*106*		*70 - 130*
13C3-GenX	*105*		*70 - 130*

Lab Sample ID: 380-35138-G-1-A DU
Matrix: Water
Analysis Batch: 30665

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 30613

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

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

Lab Sample ID: 380-35138-G-1-A DU
Matrix: Water
Analysis Batch: 30665

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 30613

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)	ND			ND		ng/L				NC	30
Perfluorobutanesulfonic acid (PFBS)	ND			ND		ng/L				NC	30
Perfluoroheptanoic acid (PFHpA)	ND			ND		ng/L				NC	30
Perfluorononanoic acid (PFNA)	ND			ND		ng/L				NC	30
Perfluorotetradecanoic acid (PFTA)	ND			ND		ng/L				NC	30
Perfluorotridecanoic acid (PFTrDA)	ND			ND		ng/L				NC	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND			ND		ng/L				NC	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND			ND		ng/L				NC	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND			ND		ng/L				NC	30

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
d5-NEtFOSAA	*103*		*70 - 130*
13C2 PFHxA	*109*		*70 - 130*
13C2 PFDA	*102*		*70 - 130*
13C3-GenX	*105*		*70 - 130*

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

Lab Sample ID: 103823-B1
Matrix: BlankMatrix
Analysis Batch: O-40112

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-40112_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1
Acenaphthene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1
Acenaphthylene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1
Anthracene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1
Biphenyl	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1
Chrysene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1
Dibenzothiophene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1

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

Lab Sample ID: 103823-B1
Matrix: BlankMatrix
Analysis Batch: O-40112

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-40112_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		01/19/23 00:00	02/11/23 19:29	1
Fluoranthene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1
Fluorene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1
Naphthalene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1
Perylene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1
Phenanthrene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1
Pyrene	ND		0.005	0.001	µg/L		01/19/23 00:00	02/11/23 19:29	1

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*93*		*27 - 133*	*01/19/23 00:00*	*02/11/23 19:29*	*1*
(d10-Phenanthrene)	*94*		*43 - 129*	*01/19/23 00:00*	*02/11/23 19:29*	*1*
(d12-Chrysene)	*108*		*52 - 144*	*01/19/23 00:00*	*02/11/23 19:29*	*1*
(d12-Perylene)	*91*		*36 - 161*	*01/19/23 00:00*	*02/11/23 19:29*	*1*
(d8-Naphthalene)	*88*		*25 - 125*	*01/19/23 00:00*	*02/11/23 19:29*	*1*

Lab Sample ID: 103823-BS1
Matrix: BlankMatrix
Analysis Batch: O-40112

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-40112_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.5	0.478		µg/L		96	31 - 128
1-Methylphenanthrene	0.5	0.479		µg/L		96	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.496		µg/L		99	55 - 122
2,6-Dimethylnaphthalene	0.5	0.465		µg/L		93	48 - 120
2-Methylnaphthalene	0.5	0.478		µg/L		96	47 - 130
Acenaphthene	0.5	0.486		µg/L		97	53 - 131
Acenaphthylene	0.5	0.46		µg/L		92	43 - 140
Anthracene	0.5	0.476		µg/L		95	58 - 135
Benz[a]anthracene	0.5	0.461		µg/L		92	55 - 145
Benzo[a]pyrene	0.5	0.485		µg/L		97	51 - 143
Benzo[b]fluoranthene	0.5	0.476		µg/L		95	46 - 165
Benzo[e]pyrene	0.5	0.448		µg/L		90	42 - 152
Benzo[g,h,i]perylene	0.5	0.482		µg/L		96	63 - 133
Benzo[k]fluoranthene	0.5	0.463		µg/L		93	56 - 145
Biphenyl	0.5	0.484		µg/L		97	56 - 119
Chrysene	0.5	0.447		µg/L		89	56 - 141
Dibenz[a,h]anthracene	0.5	0.503		µg/L		101	55 - 150
Dibenzo[a,l]pyrene	0.5	0.463		µg/L		93	50 - 150
Dibenzothiophene	0.5	0.47		µg/L		94	46 - 126
Disalicylidenepropanediamine	50	42.2		µg/L		84	50 - 150
Fluoranthene	0.5	0.472		µg/L		94	60 - 146
Fluorene	0.5	0.485		µg/L		97	58 - 131
Indeno[1,2,3-cd]pyrene	0.5	0.485		µg/L		97	50 - 151
Naphthalene	0.5	0.441		µg/L		88	41 - 126
Perylene	0.5	0.476		µg/L		95	48 - 141
Phenanthrene	0.5	0.472		µg/L		94	67 - 127
Pyrene	0.5	0.472		µg/L		94	54 - 156

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

Lab Sample ID: 103823-BS1
Matrix: BlankMatrix
Analysis Batch: O-40112

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-40112_P

Surrogate	LCS %Recovery	LCS Qualifier	Limits
(d10-Acenaphthene)	96		27 - 133
(d10-Phenanthrene)	93		43 - 129
(d12-Chrysene)	96		52 - 144
(d12-Perylene)	93		36 - 161
(d8-Naphthalene)	85		25 - 125

Lab Sample ID: 103823-BS2
Matrix: BlankMatrix
Analysis Batch: O-40112

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-40112_P

Analyte			Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene			0.5	0.456		µg/L		91	31 - 128	5	30
1-Methylphenanthrene			0.5	0.466		µg/L		93	66 - 127	3	30
2,3,5-Trimethylnaphthalene			0.5	0.482		µg/L		96	55 - 122	3	30
2,6-Dimethylnaphthalene			0.5	0.461		µg/L		92	48 - 120	1	30
2-Methylnaphthalene			0.5	0.458		µg/L		92	47 - 130	4	30
Acenaphthene			0.5	0.472		µg/L		94	53 - 131	3	30
Acenaphthylene			0.5	0.463		µg/L		93	43 - 140	1	30
Anthracene			0.5	0.467		µg/L		93	58 - 135	2	30
Benz[a]anthracene			0.5	0.452		µg/L		90	55 - 145	2	30
Benzo[a]pyrene			0.5	0.492		µg/L		98	51 - 143	1	30
Benzo[b]fluoranthene			0.5	0.483		µg/L		97	46 - 165	2	30
Benzo[e]pyrene			0.5	0.473		µg/L		95	42 - 152	5	30
Benzo[g,h,i]perylene			0.5	0.477		µg/L		95	63 - 133	1	30
Benzo[k]fluoranthene			0.5	0.469		µg/L		94	56 - 145	1	30
Biphenyl			0.5	0.46		µg/L		92	56 - 119	5	30
Chrysene			0.5	0.454		µg/L		91	56 - 141	2	30
Dibenz[a,h]anthracene			0.5	0.482		µg/L		96	55 - 150	5	30
Dibenzo[a,l]pyrene			0.5	0.491		µg/L		98	50 - 150	5	30
Dibenzothiophene			0.5	0.477		µg/L		95	46 - 126	1	30
Disalicylidenepropanediamine			50	47.1		µg/L		94	50 - 150	11	30
Fluoranthene			0.5	0.458		µg/L		92	60 - 146	2	30
Fluorene			0.5	0.474		µg/L		95	58 - 131	2	30
Indeno[1,2,3-cd]pyrene			0.5	0.496		µg/L		99	50 - 151	2	30
Naphthalene			0.5	0.458		µg/L		92	41 - 126	4	30
Perylene			0.5	0.465		µg/L		93	48 - 141	2	30
Phenanthrene			0.5	0.48		µg/L		96	67 - 127	2	30
Pyrene			0.5	0.462		µg/L		92	54 - 156	2	30

Surrogate	LCS DUP %Recovery	LCS DUP Qualifier	Limits
(d10-Acenaphthene)	94		27 - 133
(d10-Phenanthrene)	94		43 - 129
(d12-Chrysene)	95		52 - 144
(d12-Perylene)	93		36 - 161
(d8-Naphthalene)	90		25 - 125

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

Lab Sample ID: 23VG39A13B
Matrix: WATER
Analysis Batch: 23VG39A13

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			01/26/23 12:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE					*01/26/23 12:24*	*1*

