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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 4/14/2023 1:44:15 PM

JOB DESCRIPTION

RED-HILL
RUSH Weekly Red Hill

JOB NUMBER

380-39968-1

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

Table of Contents

Definitions/Glossary

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

Job ID: 380-39968-1

Qualifiers

GC/MS Semi VOA

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

GC/MS Semi VOA TICs

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

LCMS

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
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)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TNTC	Too Numerous To Count

Job ID: 380-39968-1

Laboratory: Eurofins Eaton Analytical Pomona

Narrative

Job Narrative
380-39968-1

Comments
No additional comments.

Receipt
The samples were received on 3/9/2023 9:20 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.9º C.

GC/MS Semi VOA
Method 525.2: The continuing calibration verification (CCV) associated with batch 380-33584 recovered above the upper contro limit for Benzo[a]pyrene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MOANALUA WELLS (331-223-TP202) (380-39968-1), AIEA WELL PUMPS 1&2 (260) (331-203-TP400) (380-39968-2), HALAWA WELLS UNITS 1 & 2 (331-206-TP065) (380-39968-3), AIEA GUL WELLS PUMP 2 (331-202-TP072) (380-39968-4) and (CCVIS 380-33584/2).

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

LCMS
Method 533: IDA recoveries low for sample: HALAWA WELLS UNITS 1 & 2 (331-206-TP065) (380-39968-3) and (380-39968-L-MS) out of 50-200 method limits. Analyzed sample twice to confirm QC failure. No more backup bottle for re-extraction since it was used for MS. Please refer to flags.

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

Subcontract non-Sister
See attached subcontract report.

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

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

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

Detection Summary

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

Job ID: 380-39968-1

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

Lab Sample ID: 380-39968-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.1		2.0		ng/L	1		533	Total/NA

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

Lab Sample ID: 380-39968-2

No Detections.

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

Lab Sample ID: 380-39968-3

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

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

Lab Sample ID: 380-39968-4

No Detections.

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

Lab Sample ID: 380-39968-5

No Detections.

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

Lab Sample ID: 380-39968-6

No Detections.

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

Lab Sample ID: 380-39968-7

No Detections.

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

Lab Sample ID: 380-39968-8

No Detections.

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

Lab Sample ID: 380-39968-9

No Detections.

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

Lab Sample ID: 380-39968-10

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Eaton Analytical Pomona

Detection Summary

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

Job ID: 380-39968-1

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

Lab Sample ID: 380-39968-11

No Detections.

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

Lab Sample ID: 380-39968-12

No Detections.

This Detection Summary does not include radiochemical test results.

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

Job ID: 380-39968-1

Client Sample ID: MOANALUA WELLS (331-223-TP202)
Date Collected: 03/07/23 09:47
Date Received: 03/09/23 09:20

Lab Sample ID: 380-39968-1
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		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
2,4'-DDE	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
2,4'-DDT	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
2,4-Dinitrotoluene	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
2,6-Dinitrotoluene	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
4,4'-DDD	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
4,4'-DDE	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
4,4'-DDT	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Acenaphthene	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Acenaphthylene	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Acetochlor	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Alachlor	ND		0.049		ug/L		03/12/23 12:12	03/13/23 17:57	1
alpha-BHC	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
alpha-Chlordane	ND		0.049		ug/L		03/12/23 12:12	03/13/23 17:57	1
Anthracene	ND		0.019		ug/L		03/12/23 12:12	03/13/23 17:57	1
Atrazine	ND		0.049		ug/L		03/12/23 12:12	03/13/23 17:57	1
Benz(a)anthracene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 17:57	1
Benzo[a]pyrene	ND	*+	0.019		ug/L		03/12/23 12:12	03/13/23 17:57	1
Benzo[b]fluoranthene	ND	^3+	0.019		ug/L		03/12/23 12:12	03/13/23 17:57	1
Benzo[g,h,i]perylene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 17:57	1
Benzo[k]fluoranthene	ND		0.019		ug/L		03/12/23 12:12	03/13/23 17:57	1
beta-BHC	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Bromacil	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Butachlor	ND	^3+	0.049		ug/L		03/12/23 12:12	03/13/23 17:57	1
Butylbenzylphthalate	ND		0.49		ug/L		03/12/23 12:12	03/13/23 17:57	1
Caffeine	ND		0.049		ug/L		03/12/23 12:12	03/13/23 17:57	1
Chlorobenzilate	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Chloroneb	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Chlorothalonil (Draconil, Bravo)	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Chlorpyrifos	ND		0.049		ug/L		03/12/23 12:12	03/13/23 17:57	1
Chrysene	ND		0.019		ug/L		03/12/23 12:12	03/13/23 17:57	1
delta-BHC	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Di(2-ethylhexyl)adipate	ND	*+	0.58		ug/L		03/12/23 12:12	03/13/23 17:57	1
Bis(2-ethylhexyl) phthalate	ND		0.58		ug/L		03/12/23 12:12	03/13/23 17:57	1
Diazinon (Qualitative)	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Dibenz(a,h)anthracene	ND	^3+	0.049		ug/L		03/12/23 12:12	03/13/23 17:57	1
Diclorvos (DDVP)	ND		0.049		ug/L		03/12/23 12:12	03/13/23 17:57	1
Dieldrin	ND		0.19		ug/L		03/12/23 12:12	03/13/23 17:57	1
Diethylphthalate	ND		0.49		ug/L		03/12/23 12:12	03/13/23 17:57	1
Dimethoate	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Dimethylphthalate	ND		0.49		ug/L		03/12/23 12:12	03/13/23 17:57	1
Di-n-butyl phthalate	ND		0.97		ug/L		03/12/23 12:12	03/13/23 17:57	1
Di-n-octyl phthalate	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Endosulfan I (Alpha)	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Endosulfan II (Beta)	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Endosulfan sulfate	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Endrin	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Endrin aldehyde	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
EPTC	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1

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

Date Collected: 03/07/23 09:47
Date Received: 03/09/23 09:20

Lab Sample ID: 380-39968-1

Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Fluorene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 17:57	1
gamma-Chlordane	ND		0.049		ug/L		03/12/23 12:12	03/13/23 17:57	1
Heptachlor	ND		0.039		ug/L		03/12/23 12:12	03/13/23 17:57	1
Heptachlor epoxide (isomer B)	ND		0.049		ug/L		03/12/23 12:12	03/13/23 17:57	1
Hexachlorobenzene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 17:57	1
Hexachlorocyclopentadiene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 17:57	1
Indeno[1,2,3-cd]pyrene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 17:57	1
Isophorone	ND		0.49		ug/L		03/12/23 12:12	03/13/23 17:57	1
Lindane	ND		0.039		ug/L		03/12/23 12:12	03/13/23 17:57	1
Malathion	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Methoxychlor	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Metolachlor	ND		0.049		ug/L		03/12/23 12:12	03/13/23 17:57	1
Metribuzin	ND		0.049		ug/L		03/12/23 12:12	03/13/23 17:57	1
Molinate	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Naphthalene	ND		0.29		ug/L		03/12/23 12:12	03/13/23 17:57	1
Parathion	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Pendimethalin (Penoxaline)	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Total Permethrin (mixed isomers)	ND	^3+	0.19		ug/L		03/12/23 12:12	03/13/23 17:57	1
Phenanthrene	ND		0.039		ug/L		03/12/23 12:12	03/13/23 17:57	1
Propachlor	ND		0.049		ug/L		03/12/23 12:12	03/13/23 17:57	1
Pyrene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 17:57	1
Simazine	ND		0.049		ug/L		03/12/23 12:12	03/13/23 17:57	1
Terbacil	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Terbuthylazine	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1
Thiobencarb	ND		0.19		ug/L		03/12/23 12:12	03/13/23 17:57	1
trans-Nonachlor	ND		0.049		ug/L		03/12/23 12:12	03/13/23 17:57	1
Trifluralin	ND		0.097		ug/L		03/12/23 12:12	03/13/23 17:57	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*			*N/A*	*03/12/23 12:12*	*03/13/23 17:57*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*99*		*70 - 130*	*03/12/23 12:12*	*03/13/23 17:57*	*1*
Triphenylphosphate	*114*		*70 - 130*	*03/12/23 12:12*	*03/13/23 17:57*	*1*
Perylene-d12	*91*		*70 - 130*	*03/12/23 12:12*	*03/13/23 17:57*	*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		03/26/23 17:30	03/30/23 15:51	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 15:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 15:51	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 15:51	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 15:51	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 15:51	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 15:51	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 15:51	1