Lab Sample ID: 23VG39A13L
Matrix: WATER
Analysis Batch: 23VG39A13

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
GASOLINE			0.500	0.437		mg/L		87	60 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
BROMOFLUOROBENZENE	*103*		*70 - 130*

Lab Sample ID: 23A298-01M
Matrix: WATER
Analysis Batch: 23VG39A13

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
GASOLINE	ND		0.500	0.454		mg/L		91	50 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
BROMOFLUOROBENZENE	*109*		*60 - 140*

Lab Sample ID: 23A298-01S
Matrix: WATER
Analysis Batch: 23VG39A13

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
GASOLINE	ND		0.500	0.430		mg/L		86	50 - 130	5	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
BROMOFLUOROBENZENE	*106*		*60 - 140*

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

Lab Sample ID: 23DSB002WB
Matrix: WATER
Analysis Batch: 23DSB002W

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			02/02/23 13:41	1
JP5	ND	U	0.050		mg/L			02/02/23 13:41	1
JP8	ND	U	0.050		mg/L			02/02/23 13:41	1
MOTOR OIL	ND	U	0.050		mg/L			02/02/23 13:41	1

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

Lab Sample ID: 23DSB002WB
Matrix: WATER
Analysis Batch: 23DSB002W

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE					02/02/23 13:41	1
HEXACOSANE					02/02/23 13:41	1

Lab Sample ID: 23DSB002WL
Matrix: WATER
Analysis Batch: 23DSB002W

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
DIESEL			2.50	2.36		mg/L		94	50 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOBENZENE	91		60 - 130
HEXACOSANE	90		60 - 130

Lab Sample ID: 23J5B002WL
Matrix: WATER
Analysis Batch: 23DSB002W

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
JP5			2.50	2.16		mg/L		86	30 - 160		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOBENZENE	93		60 - 130
HEXACOSANE	88		60 - 130

Lab Sample ID: 23J8B002WL
Matrix: WATER
Analysis Batch: 23DSB002W

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
JP8			2.50	2.25		mg/L		90	30 - 160		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOBENZENE	100		60 - 130
HEXACOSANE	88		60 - 130

GC/MS Semi VOA

Prep Batch: 30612

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-35205-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	525.2	
380-35205-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	525.2	
380-35205-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	525.2	
MB 380-30612/1-A	Method Blank	Total/NA	Water	525.2	
LCS 380-30612/3-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-30612/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-30612/2-A	Lab Control Sample	Total/NA	Water	525.2	
380-35205-1 MS	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	525.2	
380-35205-2 DU	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	525.2	

Analysis Batch: 30742

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-35205-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	525.2	30612
380-35205-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	525.2	30612
380-35205-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	525.2	30612
MB 380-30612/1-A	Method Blank	Total/NA	Water	525.2	30612
LCS 380-30612/3-A	Lab Control Sample	Total/NA	Water	525.2	30612
LCSD 380-30612/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	30612
MRL 380-30612/2-A	Lab Control Sample	Total/NA	Water	525.2	30612
380-35205-1 MS	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	525.2	30612
380-35205-2 DU	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	525.2	30612

LCMS

Prep Batch: 30613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-35205-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1 DW	
380-35205-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	537.1 DW	
380-35205-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	537.1 DW	
380-35205-7	FB: AIEA GULCH WELLS P2	Total/NA	Water	537.1 DW	
380-35205-8	FB: AIEA WELLS PUMPS 1&2	Total/NA	Water	537.1 DW	
380-35205-9	FB: HALAWA WELLS UNITS 1&2	Total/NA	Water	537.1 DW	
MBL 380-30613/16-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-30613/18-A	Lab Control Sample	Total/NA	Water	537.1 DW	
LCSD 380-30613/19-A	Lab Control Sample Dup	Total/NA	Water	537.1 DW	
MRL 380-30613/17-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-35132-AY-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-35138-G-1-A DU	Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 30665

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-35205-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1	30613
380-35205-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	537.1	30613
380-35205-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	537.1	30613
380-35205-7	FB: AIEA GULCH WELLS P2	Total/NA	Water	537.1	30613
380-35205-8	FB: AIEA WELLS PUMPS 1&2	Total/NA	Water	537.1	30613
380-35205-9	FB: HALAWA WELLS UNITS 1&2	Total/NA	Water	537.1	30613
MBL 380-30613/16-A	Method Blank	Total/NA	Water	537.1	30613
LCS 380-30613/18-A	Lab Control Sample	Total/NA	Water	537.1	30613
LCSD 380-30613/19-A	Lab Control Sample Dup	Total/NA	Water	537.1	30613
MRL 380-30613/17-A	Lab Control Sample	Total/NA	Water	537.1	30613

LCMS (Continued)

Analysis Batch: 30665 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-35132-AY-1-A MS	Matrix Spike	Total/NA	Water	537.1	30613
380-35138-G-1-A DU	Duplicate	Total/NA	Water	537.1	30613

Prep Batch: 31276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-35205-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	
380-35205-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	533	
380-35205-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	533	
380-35205-7	FB: AIEA GULCH WELLS P2	Total/NA	Water	533	
380-35205-8	FB: AIEA WELLS PUMPS 1&2	Total/NA	Water	533	
380-35205-9	FB: HALAWA WELLS UNITS 1&2	Total/NA	Water	533	
MBL 380-31276/21-A	Method Blank	Total/NA	Water	533	
LCS 380-31276/23-A	Lab Control Sample	Total/NA	Water	533	
LCSD 380-31276/24-A	Lab Control Sample Dup	Total/NA	Water	533	
MRL 380-31276/22-A	Lab Control Sample	Total/NA	Water	533	
380-35205-2 LMS	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	533	
380-35205-2 LMSD	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	533	

Analysis Batch: 31452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-35205-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	31276
380-35205-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	533	31276
380-35205-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	533	31276
380-35205-7	FB: AIEA GULCH WELLS P2	Total/NA	Water	533	31276
380-35205-8	FB: AIEA WELLS PUMPS 1&2	Total/NA	Water	533	31276
380-35205-9	FB: HALAWA WELLS UNITS 1&2	Total/NA	Water	533	31276
MBL 380-31276/21-A	Method Blank	Total/NA	Water	533	31276
LCS 380-31276/23-A	Lab Control Sample	Total/NA	Water	533	31276
LCSD 380-31276/24-A	Lab Control Sample Dup	Total/NA	Water	533	31276
MRL 380-31276/22-A	Lab Control Sample	Total/NA	Water	533	31276
380-35205-2 LMS	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	533	31276
380-35205-2 LMSD	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	533	31276

Subcontract

Analysis Batch: O-40112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-35205-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-40112_P
380-35205-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-40112_P
380-35205-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-40112_P
103823-B1	Method Blank	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40112_P
103823-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40112_P
103823-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40112_P

Subcontract

Analysis Batch: 23DSB002W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-35205-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/JP8	
380-35205-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/JP8	
380-35205-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/JP8	
23DSB002WB	Method Blank	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	
23DSB002WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	
23J5B002WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	
23J8B002WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	

Analysis Batch: 23VG39A13

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-35205-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-35205-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-35205-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-35205-4	TB:AIEA GULCH WELLS P2 (331-202-TP072)	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-35205-5	TB: AIEA WELLS PUMPS 1&2 (260) (331-203-TF	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-35205-6	TB: HALAWA WELLS UNITS 1&2 (331-206-TP06	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
23VG39A13B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23VG39A13L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23A298-01M	Matrix Spike	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23A298-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Prep Batch: O-40112_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-35205-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	EPA_625	

Subcontract (Continued)

Prep Batch: O-40112_P (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-35205-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	EPA_625	
380-35205-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	EPA_625	
103823-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
103823-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
103823-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	

Lab Chronicle

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

Job ID: 380-35205-1

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

Lab Sample ID: 380-35205-1

Date Collected: 01/23/23 11:04
Date Received: 01/24/23 09:30

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			30612	OTM3	EA MON	01/25/23 06:37
Total/NA	Analysis	525.2		1	30742	Q8LA	EA MON	01/26/23 14:41
Total/NA	Prep	533			31276	EE6W	EA MON	02/01/23 12:11
Total/NA	Analysis	533		1	31452	UKYM	EA MON	02/03/23 06:21
Total/NA	Prep	537.1 DW			30613	US1B	EA MON	01/25/23 06:40
Total/NA	Analysis	537.1		1	30665	UKYM	EA MON	01/26/23 21:28
Total/NA	Prep	EPA_625		1	O-40112_P			01/20/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-40112	YC		02/12/23 21:36
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39A13	SCerva		01/26/23 16:02
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSB002W	SDees		02/02/23 16:11