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

Job ID: 380-39968-1

Client Sample ID: MOANALUA WELLS (331-223-TP202)
Date Collected: 03/07/23 09:47
Date Received: 03/09/23 09:20

Lab Sample ID: 380-39968-1
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 15:51	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 15:51	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 15:51	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 15:51	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 15:51	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 15:51	1
Perfluorobutanoic acid (PFBA)	**2.1**		2.0		ng/L		03/26/23 17:30	03/30/23 15:51	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 15:51	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 15:51	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 15:51	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 15:51	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 15:51	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 15:51	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 15:51	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 15:51	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 15:51	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 15:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*69*		*50 - 200*	*03/26/23 17:30*	*03/30/23 15:51*	*1*
13C6 PFDA	*75*		*50 - 200*	*03/26/23 17:30*	*03/30/23 15:51*	*1*
13C5 PFHxA	*76*		*50 - 200*	*03/26/23 17:30*	*03/30/23 15:51*	*1*
13C4 PFHpA	*77*		*50 - 200*	*03/26/23 17:30*	*03/30/23 15:51*	*1*
13C8 PFOA	*77*		*50 - 200*	*03/26/23 17:30*	*03/30/23 15:51*	*1*
13C9 PFNA	*77*		*50 - 200*	*03/26/23 17:30*	*03/30/23 15:51*	*1*
13C7 PFUnA	*72*		*50 - 200*	*03/26/23 17:30*	*03/30/23 15:51*	*1*
13C2 PFDoA	*74*		*50 - 200*	*03/26/23 17:30*	*03/30/23 15:51*	*1*
13C4 PFBA	*77*		*50 - 200*	*03/26/23 17:30*	*03/30/23 15:51*	*1*
13C5 PFPeA	*77*		*50 - 200*	*03/26/23 17:30*	*03/30/23 15:51*	*1*
13C3 PFBS	*91*		*50 - 200*	*03/26/23 17:30*	*03/30/23 15:51*	*1*
13C3 PFHxS	*89*		*50 - 200*	*03/26/23 17:30*	*03/30/23 15:51*	*1*
13C8 PFOS	*88*		*50 - 200*	*03/26/23 17:30*	*03/30/23 15:51*	*1*
13C2-4:2-FTS	*101*		*50 - 200*	*03/26/23 17:30*	*03/30/23 15:51*	*1*
13C2-6:2-FTS	*92*		*50 - 200*	*03/26/23 17:30*	*03/30/23 15:51*	*1*
13C2-8:2-FTS	*90*		*50 - 200*	*03/26/23 17:30*	*03/30/23 15:51*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:57	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:57	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:57	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:57	1

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

Job ID: 380-39968-1

Client Sample ID: MOANALUA WELLS (331-223-TP202)
Date Collected: 03/07/23 09:47
Date Received: 03/09/23 09:20

Lab Sample ID: 380-39968-1
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:57	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:57	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:57	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:57	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:57	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:57	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:57	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:57	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:57	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:57	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:57	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:57	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:57	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*84*		*70 - 130*	*03/14/23 13:20*	*03/15/23 19:57*	*1*
13C2 PFHxA	*102*		*70 - 130*	*03/14/23 13:20*	*03/15/23 19:57*	*1*
13C2 PFDA	*100*		*70 - 130*	*03/14/23 13:20*	*03/15/23 19:57*	*1*
13C3-GenX	*100*		*70 - 130*	*03/14/23 13:20*	*03/15/23 19:57*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1
Acenaphthene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1
Acenaphthylene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1
Anthracene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1
Biphenyl	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1
Chrysene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1
Dibenzothiophene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		03/10/23 00:00	03/31/23 00:55	1
Fluoranthene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1
Fluorene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1
Naphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1