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

Lab Sample ID: 380-35205-2

Date Collected: 01/23/23 10:37
Date Received: 01/24/23 09:30

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			30612	OTM3	EA MON	01/25/23 06:37
Total/NA	Analysis	525.2		1	30742	Q8LA	EA MON	01/26/23 15:02
Total/NA	Prep	533			31276	EE6W	EA MON	02/01/23 12:11
Total/NA	Analysis	533		1	31452	UKYM	EA MON	02/03/23 04:03
Total/NA	Prep	537.1 DW			30613	US1B	EA MON	01/25/23 06:40
Total/NA	Analysis	537.1		1	30665	UKYM	EA MON	01/26/23 19:20
Total/NA	Prep	EPA_625		1	O-40112_P			01/20/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-40112	YC		02/12/23 23:20
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39A13	SCerva		01/26/23 18:27
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSB002W	SDees		02/02/23 16:29

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

Lab Sample ID: 380-35205-3

Date Collected: 01/23/23 10:03
Date Received: 01/24/23 09:30

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			30612	OTM3	EA MON	01/25/23 06:37
Total/NA	Analysis	525.2		1	30742	Q8LA	EA MON	01/26/23 15:23
Total/NA	Prep	533			31276	EE6W	EA MON	02/01/23 12:11
Total/NA	Analysis	533		1	31452	UKYM	EA MON	02/03/23 06:30

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

Lab Sample ID: 380-35205-3

Date Collected: 01/23/23 10:03
Date Received: 01/24/23 09:30

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537.1 DW			30613	US1B	EA MON	01/25/23 06:40
Total/NA	Analysis	537.1		1	30665	UKYM	EA MON	01/26/23 19:30
Total/NA	Prep	EPA_625		1	O-40112_P			01/20/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-40112	YC		02/13/23 01:05
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39A13	SCerva		01/26/23 19:03
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSB002W	SDees		02/02/23 16:48

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

Lab Sample ID: 380-35205-4

Date Collected: 01/23/23 11:04
Date Received: 01/24/23 09:30

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	23VG39A13	SCerva		01/26/23 14:13

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

Lab Sample ID: 380-35205-5

Date Collected: 01/23/23 10:37
Date Received: 01/24/23 09:30

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	23VG39A13	SCerva		01/26/23 14:50

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

Lab Sample ID: 380-35205-6

Date Collected: 01/23/23 10:03
Date Received: 01/24/23 09:30

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	23VG39A13	SCerva		01/26/23 15:26

Client Sample ID: FB: AIEA GULCH WELLS P2

Lab Sample ID: 380-35205-7

Date Collected: 01/23/23 11:04
Date Received: 01/24/23 09:30

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			31276	EE6W	EA MON	02/01/23 12:11
Total/NA	Analysis	533		1	31452	UKYM	EA MON	02/03/23 06:40
Total/NA	Prep	537.1 DW			30613	US1B	EA MON	01/25/23 06:40
Total/NA	Analysis	537.1		1	30665	UKYM	EA MON	01/26/23 19:39

Lab Chronicle

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

Job ID: 380-35205-1

Client Sample ID: FB: AIEA WELLS PUMPS 1&2

Lab Sample ID: 380-35205-8

Date Collected: 01/23/23 10:37

Matrix: Water

Date Received: 01/24/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			31276	EE6W	EA MON	02/01/23 12:11
Total/NA	Analysis	533		1	31452	UKYM	EA MON	02/03/23 06:49
Total/NA	Prep	537.1 DW			30613	US1B	EA MON	01/25/23 06:40
Total/NA	Analysis	537.1		1	30665	UKYM	EA MON	01/26/23 19:49

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

Lab Sample ID: 380-35205-9

Date Collected: 01/23/23 10:03

Matrix: Water

Date Received: 01/24/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			31276	EE6W	EA MON	02/01/23 12:11
Total/NA	Analysis	533		1	31452	UKYM	EA MON	02/03/23 06:59
Total/NA	Prep	537.1 DW			30613	US1B	EA MON	01/25/23 06:40
Total/NA	Analysis	537.1		1	30665	UKYM	EA MON	01/26/23 19:58

Laboratory References:

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

EA MON = 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: 380-35205-1

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: 380-35205-1

Method	Method Description	Protocol	Laboratory
525.2	Semivolatile Organic Compounds (GC/MS)	EPA	EA MON
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA MON
537.1	Perfluorinated Alkyl Acids (LC/MS)	EPA	EA MON
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 MON
533	Extraction of Perfluorinated and Polyfluorinated Alkyl Acids	EPA	EA MON
537.1 DW	Extraction of Perfluorinated Alkyl Acids	EPA	EA MON

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 MON = 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: 380-35205-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-35205-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Drinking Water	01/23/23 11:04	01/24/23 09:30	HI0000331
380-35205-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Drinking Water	01/23/23 10:37	01/24/23 09:30	HI0000331
380-35205-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Drinking Water	01/23/23 10:03	01/24/23 09:30	HI0000331
380-35205-4	TB:AIEA GULCH WELLS P2 (331-202-TP072)	Water	01/23/23 11:04	01/24/23 09:30	
380-35205-5	TB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Water	01/23/23 10:37	01/24/23 09:30	
380-35205-6	TB: HALAWA WELLS UNITS 1&2 (331-206-TP065)	Water	01/23/23 10:03	01/24/23 09:30	
380-35205-7	FB: AIEA GULCH WELLS P2	Water	01/23/23 11:04	01/24/23 09:30	
380-35205-8	FB: AIEA WELLS PUMPS 1&2	Water	01/23/23 10:37	01/24/23 09:30	
380-35205-9	FB: HALAWA WELLS UNITS 1&2	Water	01/23/23 10:03	01/24/23 09:30	

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

Date: 02-13-2023
EMAX Batch No.: 23A298

Attn: Jackie Contreras

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

Subject: Laboratory Report
Project: 380-35205

Enclosed is the Laboratory report for samples received on 01/25/23.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-35205-1	A298-01	01/23/23	WATER	TPH GASOLINE TPH
380-35205-2	A298-02	01/23/23	WATER	TPH GASOLINE TPH
380-35205-3	A298-03	01/23/23	WATER	TPH GASOLINE TPH
380-35205-4	A298-04	01/23/23	WATER	TPH GASOLINE
380-35205-5	A298-05	01/23/23	WATER	TPH GASOLINE
380-35205-6	A298-06	01/23/23	WATER	TPH GASOLINE
380-35205-1MS	A298-01M	01/23/23	WATER	TPH GASOLINE
380-35205-1MSD	A298-01S	01/23/23	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 CA00291202022-22
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

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

Chain of Custody Record

eurofins | Environment Testing

23A298

3/23/2023

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-36191.1
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 #: 380-35205-1
Address: 3051 Fujita Street, ,	Due Date Requested: 2/7/2023			
City: Torrance	TAT Requested (days):			
State, Zip: CA, 90505	PO #:			
Phone:	WO #:			
Email:	Project #: 38001111			
Project Name: RED-HILL	SSOW#:			
Site: Honolulu BWS Sites				

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	AIEA GULCH WELLS PUMP 2 (331-202-TP072) (380-35205-1)	1/23/23	11:04 Hawaiian		Water			X	X	6	See Attached Instructions
2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400) (380-35205-2)	1/23/23	10:37 Hawaiian		Water			X	X	6	See Attached Instructions
3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065) (380-35205-3)	1/23/23	10:03 Hawaiian		Water			X	X	6	See Attached Instructions
4	TB:AIEA GULCH WELLS P2 (331-202-TP072) (380-35205-4)	1/23/23	11:04 Hawaiian		Water			X		2	See Attached Instructions
5	TB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400) (380-3520	1/23/23	10:37 Hawaiian		Water			X		2	See Attached Instructions
6	TB: HALAWA WELLS UNITS 1&2 (331-206-TP065) (380-35205-6	1/23/23	10:03 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:	Company	Received by:	Date/Time:	Company
1	[signature]	1-25-23 0926	EAO	[signature]	1-25-23 1515	EMAX
2	Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 01/25/23 15:15	Company EMAX
3	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: Temp. 3.8/3.6 [*CF: -0.2]

Ver: 06/08/2021

SAMPLE RECEIPT FORM 1

EMAX LABORATORIES, INC.