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

Lab Sample ID: 380-39968-1
Date Collected: 03/07/23 09:47
Matrix: Drinking Water
Date Received: 03/09/23 09:20
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perylene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1
Phenanthrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1
Pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 00:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*89*		*27 - 133*	*03/10/23 00:00*	*03/31/23 00:55*	*1*
(d10-Phenanthrene)	*97*		*43 - 129*	*03/10/23 00:00*	*03/31/23 00:55*	*1*
(d12-Chrysene)	*109*		*52 - 144*	*03/10/23 00:00*	*03/31/23 00:55*	*1*
(d12-Perylene)	*89*		*36 - 161*	*03/10/23 00:00*	*03/31/23 00:55*	*1*
(d8-Naphthalene)	*85*		*25 - 125*	*03/10/23 00:00*	*03/31/23 00:55*	*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			03/13/23 17:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*90*		*60 - 140*		*03/13/23 17:05*	*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	0.030		mg/L			03/20/23 17:42	1
JP5	ND	U	0.059		mg/L			03/20/23 17:42	1
JP8	ND	U	0.059		mg/L			03/20/23 17:42	1
MOTOR OIL	ND	U	0.059		mg/L			03/20/23 17:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOBENZENE	*77*		*60 - 130*		*03/20/23 17:42*	*1*
HEXACOSANE	*108*		*60 - 130*		*03/20/23 17:42*	*1*

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

Lab Sample ID: 380-39968-2
Date Collected: 03/07/23 10:44
Matrix: Drinking Water
Date Received: 03/09/23 09:20
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
2,4'-DDE	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
2,4'-DDT	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
2,4-Dinitrotoluene	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
2,6-Dinitrotoluene	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
4,4'-DDD	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
4,4'-DDE	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
4,4'-DDT	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Acenaphthene	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Acenaphthylene	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Acetochlor	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Alachlor	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:17	1
alpha-BHC	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
alpha-Chlordane	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:17	1
Anthracene	ND		0.020		ug/L		03/12/23 12:12	03/13/23 18:17	1

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

Job ID: 380-39968-1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Date Collected: 03/07/23 10:44
Date Received: 03/09/23 09:20

Lab Sample ID: 380-39968-2
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Atrazine	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:17	1
Benz(a)anthracene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:17	1
Benzo[a]pyrene	ND	*+	0.020		ug/L		03/12/23 12:12	03/13/23 18:17	1
Benzo[b]fluoranthene	ND	^3+	0.020		ug/L		03/12/23 12:12	03/13/23 18:17	1
Benzo[g,h,i]perylene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:17	1
Benzo[k]fluoranthene	ND		0.020		ug/L		03/12/23 12:12	03/13/23 18:17	1
beta-BHC	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Bromacil	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Butachlor	ND	^3+	0.049		ug/L		03/12/23 12:12	03/13/23 18:17	1
Butylbenzylphthalate	ND		0.49		ug/L		03/12/23 12:12	03/13/23 18:17	1
Caffeine	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:17	1
Chlorobenzilate	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Chloroneb	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Chlorothalonil (Draconil, Bravo)	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Chlorpyrifos	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:17	1
Chrysene	ND		0.020		ug/L		03/12/23 12:12	03/13/23 18:17	1
delta-BHC	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Di(2-ethylhexyl)adipate	ND	*+	0.59		ug/L		03/12/23 12:12	03/13/23 18:17	1
Bis(2-ethylhexyl) phthalate	ND		0.59		ug/L		03/12/23 12:12	03/13/23 18:17	1
Diazinon (Qualitative)	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Dibenz(a,h)anthracene	ND	^3+	0.049		ug/L		03/12/23 12:12	03/13/23 18:17	1
Diclorvos (DDVP)	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:17	1
Dieldrin	ND		0.20		ug/L		03/12/23 12:12	03/13/23 18:17	1
Diethylphthalate	ND		0.49		ug/L		03/12/23 12:12	03/13/23 18:17	1
Dimethoate	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Dimethylphthalate	ND		0.49		ug/L		03/12/23 12:12	03/13/23 18:17	1
Di-n-butyl phthalate	ND		0.98		ug/L		03/12/23 12:12	03/13/23 18:17	1
Di-n-octyl phthalate	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Endosulfan I (Alpha)	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Endosulfan II (Beta)	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Endosulfan sulfate	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Endrin	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Endrin aldehyde	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
EPTC	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Fluoranthene	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Fluorene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:17	1
gamma-Chlordane	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:17	1
Heptachlor	ND		0.039		ug/L		03/12/23 12:12	03/13/23 18:17	1
Heptachlor epoxide (isomer B)	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:17	1
Hexachlorobenzene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:17	1
Hexachlorocyclopentadiene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:17	1
Indeno[1,2,3-cd]pyrene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:17	1
Isophorone	ND		0.49		ug/L		03/12/23 12:12	03/13/23 18:17	1
Lindane	ND		0.039		ug/L		03/12/23 12:12	03/13/23 18:17	1
Malathion	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Methoxychlor	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Metolachlor	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:17	1
Metribuzin	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:17	1

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

Job ID: 380-39968-1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Date Collected: 03/07/23 10:44
Date Received: 03/09/23 09:20

Lab Sample ID: 380-39968-2
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Molinate	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Naphthalene	ND		0.29		ug/L		03/12/23 12:12	03/13/23 18:17	1
Parathion	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Pendimethalin (Penoxaline)	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Total Permethrin (mixed isomers)	ND	^3+	0.20		ug/L		03/12/23 12:12	03/13/23 18:17	1
Phenanthrene	ND		0.039		ug/L		03/12/23 12:12	03/13/23 18:17	1
Propachlor	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:17	1
Pyrene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:17	1
Simazine	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:17	1
Terbacil	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Terbuthylazine	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1
Thiobencarb	ND		0.20		ug/L		03/12/23 12:12	03/13/23 18:17	1
trans-Nonachlor	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:17	1
Trifluralin	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:17	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*			*N/A*	*03/12/23 12:12*	*03/13/23 18:17*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*99*		*70 - 130*	*03/12/23 12:12*	*03/13/23 18:17*	*1*
Triphenylphosphate	*110*		*70 - 130*	*03/12/23 12:12*	*03/13/23 18:17*	*1*
Perylene-d12	*95*		*70 - 130*	*03/12/23 12:12*	*03/13/23 18:17*	*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		03/26/23 17:30	03/30/23 16:01	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 16:01	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 16:01	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 16:01	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 16:01	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 16:01	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 16:01	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 16:01	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 16:01	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 16:01	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 16:01	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 16:01	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 16:01	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 16:01	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 16:01	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 16:01	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 16:01	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 16:01	1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Date Collected: 03/07/23 10:44
Date Received: 03/09/23 09:20

Lab Sample ID: 380-39968-2
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 16:01	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 16:01	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 16:01	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 16:01	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 16:01	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 16:01	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 16:01	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*68*		*50 - 200*	*03/26/23 17:30*	*03/30/23 16:01*	*1*
13C6 PFDA	*77*		*50 - 200*	*03/26/23 17:30*	*03/30/23 16:01*	*1*
13C5 PFHxA	*76*		*50 - 200*	*03/26/23 17:30*	*03/30/23 16:01*	*1*
13C4 PFHpA	*76*		*50 - 200*	*03/26/23 17:30*	*03/30/23 16:01*	*1*
13C8 PFOA	*81*		*50 - 200*	*03/26/23 17:30*	*03/30/23 16:01*	*1*
13C9 PFNA	*82*		*50 - 200*	*03/26/23 17:30*	*03/30/23 16:01*	*1*
13C7 PFUnA	*76*		*50 - 200*	*03/26/23 17:30*	*03/30/23 16:01*	*1*
13C2 PFDoA	*79*		*50 - 200*	*03/26/23 17:30*	*03/30/23 16:01*	*1*
13C4 PFBA	*77*		*50 - 200*	*03/26/23 17:30*	*03/30/23 16:01*	*1*
13C5 PFPeA	*80*		*50 - 200*	*03/26/23 17:30*	*03/30/23 16:01*	*1*
13C3 PFBS	*89*		*50 - 200*	*03/26/23 17:30*	*03/30/23 16:01*	*1*
13C3 PFHxS	*88*		*50 - 200*	*03/26/23 17:30*	*03/30/23 16:01*	*1*
13C8 PFOS	*88*		*50 - 200*	*03/26/23 17:30*	*03/30/23 16:01*	*1*
13C2-4:2-FTS	*106*		*50 - 200*	*03/26/23 17:30*	*03/30/23 16:01*	*1*
13C2-6:2-FTS	*97*		*50 - 200*	*03/26/23 17:30*	*03/30/23 16:01*	*1*
13C2-8:2-FTS	*94*		*50 - 200*	*03/26/23 17:30*	*03/30/23 16:01*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:33	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:33	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:33	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:33	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:33	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:33	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:33	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:33	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:33	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:33	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:33	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:33	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:33	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:33	1