Type of Delivery	Airbill / Tracking Number	ECN 23A298
☐ Fedex ☐ UPS ☐ GSO ☐ Others		Recipient Jocelyne Solis - Ramos
☐ EMAX Courier ☒ Client Delivery		Date 01/25/23 Time 15:15

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 factor: -0.2	☐ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☐ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	☒ Cooler 1 3.8/3.6 °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
1-3	5,6,11,12,17,18	D1	JPS/JPS not indicated	R1, R8
4-6	19-23	D22	2nd Date reads: 1/18/23	R1

01/25/23

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

MB 1/28/23

NOTES/OBSERVATIONS:

SAMPLE MATRIX IS DRINKING WATER? ☐ YES ☐ NO

LEGEND:

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 on label is incorrect
D23	_____
D24	_____

☐ **Continue to next page.**

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

REVIEWS:

Sample Labeling Mariely Rivera
Date 01/25/23 1/26/23

SRF _____
Date 1/25/23

PM MB
Date 1/28/23

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

380-35205

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

SDG#: 23A298

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-35205

SDG : 23A298

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

A total of six(6) water samples were received on 01/25/23 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. VG39A13B - 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. VG39A13L/VG39A13C 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 A298-01M/A298-01S. 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 : 380-35205

SDG NO. : 23A298
Instrument ID : GCT039

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	VG39A13B	1	NA	01/26/2312:24	01/26/2312:24	EA26005A	EA26004A	23VG39A13	Method Blank
LCS1W	VG39A13L	1	NA	01/26/2313:00	01/26/2313:00	EA26006A	EA26004A	23VG39A13	Lab Control Sample (LCS)
LCD1W	VG39A13C	1	NA	01/26/2313:37	01/26/2313:37	EA26007A	EA26004A	23VG39A13	LCS Duplicate
380-35205-4	A298-04	1	NA	01/26/2314:13	01/26/2314:13	EA26008A	EA26004A	23VG39A13	Field Sample
380-35205-5	A298-05	1	NA	01/26/2314:50	01/26/2314:50	EA26009A	EA26004A	23VG39A13	Field Sample
380-35205-6	A298-06	1	NA	01/26/2315:26	01/26/2315:26	EA26010A	EA26004A	23VG39A13	Field Sample
380-35205-1	A298-01	1	NA	01/26/2316:02	01/26/2316:02	EA26011A	EA26004A	23VG39A13	Field Sample
380-35205-1MS	A298-01M	1	NA	01/26/2316:38	01/26/2316:38	EA26012A	EA26004A	23VG39A13	Matrix Spike Sample (MS)
380-35205-1MSD	A298-01S	1	NA	01/26/2317:15	01/26/2317:15	EA26013A	EA26004A	23VG39A13	MS Duplicate (MSD)
380-35205-2	A298-02	1	NA	01/26/2318:27	01/26/2318:27	EA26015A	EA26014A	23VG39A13	Field Sample
380-35205-3	A298-03	1	NA	01/26/2319:03	01/26/2319:03	EA26016A	EA26014A	23VG39A13	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: 01/23/23 11:04
Project : 380-35205	Date Received: 01/25/23
Batch No. : 23A298	Date Extracted: 01/26/23 16:02
Sample ID : 380-35205-1	Date Analyzed: 01/26/23 16:02
Lab Samp ID: A298-01	Dilution Factor: 1
Lab File ID: EA26011A	Matrix: WATER
Ext Btch ID: 23VG39A13	% Moisture: NA
Calib. Ref.: EA26004A	Instrument ID: 39

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	0.0328	0.0400	82	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: 01/23/23 10:37
Project : 380-35205	Date Received: 01/25/23
Batch No. : 23A298	Date Extracted: 01/26/23 18:27
Sample ID : 380-35205-2	Date Analyzed: 01/26/23 18:27
Lab Samp ID: A298-02	Dilution Factor: 1
Lab File ID: EA26015A	Matrix: WATER
Ext Btch ID: 23VG39A13	% Moisture: NA
Calib. Ref.: EA26014A	Instrument ID: 39

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	0.0329	0.0400	82	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: 01/23/23 10:03
Project : 380-35205	Date Received: 01/25/23
Batch No. : 23A298	Date Extracted: 01/26/23 19:03
Sample ID : 380-35205-3	Date Analyzed: 01/26/23 19:03
Lab Samp ID: A298-03	Dilution Factor: 1
Lab File ID: EA26016A	Matrix: WATER
Ext Btch ID: 23VG39A13	% Moisture: NA
Calib. Ref.: EA26014A	Instrument ID: 39

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	0.0330	0.0400	83	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: 01/23/23 11:04
Project : 380-35205	Date Received: 01/25/23
Batch No. : 23A298	Date Extracted: 01/26/23 14:13
Sample ID : 380-35205-4	Date Analyzed: 01/26/23 14:13
Lab Samp ID: A298-04	Dilution Factor: 1
Lab File ID: EA26008A	Matrix: WATER
Ext Btch ID: 23VG39A13	% Moisture: NA
Calib. Ref.: EA26004A	Instrument ID: 39

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	0.0333	0.0400	83	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:	01/23/23 10:37
Project	: 380-35205	Date Received:	01/25/23
Batch No.	: 23A298	Date Extracted:	01/26/23 14:50
Sample ID	: 380-35205-5	Date Analyzed:	01/26/23 14:50
Lab Samp ID:	A298-05	Dilution Factor:	1
Lab File ID:	EA26009A	Matrix:	WATER
Ext Btch ID:	23VG39A13	% Moisture:	NA
Calib. Ref.:	EA26004A	Instrument ID:	39

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	0.0332	0.0400	83	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:	01/23/23 10:03
Project	: 380-35205	Date Received:	01/25/23
Batch No.	: 23A298	Date Extracted:	01/26/23 15:26
Sample ID	: 380-35205-6	Date Analyzed:	01/26/23 15:26
Lab Samp ID:	A298-06	Dilution Factor:	1
Lab File ID:	EA26010A	Matrix:	WATER
Ext Btch ID:	23VG39A13	% Moisture:	NA
Calib. Ref.:	EA26004A	Instrument ID:	39

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	0.0337	0.0400	84	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:	01/26/23 12:24
Project	: 380-35205	Date Received:	01/26/23
Batch No.	: 23A298	Date Extracted:	01/26/23 12:24
Sample ID	: MBLK1W	Date Analyzed:	01/26/23 12:24
Lab Samp ID:	VG39A13B	Dilution Factor:	1
Lab File ID:	EA26005A	Matrix:	WATER
Ext Btch ID:	23VG39A13	% Moisture:	NA
Calib. Ref.:	EA26004A	Instrument ID:	39

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	0.0316	0.0400	79	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 : 380-35205
BATCH NO. : 23A298
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: VG39A13B	VG39A13L	VG39A13C
LAB FILE ID	: EA26005A	EA26006A	EA26007A
DATE PREPARED	: 01/26/23 12:24	01/26/23 13:00	01/26/23 13:37
DATE ANALYZED	: 01/26/23 12:24	01/26/23 13:00	01/26/23 13:37
PREP BATCH	: 23VG39A13	23VG39A13	23VG39A13
CALIBRATION REF	: EA26004A	EA26004A	EA26004A

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	0.437	87	0.500	0.448	90	2	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0410	103	0.0400	0.0423	106	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 : 380-35205
BATCH NO. : 23A298
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: 380-35205-1	380-35205-1MS	380-35205-1MSD
LAB SAMPLE ID	: A298-01	A298-01M	A298-01S
LAB FILE ID	: EA26011A	EA26012A	EA26013A
DATE PREPARED	: 01/26/23 16:02	01/26/23 16:38	01/26/23 17:15
DATE ANALYZED	: 01/26/23 16:02	01/26/23 16:38	01/26/23 17:15
PREP BATCH	: 23VG39A13	23VG39A13	23VG39A13
CALIBRATION REF	: EA26004A	EA26004A	EA26004A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Gasoline	ND	0.500	0.454	91	0.500	0.430	86	5	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0435	109	0.0400	0.0424	106	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-35205

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 23A298

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-35205

SDG : 23A298

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

A total of three(3) water samples were received on 01/25/23 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. DSB002WB - 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. DSB002WL/DSB002WC 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: 380-35205

SDG : 23A298

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of three(3) water samples were received on 01/25/23 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.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSB002WB - 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. J5B002WL/J5B002WC 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: 380-35205

SDG : 23A298

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of three(3) water samples were received on 01/25/23 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. DSB002WB - 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. J8B002WL/J8B002WC 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 : 380-35205

SDG NO. : 23A298
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	DSB002WB	1	NA	02/02/2313:41	02/01/2313:45	LB01085A	LB01079A	23DSB002W	Method Blank
LCS1W	DSB002WL	1	NA	02/02/2313:59	02/01/2313:45	LB01086A	LB01079A	23DSB002W	Lab Control Sample (LCS)
LCD1W	DSB002WC	1	NA	02/02/2314:17	02/01/2313:45	LB01087A	LB01079A	23DSB002W	LCS Duplicate
380-35205-1	A298-01	1	NA	02/02/2316:11	02/01/2313:45	LB01092A	LB01079A	23DSB002W	Field Sample
380-35205-2	A298-02	1	NA	02/02/2316:29	02/01/2313:45	LB01093A	LB01079A	23DSB002W	Field Sample
380-35205-3	A298-03	1	NA	02/02/2316:48	02/01/2313:45	LB01094A	LB01079A	23DSB002W	Field Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
Project : 380-35205

SDG NO. : 23A298
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	DSB002WB	1	NA	02/02/2313:41	02/01/2313:45	LB01085A	LB01080A	23DSB002W	Method Blank
LCS1W	J5B002WL	1	NA	02/02/2314:58	02/01/2313:45	LB01088A	LB01080A	23DSB002W	Lab Control Sample (LCS)
LCD1W	J5B002WC	1	NA	02/02/2315:16	02/01/2313:45	LB01089A	LB01080A	23DSB002W	LCS Duplicate
380-35205-1	A298-01	1	NA	02/02/2316:11	02/01/2313:45	LB01092A	LB01080A	23DSB002W	Field Sample
380-35205-2	A298-02	1	NA	02/02/2316:29	02/01/2313:45	LB01093A	LB01080A	23DSB002W	Field Sample
380-35205-3	A298-03	1	NA	02/02/2316:48	02/01/2313:45	LB01094A	LB01080A	23DSB002W	Field Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
Project : 380-35205

SDG NO. : 23A298
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	DSB002WB	1	NA	02/02/2313:41	02/01/2313:45	LB01085A	LB01081A	23DSB002W	Method Blank
LCS1W	J8B002WL	1	NA	02/02/2315:34	02/01/2313:45	LB01090A	LB01081A	23DSB002W	Lab Control Sample (LCS)
LCD1W	J8B002WC	1	NA	02/02/2315:53	02/01/2313:45	LB01091A	LB01081A	23DSB002W	LCS Duplicate
380-35205-1	A298-01	1	NA	02/02/2316:11	02/01/2313:45	LB01092A	LB01081A	23DSB002W	Field Sample
380-35205-2	A298-02	1	NA	02/02/2316:29	02/01/2313:45	LB01093A	LB01081A	23DSB002W	Field Sample
380-35205-3	A298-03	1	NA	02/02/2316:48	02/01/2313:45	LB01094A	LB01081A	23DSB002W	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	01/23/23 11:04
Project	: 380-35205	Date Received:	01/25/23
Batch No.	: 23A298	Date Extracted:	02/01/23 13:45
Sample ID	: 380-35205-1	Date Analyzed:	02/02/23 16:11
Lab Samp ID:	23A298-01	Dilution Factor:	1
Lab File ID:	LB01092A	Matrix:	WATER
Ext Btch ID:	23DSB002W	% Moisture:	NA
Calib. Ref.:	LB01079A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Diesel	ND	0.028	0.014
Motor Oil	ND	0.056	0.028

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.500	0.555	90	60-130
Hexacosane	0.140	0.139	101	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 : 900ml Final Volume : 5ml
Prepared by : POreto Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 01/23/23 11:04
Project : 380-35205	Date Received: 01/25/23
Batch No. : 23A298	Date Extracted: 02/01/23 13:45
Sample ID : 380-35205-1	Date Analyzed: 02/02/23 16:11
Lab Samp ID: 23A298-01	Dilution Factor: 1
Lab File ID: LB01092A	Matrix: WATER
Ext Btch ID: 23DSB002W	% Moisture: NA
Calib. Ref.: LB01080A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.056	0.028

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.500	0.555	90	60-130
Hexacosane	0.140	0.139	101	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 : 900ml Final Volume : 5ml
Prepared by : POreto Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 01/23/23 11:04
Project : 380-35205	Date Received: 01/25/23
Batch No. : 23A298	Date Extracted: 02/01/23 13:45
Sample ID : 380-35205-1	Date Analyzed: 02/02/23 16:11
Lab Samp ID: 23A298-01	Dilution Factor: 1
Lab File ID: LB01092A	Matrix: WATER
Ext Btch ID: 23DSB002W	% Moisture: NA
Calib. Ref.: LB01081A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.056	0.028

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.500	0.555	90	60-130
Hexacosane	0.140	0.139	101	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 : 900ml Final Volume : 5ml
Prepared by : POreto Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 01/23/23 10:37
Project : 380-35205	Date Received: 01/25/23
Batch No. : 23A298	Date Extracted: 02/01/23 13:45
Sample ID : 380-35205-2	Date Analyzed: 02/02/23 16:29
Lab Samp ID: 23A298-02	Dilution Factor: 1
Lab File ID: LB01093A	Matrix: WATER
Ext Btch ID: 23DSB002W	% Moisture: NA
Calib. Ref.: LB01079A	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	0.442	0.505	88	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: 01/23/23 10:37
Project : 380-35205	Date Received: 01/25/23
Batch No. : 23A298	Date Extracted: 02/01/23 13:45
Sample ID : 380-35205-2	Date Analyzed: 02/02/23 16:29
Lab Samp ID: 23A298-02	Dilution Factor: 1
Lab File ID: LB01093A	Matrix: WATER
Ext Btch ID: 23DSB002W	% Moisture: NA
Calib. Ref.: LB01080A	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	0.442	0.505	88	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: 01/23/23 10:37
Project : 380-35205	Date Received: 01/25/23
Batch No. : 23A298	Date Extracted: 02/01/23 13:45
Sample ID : 380-35205-2	Date Analyzed: 02/02/23 16:29
Lab Samp ID: 23A298-02	Dilution Factor: 1
Lab File ID: LB01093A	Matrix: WATER
Ext Btch ID: 23DSB002W	% Moisture: NA
Calib. Ref.: LB01081A	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	0.442	0.505	88	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

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 01/23/23 10:03
Project : 380-35205	Date Received: 01/25/23
Batch No. : 23A298	Date Extracted: 02/01/23 13:45
Sample ID : 380-35205-3	Date Analyzed: 02/02/23 16:48
Lab Samp ID: 23A298-03	Dilution Factor: 1
Lab File ID: LB01094A	Matrix: WATER
Ext Btch ID: 23DSB002W	% Moisture: NA
Calib. Ref.: LB01079A	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	0.424	0.500	85	60-130
Hexacosane	0.127	0.125	102	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

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 01/23/23 10:03
Project : 380-35205	Date Received: 01/25/23
Batch No. : 23A298	Date Extracted: 02/01/23 13:45
Sample ID : 380-35205-3	Date Analyzed: 02/02/23 16:48
Lab Samp ID: 23A298-03	Dilution Factor: 1
Lab File ID: LB01094A	Matrix: WATER
Ext Btch ID: 23DSB002W	% Moisture: NA
Calib. Ref.: LB01080A	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	0.424	0.500	85	60-130
Hexacosane	0.127	0.125	102	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