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

Job ID: 380-39968-1

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

Lab Sample ID: 380-39968-2

Date Collected: 03/07/23 10:44
Date Received: 03/09/23 09:20

Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:33	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:33	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:33	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*88*		*70 - 130*	*03/14/23 13:20*	*03/15/23 22:33*	*1*
13C2 PFHxA	*97*		*70 - 130*	*03/14/23 13:20*	*03/15/23 22:33*	*1*
13C2 PFDA	*95*		*70 - 130*	*03/14/23 13:20*	*03/15/23 22:33*	*1*
13C3-GenX	*99*		*70 - 130*	*03/14/23 13:20*	*03/15/23 22:33*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
Acenaphthene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
Acenaphthylene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
Anthracene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
Biphenyl	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
Chrysene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
Dibenzothiophene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		03/10/23 00:00	03/31/23 02:42	1
Fluoranthene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
Fluorene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
Naphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
Perylene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
Phenanthrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1
Pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 02:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*88*		*27 - 133*	*03/10/23 00:00*	*03/31/23 02:42*	*1*
(d10-Phenanthrene)	*96*		*43 - 129*	*03/10/23 00:00*	*03/31/23 02:42*	*1*
(d12-Chrysene)	*108*		*52 - 144*	*03/10/23 00:00*	*03/31/23 02:42*	*1*
(d12-Perylene)	*88*		*36 - 161*	*03/10/23 00:00*	*03/31/23 02:42*	*1*
(d8-Naphthalene)	*84*		*25 - 125*	*03/10/23 00:00*	*03/31/23 02:42*	*1*

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

Lab Sample ID: 380-39968-2

Date Collected: 03/07/23 10:44
Date Received: 03/09/23 09:20

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			03/13/23 18:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*87*		*60 - 140*		*03/13/23 18:53*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.027		mg/L			03/20/23 18:01	1
JP5	ND	U	0.055		mg/L			03/20/23 18:01	1
JP8	ND	U	0.055		mg/L			03/20/23 18:01	1
MOTOR OIL	ND	U	0.055		mg/L			03/20/23 18:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOBENZENE	*90*		*60 - 130*		*03/20/23 18:01*	*1*
HEXACOSANE	*118*		*60 - 130*		*03/20/23 18:01*	*1*

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

Lab Sample ID: 380-39968-3

Date Collected: 03/07/23 10:19
Date Received: 03/09/23 09:20

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		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
2,4'-DDE	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
2,4'-DDT	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
2,4-Dinitrotoluene	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
2,6-Dinitrotoluene	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
4,4'-DDD	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
4,4'-DDE	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
4,4'-DDT	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Acenaphthene	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Acenaphthylene	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Acetochlor	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Alachlor	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:38	1
alpha-BHC	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
alpha-Chlordane	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:38	1
Anthracene	ND		0.019		ug/L		03/12/23 12:12	03/13/23 18:38	1
Atrazine	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:38	1
Benz(a)anthracene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:38	1
Benzo[a]pyrene	ND	*+	0.019		ug/L		03/12/23 12:12	03/13/23 18:38	1
Benzo[b]fluoranthene	ND	^3+	0.019		ug/L		03/12/23 12:12	03/13/23 18:38	1
Benzo[g,h,i]perylene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:38	1
Benzo[k]fluoranthene	ND		0.019		ug/L		03/12/23 12:12	03/13/23 18:38	1
beta-BHC	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Bromacil	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Butachlor	ND	^3+	0.049		ug/L		03/12/23 12:12	03/13/23 18:38	1
Butylbenzylphthalate	ND		0.49		ug/L		03/12/23 12:12	03/13/23 18:38	1
Caffeine	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:38	1

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

Job ID: 380-39968-1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)
Date Collected: 03/07/23 10:19
Date Received: 03/09/23 09:20