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 01/23/23 10:03
Project : 380-35205	Date Received: 01/25/23
Batch No. : 23A298	Date Extracted: 02/01/23 13:45
Sample ID : 380-35205-3	Date Analyzed: 02/02/23 16:48
Lab Samp ID: 23A298-03	Dilution Factor: 1
Lab File ID: LB01094A	Matrix: WATER
Ext Btch ID: 23DSB002W	% Moisture: NA
Calib. Ref.: LB01081A	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	0.424	0.500	85	60-130
Hexacosane	0.127	0.125	102	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

QC SUMMARIES

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	02/01/23 13:45
Project	: 380-35205	Date Received:	02/01/23
Batch No.	: 23A298	Date Extracted:	02/01/23 13:45
Sample ID	: MBLK1W	Date Analyzed:	02/02/23 13:41
Lab Samp ID:	DSB002WB	Dilution Factor:	1
Lab File ID:	LB01085A	Matrix:	WATER
Ext Btch ID:	23DSB002W	% Moisture:	NA
Calib. Ref.:	LB01079A	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	0.402	0.500	80	60-130
Hexacosane	0.104	0.125	83	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 : 380-35205
BATCH NO. : 23A298
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSB002WB	DSB002WL	DSB002WC
LAB FILE ID	: LB01085A	LB01086A	LB01087A
DATE PREPARED	: 02/01/23 13:45	02/01/23 13:45	02/01/23 13:45
DATE ANALYZED	: 02/02/23 13:41	02/02/23 13:59	02/02/23 14:17
PREP BATCH	: 23DSB002W	23DSB002W	23DSB002W
CALIBRATION REF	: LB01079A	LB01079A	LB01079A

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	2.36	94	2.50	2.50	100	6	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.457	91	0.500	0.443	89	60-130
Hexacosane	0.125	0.113	90	0.125	0.119	95	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:	02/01/23 13:45
Project	: 380-35205	Date Received:	02/01/23
Batch No.	: 23A298	Date Extracted:	02/01/23 13:45
Sample ID	: MBLK1W	Date Analyzed:	02/02/23 13:41
Lab Samp ID:	DSB002WB	Dilution Factor:	1
Lab File ID:	LB01085A	Matrix:	WATER
Ext Btch ID:	23DSB002W	% Moisture:	NA
Calib. Ref.:	LB01080A	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	0.402	0.500	80	60-130
Hexacosane	0.104	0.125	83	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 : 380-35205
BATCH NO. : 23A298
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSB002WB	J5B002WL	J5B002WC
LAB FILE ID	: LB01085A	LB01088A	LB01089A
DATE PREPARED	: 02/01/23 13:45	02/01/23 13:45	02/01/23 13:45
DATE ANALYZED	: 02/02/23 13:41	02/02/23 14:58	02/02/23 15:16
PREP BATCH	: 23DSB002W	23DSB002W	23DSB002W
CALIBRATION REF	: LB01080A	LB01080A	LB01080A

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	2.16	86	2.50	2.18	87	1	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.465	93	0.500	0.462	92	60-130
Hexacosane	0.125	0.110	88	0.125	0.111	89	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:	02/01/23 13:45
Project	: 380-35205	Date Received:	02/01/23
Batch No.	: 23A298	Date Extracted:	02/01/23 13:45
Sample ID	: MBLK1W	Date Analyzed:	02/02/23 13:41
Lab Samp ID:	DSB002WB	Dilution Factor:	1
Lab File ID:	LB01085A	Matrix:	WATER
Ext Btch ID:	23DSB002W	% Moisture:	NA
Calib. Ref.:	LB01081A	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	0.402	0.500	80	60-130
Hexacosane	0.104	0.125	83	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 : 380-35205
BATCH NO. : 23A298
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSB002WB	J8B002WL	J8B002WC
LAB FILE ID	: LB01085A	LB01090A	LB01091A
DATE PREPARED	: 02/01/23 13:45	02/01/23 13:45	02/01/23 13:45
DATE ANALYZED	: 02/02/23 13:41	02/02/23 15:34	02/02/23 15:53
PREP BATCH	: 23DSB002W	23DSB002W	23DSB002W
CALIBRATION REF:	LB01081A	LB01081A	LB01081A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP8	ND	2.50	2.25	90	2.50	2.60	104	14	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.499	100	0.500	0.499	100	60-130
Hexacosane	0.125	0.110	88	0.125	0.110	88	60-130

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

February 15, 2023

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

Project Name: RED-HILL Project # 38001111 Job # 380-35205-1
Physis Project ID: 1407003-373

Dear Rachelle,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 1/25/2023. A total of 3 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,

Misty Mercier
714 602-5320
Extension 202
mistymercier@physislabs.com

PROJECT SAMPLE LIST

Eurofins Eaton Analytical

PHYSIS Project ID: 1407003-373

RED-HILL Project # 38001111 Job # 380-35205-1

Total Samples: 3

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
103824	AIEA GULCH WELLS PUMP 2	31-202-TP072 (380-35205-1)	1/23/2023	11:04	Samplewater	Not Specified
103825	AIEA WELLS PUMPS 1&2 (2683)	31-203-TP400 (380-35205-2)	1/23/2023	10:37	Samplewater	Not Specified
103826	HALAWA WELLS UNITS 1 & 2	31-206-TP065 (380-35205-3)	1/23/2023	10:03	Samplewater	Not Specified

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

ABBREVIATIONS and ACRONYMS

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

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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.

SURROGATES: A surrogate is a pure analyte unlikely to be found in any project sample, behaves similarly to

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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 MDL
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: 1407003-373
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-35205-1

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 103824-R1	**AIEA GULCH WELLS PUMP 2 331-20**	**Matrix:**	**Samplewater**					**Sampled:**	**23-Jan-23 11:04**	**Received:**	**25-Jan-23**
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40112	20-Jan-23	12-Feb-23
Sample ID: 103825-R1	**AIEA WELLS PUMPS 1&2 (260) 331-**	**Matrix:**	**Samplewater**					**Sampled:**	**23-Jan-23 10:37**	**Received:**	**25-Jan-23**
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40112	20-Jan-23	12-Feb-23
Sample ID: 103826-R1	**HALAWA WELLS UNITS 1 & 2 331-2**	**Matrix:**	**Samplewater**					**Sampled:**	**23-Jan-23 10:03**	**Received:**	**25-Jan-23**
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40112	20-Jan-23	13-Feb-23

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

PHYSIS Project ID: 1407003-373
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-35205-1

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 103824-R1	**AIEA GULCH WELLS PUMP 2 331-20 Matrix: Samplewater**						**Sampled:**	**23-Jan-23 11:04**		**Received:**	**25-Jan-23**
(d10-Acenaphthene)	EPA 625.1	% Recovery	75	1			Total		O-40112	20-Jan-23	12-Feb-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	89	1			Total		O-40112	20-Jan-23	12-Feb-23
(d12-Chrysene)	EPA 625.1	% Recovery	144	1			Total		O-40112	20-Jan-23	12-Feb-23
(d12-Perylene)	EPA 625.1	% Recovery	123	1			Total		O-40112	20-Jan-23	12-Feb-23
(d8-Naphthalene)	EPA 625.1	% Recovery	40	1			Total		O-40112	20-Jan-23	12-Feb-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23

PHYSIS Project ID: 1407003-373
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-35205-1

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-40112	20-Jan-23	12-Feb-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 103825-R1	**AIEA WELLS PUMPS 1&2 (260) 331-**	**Matrix: Samplewater**					**Sampled:**	**23-Jan-23 10:37**		**Received:**	**25-Jan-23**
(d10-Acenaphthene)	EPA 625.1	% Recovery	86	1			Total		O-40112	20-Jan-23	12-Feb-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	92	1			Total		O-40112	20-Jan-23	12-Feb-23
(d12-Chrysene)	EPA 625.1	% Recovery	93	1			Total		O-40112	20-Jan-23	12-Feb-23
(d12-Perylene)	EPA 625.1	% Recovery	84	1			Total		O-40112	20-Jan-23	12-Feb-23
(d8-Naphthalene)	EPA 625.1	% Recovery	69	1			Total		O-40112	20-Jan-23	12-Feb-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23

PHYSIS Project ID: 1407003-373
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-35205-1

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-40112	20-Jan-23	12-Feb-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	12-Feb-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 103826-R1	**HALAWA WELLS UNITS 1 & 2 331-2**	**Matrix: Samplewater**					**Sampled:**	**23-Jan-23 10:03**		**Received:**	**25-Jan-23**
(d10-Acenaphthene)	EPA 625.1	% Recovery	96	1			Total		O-40112	20-Jan-23	13-Feb-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	95	1			Total		O-40112	20-Jan-23	13-Feb-23
(d12-Chrysene)	EPA 625.1	% Recovery	95	1			Total		O-40112	20-Jan-23	13-Feb-23
(d12-Perylene)	EPA 625.1	% Recovery	88	1			Total		O-40112	20-Jan-23	13-Feb-23
(d8-Naphthalene)	EPA 625.1	% Recovery	87	1			Total		O-40112	20-Jan-23	13-Feb-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23

PHYSIS Project ID: 1407003-373
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-35205-1

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-40112	20-Jan-23	13-Feb-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40112	20-Jan-23	13-Feb-23

QUALITY CONTROL REPORT

PHYSIS Project ID: 1407003-373
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-35205-1

Base/Neutral Extractable Compounds QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 103823-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**			**Received:**			
		Method: EPA 625.1				Batch ID: O-40112		Prepared: 19-Jan-23			Analyzed: 11-Feb-23			
Disalicylidenepropanediamin	Total	ND	1	0.05	0.1	µg/L								
Sample ID: 103823-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**			**Received:**			
		Method: EPA 625.1				Batch ID: O-40112		Prepared: 19-Jan-23			Analyzed: 11-Feb-23			
Disalicylidenepropanediamin	Total	42.2	1	0.05	0.1	µg/L	50	0	84	50 - 150%	PASS			
Sample ID: 103823-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**			**Received:**			
		Method: EPA 625.1				Batch ID: O-40112		Prepared: 19-Jan-23			Analyzed: 11-Feb-23			
Disalicylidenepropanediamin	Total	47.1	1	0.05	0.1	µg/L	50	0	94	50 - 150%	PASS	11	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: 103823-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**					**Received:**	
		Method: EPA 625.1				Batch ID: O-40112		Prepared: 19-Jan-23				Analyzed: 11-Feb-23	
(d10-Acenaphthene)	Total	93	1			% Recovery	100	93	27 - 133%	PASS			
(d10-Phenanthrene)	Total	94	1			% Recovery	100	94	43 - 129%	PASS			
(d12-Chrysene)	Total	108	1			% Recovery	100	108	52 - 144%	PASS			
(d12-Perylene)	Total	91	1			% Recovery	100	91	36 - 161%	PASS			
(d8-Naphthalene)	Total	88	1			% Recovery	100	88	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							
Dibenzothiophene	Total	ND	1	0.001	0.005	µg/L							

PHYSIS Project ID: 1407003-373
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-35205-1

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
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: 103823-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**	
	Method: EPA 625.1					Batch ID: O-40112		Prepared: 19-Jan-23				Analyzed: 11-Feb-23	
(d10-Acenaphthene)	Total	96	1			% Recovery	100	0	96	27 - 133%	PASS		
(d10-Phenanthrene)	Total	93	1			% Recovery	100	0	93	43 - 129%	PASS		
(d12-Chrysene)	Total	96	1			% Recovery	100	0	96	52 - 144%	PASS		
(d12-Perylene)	Total	93	1			% Recovery	100	0	93	36 - 161%	PASS		
(d8-Naphthalene)	Total	85	1			% Recovery	100	0	85	25 - 125%	PASS		
1-Methylnaphthalene	Total	0.478	1	0.001	0.005	µg/L	0.5	0	96	31 - 128%	PASS		
1-Methylphenanthrene	Total	0.479	1	0.001	0.005	µg/L	0.5	0	96	66 - 127%	PASS		
2,3,5-Trimethylnaphthalene	Total	0.496	1	0.001	0.005	µg/L	0.5	0	99	55 - 122%	PASS		
2,6-Dimethylnaphthalene	Total	0.465	1	0.001	0.005	µg/L	0.5	0	93	48 - 120%	PASS		
2-Methylnaphthalene	Total	0.478	1	0.001	0.005	µg/L	0.5	0	96	47 - 130%	PASS		
Acenaphthene	Total	0.486	1	0.001	0.005	µg/L	0.5	0	97	53 - 131%	PASS		
Acenaphthylene	Total	0.46	1	0.001	0.005	µg/L	0.5	0	92	43 - 140%	PASS		
Anthracene	Total	0.476	1	0.001	0.005	µg/L	0.5	0	95	58 - 135%	PASS		
Benz[a]anthracene	Total	0.461	1	0.001	0.005	µg/L	0.5	0	92	55 - 145%	PASS		
Benzo[a]pyrene	Total	0.485	1	0.001	0.005	µg/L	0.5	0	97	51 - 143%	PASS		
Benzo[b]fluoranthene	Total	0.476	1	0.001	0.005	µg/L	0.5	0	95	46 - 165%	PASS		
Benzo[e]pyrene	Total	0.448	1	0.001	0.005	µg/L	0.5	0	90	42 - 152%	PASS		
Benzo[g,h,i]perylene	Total	0.482	1	0.001	0.005	µg/L	0.5	0	96	63 - 133%	PASS		
Benzo[k]fluoranthene	Total	0.463	1	0.001	0.005	µg/L	0.5	0	93	56 - 145%	PASS		
Biphenyl	Total	0.484	1	0.001	0.005	µg/L	0.5	0	97	56 - 119%	PASS		
Chrysene	Total	0.447	1	0.001	0.005	µg/L	0.5	0	89	56 - 141%	PASS		
Dibenz[a,h]anthracene	Total	0.503	1	0.001	0.005	µg/L	0.5	0	101	55 - 150%	PASS		
Dibenzo[a,l]pyrene	Total	0.463	1	0.001	0.005	µg/L	0.5	0	93	50 - 150%	PASS		
Dibenzothiophene	Total	0.47	1	0.001	0.005	µg/L	0.5	0	94	46 - 126%	PASS		

PHYSIS Project ID: 1407003-373
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-35205-1

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
Fluoranthene	Total	0.472	1	0.001	0.005	µg/L	0.5	0	94	60 - 146%	PASS			
Fluorene	Total	0.485	1	0.001	0.005	µg/L	0.5	0	97	58 - 131%	PASS			
Indeno[1,2,3-cd]pyrene	Total	0.485	1	0.001	0.005	µg/L	0.5	0	97	50 - 151%	PASS			
Naphthalene	Total	0.441	1	0.001	0.005	µg/L	0.5	0	88	41 - 126%	PASS			
Perylene	Total	0.476	1	0.001	0.005	µg/L	0.5	0	95	48 - 141%	PASS			
Phenanthrene	Total	0.472	1	0.001	0.005	µg/L	0.5	0	94	67 - 127%	PASS			
Pyrene	Total	0.472	1	0.001	0.005	µg/L	0.5	0	94	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: 103823-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**		
		Method: EPA 625.1				Batch ID: O-40112		Prepared: 19-Jan-23				Analyzed: 11-Feb-23		
(d10-Acenaphthene)	Total	94	1			% Recovery	100	0	94	27 - 133%	PASS	2	30	PASS
(d10-Phenanthrene)	Total	94	1			% Recovery	100	0	94	43 - 129%	PASS	1	30	PASS
(d12-Chrysene)	Total	95	1			% Recovery	100	0	95	52 - 144%	PASS	1	30	PASS
(d12-Perylene)	Total	93	1			% Recovery	100	0	93	36 - 161%	PASS	0	30	PASS
(d8-Naphthalene)	Total	90	1			% Recovery	100	0	90	25 - 125%	PASS	6	30	PASS
1-Methylnaphthalene	Total	0.456	1	0.001	0.005	µg/L	0.5	0	91	31 - 128%	PASS	5	30	PASS
1-Methylphenanthrene	Total	0.466	1	0.001	0.005	µg/L	0.5	0	93	66 - 127%	PASS	3	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.482	1	0.001	0.005	µg/L	0.5	0	96	55 - 122%	PASS	3	30	PASS
2,6-Dimethylnaphthalene	Total	0.461	1	0.001	0.005	µg/L	0.5	0	92	48 - 120%	PASS	1	30	PASS
2-Methylnaphthalene	Total	0.458	1	0.001	0.005	µg/L	0.5	0	92	47 - 130%	PASS	4	30	PASS
Acenaphthene	Total	0.472	1	0.001	0.005	µg/L	0.5	0	94	53 - 131%	PASS	3	30	PASS
Acenaphthylene	Total	0.463	1	0.001	0.005	µg/L	0.5	0	93	43 - 140%	PASS	1	30	PASS
Anthracene	Total	0.467	1	0.001	0.005	µg/L	0.5	0	93	58 - 135%	PASS	2	30	PASS
Benz[a]anthracene	Total	0.452	1	0.001	0.005	µg/L	0.5	0	90	55 - 145%	PASS	2	30	PASS
Benzo[a]pyrene	Total	0.492	1	0.001	0.005	µg/L	0.5	0	98	51 - 143%	PASS	1	30	PASS
Benzo[b]fluoranthene	Total	0.483	1	0.001	0.005	µg/L	0.5	0	97	46 - 165%	PASS	2	30	PASS
Benzo[e]pyrene	Total	0.473	1	0.001	0.005	µg/L	0.5	0	95	42 - 152%	PASS	5	30	PASS
Benzo[g,h,i]perylene	Total	0.477	1	0.001	0.005	µg/L	0.5	0	95	63 - 133%	PASS	1	30	PASS
Benzo[k]fluoranthene	Total	0.469	1	0.001	0.005	µg/L	0.5	0	94	56 - 145%	PASS	1	30	PASS
Biphenyl	Total	0.46	1	0.001	0.005	µg/L	0.5	0	92	56 - 119%	PASS	5	30	PASS
Chrysene	Total	0.454	1	0.001	0.005	µg/L	0.5	0	91	56 - 141%	PASS	2	30	PASS
Dibenz[a,h]anthracene	Total	0.482	1	0.001	0.005	µg/L	0.5	0	96	55 - 150%	PASS	5	30	PASS
Dibenzo[a,l]pyrene	Total	0.491	1	0.001	0.005	µg/L	0.5	0	98	50 - 150%	PASS	5	30	PASS
Dibenzothiophene	Total	0.477	1	0.001	0.005	µg/L	0.5	0	95	46 - 126%	PASS	1	30	PASS

PHYSIS Project ID: 1407003-373
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-35205-1

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
Fluoranthene	Total	0.458	1	0.001	0.005	µg/L	0.5	0	92	60 - 146%	PASS	2	30	PASS	
Fluorene	Total	0.474	1	0.001	0.005	µg/L	0.5	0	95	58 - 131%	PASS	2	30	PASS	
Indeno[1,2,3-cd]pyrene	Total	0.496	1	0.001	0.005	µg/L	0.5	0	99	50 - 151%	PASS	2	30	PASS	
Naphthalene	Total	0.458	1	0.001	0.005	µg/L	0.5	0	92	41 - 126%	PASS	4	30	PASS	
Perylene	Total	0.465	1	0.001	0.005	µg/L	0.5	0	93	48 - 141%	PASS	2	30	PASS	
Phenanthrene	Total	0.48	1	0.001	0.005	µg/L	0.5	0	96	67 - 127%	PASS	2	30	PASS	
Pyrene	Total	0.462	1	0.001	0.005	µg/L	0.5	0	92	54 - 156%	PASS	2	30	PASS	

TENTATIVELY IDENTIFIED COMPOUNDS

Sample ID: 103824

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
35.8739	6.6484	1111	Anthracene-D10-	1719-06-8	94
10.7974	0.7067	118	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	88
32.5864	0.6694	112	Benzoic acid, 2-ethylhexyl ester	5444-75-7	95

Concentration estimated using the response for Anthracene-d10

Sample ID: 103825

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
35.8703	6.3163	1111	Anthracene-D10-	1719-06-8	94
10.7977	1.1257	198	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	88
32.5868	0.6467	114	Benzoic acid, 2-ethylhexyl ester	5444-75-7	95

Concentration estimated using the response for Anthracene-d10

Sample ID: 103826

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
35.8732	6.7395	1111	Anthracene-D10-	1719-06-8	95
10.7987	2.1441	353	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	88
32.5878	0.8181	135	Benzoic acid, 2-ethylhexyl ester	5444-75-7	95

Concentration estimated using the response for Anthracene-d10

Sample ID: Lab Blank Batch O-40112

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
35.8751	6.2646	1111	Anthracene-D10-	1719-06-8	96
10.8008	1.4974	266	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	85

Concentration estimated using the response for Anthracene-d10

CHAIN OF CUSTODY

Monrovia, CA (Suite 100)
750 Royal Oaks Drive Suite 100
Monrovia, CA 91016
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: 380-9773-2757.1
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:

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				Water											
AIEA GULCH WELLS PUMP 2	01/23/2023	1104	G	Water			X	X	X	X	X	X	X		
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)	01/23/2023	1037	G	Water			X	X	X	X	X	X	X		
HALAWA WELLS UNITS 1&2				Water											
MOANALUA WELLS				Water											
AIEA GULCH WELLS PUMP 2				Water											
AIEA WELLS PUMPS 1&2 (260)				Water											

380-35205 COC

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

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment: FEDEX #1 #2 9711 0220 #3

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
BAILEY	01/23/2023 1400	HBWS	G. RETTNER	01/24/2023 09:30	EEA
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: (750A) GEL-FROZEN #1 0.3-0.2° #2 0.6°-0.5° #3 1.2°-1.1°

Monrovia, CA (Suite 100)
750 Royal Oaks Drive Suite 100
Monrovia, CA 91016
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: 380-9773-2757.2
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	01/23/2023	1003	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				Water											
TB AIEA GULCH WELLS PUMP2	01/23/2023	1104	1123/23	Water							X				
TB AIEA WELLS PUMPS 1&2 (260)	01/23/2023	H37 1057	lw	Water							X				
TB HALAWA WELLS UNITS 1&2	01/23/2023	1003		Water							X				
MOANALUA WELLS				Water											
AIEA GULCH WELLS PUMP 2				Water											

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: FED EX 7711 0220 { #1 8688 #2 9261 #3 8486

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
BAILEY	01/23/2023 1400	HBWS	G. REITMER	01/24/2023 09:30	EEA
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: (750A) #1 - 0.3° 0.2° #2 - 0.6° - 0.5° #3 - 1.2° - 1.1° } GEL-FROZEN

Ver: 06/08/2021

Monrovia, CA (Suite 100)
750 Royal Oaks Drive Suite 100
Monrovia, CA 91016
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: 380-9773-2757.3
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				Water											
FB: AIEA GULCH WELLS PUMP 2	01/23/2023	1104		Water											
FB: AIEA WELLS PUMPS 1&2 (260) P2	01/23/2023	1037		Water											
FB: HALAWA WELLS UNITS 1&2 P1	01/23/2023	1003		Water											

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: FED EX 7711 0220 { #1 8688, #2 9261, #3 8986

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Bailey	01/23/2023 1400	HBWS	G. REITNER	01/24/2023 0730	EEA
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: (750A) #1 0.3°-0.2° #2 0.6°-0.5° #3 1.2°-1.1° } GEL-FROZEN

Bottle Order Information

Bottle Order: RUSH RED-HILL WEEKLY
Bottle Order #: 2757
Request From Client: 7/20/2022
Date Order Posted: 7/20/2022 11:12:54AM
Order Status: Ready To Process
Prepared By: Davis Haley
Deliver By Date: ***1/23/2023 11:59:00PM***
Lab Project Number: 38001111
PWSID:

Order Completion Information

Creator: Davis Haley
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/H ydrochloric 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/H ydrochloric 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: 380-35205-1

Login Number: 35205
List Number: 1
Creator: Castro, Heidi

List Source: Eurofins Eaton Analytical Pomona

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