Lab Sample ID: 380-39968-3
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzilate	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Chloroneb	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Chlorothalonil (Draconil, Bravo)	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Chlorpyrifos	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:38	1
Chrysene	ND		0.019		ug/L		03/12/23 12:12	03/13/23 18:38	1
delta-BHC	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Di(2-ethylhexyl)adipate	ND	*+	0.58		ug/L		03/12/23 12:12	03/13/23 18:38	1
Bis(2-ethylhexyl) phthalate	ND		0.58		ug/L		03/12/23 12:12	03/13/23 18:38	1
Diazinon (Qualitative)	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Dibenz(a,h)anthracene	ND	^3+	0.049		ug/L		03/12/23 12:12	03/13/23 18:38	1
Diclorvos (DDVP)	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:38	1
Dieldrin	ND		0.19		ug/L		03/12/23 12:12	03/13/23 18:38	1
Diethylphthalate	ND		0.49		ug/L		03/12/23 12:12	03/13/23 18:38	1
Dimethoate	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Dimethylphthalate	ND		0.49		ug/L		03/12/23 12:12	03/13/23 18:38	1
Di-n-butyl phthalate	ND		0.97		ug/L		03/12/23 12:12	03/13/23 18:38	1
Di-n-octyl phthalate	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Endosulfan I (Alpha)	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Endosulfan II (Beta)	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Endosulfan sulfate	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Endrin	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Endrin aldehyde	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
EPTC	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Fluoranthene	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Fluorene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:38	1
gamma-Chlordane	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:38	1
Heptachlor	ND		0.039		ug/L		03/12/23 12:12	03/13/23 18:38	1
Heptachlor epoxide (isomer B)	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:38	1
Hexachlorobenzene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:38	1
Hexachlorocyclopentadiene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:38	1
Indeno[1,2,3-cd]pyrene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:38	1
Isophorone	ND		0.49		ug/L		03/12/23 12:12	03/13/23 18:38	1
Lindane	ND		0.039		ug/L		03/12/23 12:12	03/13/23 18:38	1
Malathion	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Methoxychlor	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Metolachlor	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:38	1
Metribuzin	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:38	1
Molinate	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Naphthalene	ND		0.29		ug/L		03/12/23 12:12	03/13/23 18:38	1
Parathion	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Pendimethalin (Penoxaline)	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Total Permethrin (mixed isomers)	ND	^3+	0.19		ug/L		03/12/23 12:12	03/13/23 18:38	1
Phenanthrene	ND		0.039		ug/L		03/12/23 12:12	03/13/23 18:38	1
Propachlor	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:38	1
Pyrene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:38	1
Simazine	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:38	1
Terbacil	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1
Terbuthylazine	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)
Lab Sample ID: 380-39968-3
Date Collected: 03/07/23 10:19
Matrix: Drinking Water
Date Received: 03/09/23 09:20
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Thiobencarb	ND		0.19		ug/L		03/12/23 12:12	03/13/23 18:38	1
trans-Nonachlor	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:38	1
Trifluralin	ND		0.097		ug/L		03/12/23 12:12	03/13/23 18:38	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*0.51*	*T J*	*ug/L*		*7.62*	*N/A*	*03/12/23 12:12*	*03/13/23 18:38*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*98*		*70 - 130*	*03/12/23 12:12*	*03/13/23 18:38*	*1*
Triphenylphosphate	*109*		*70 - 130*	*03/12/23 12:12*	*03/13/23 18:38*	*1*
Perylene-d12	*93*		*70 - 130*	*03/12/23 12:12*	*03/13/23 18:38*	*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		03/24/23 16:52	03/29/23 09:43	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:43	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND	*5-	2.0		ng/L		03/24/23 16:52	03/29/23 09:43	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:43	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:43	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:43	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:43	1
Perfluorohexanesulfonic acid (PFHxS)	**2.2**		2.0		ng/L		03/24/23 16:52	03/29/23 09:43	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:43	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:43	1
Perfluorooctanesulfonic acid (PFOS)	**2.2**		2.0		ng/L		03/24/23 16:52	03/29/23 09:43	1
Perfluorooctanoic acid (PFOA)	**2.1**		2.0		ng/L		03/24/23 16:52	03/29/23 09:43	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:43	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:43	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:43	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:43	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:43	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:43	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:43	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:43	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:43	1
Perfluoropentanoic acid (PFPeA)	**2.1**		2.0		ng/L		03/24/23 16:52	03/29/23 09:43	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:43	1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)
Lab Sample ID: 380-39968-3
Date Collected: 03/07/23 10:19
Matrix: Drinking Water
Date Received: 03/09/23 09:20
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:43	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*49*	**5-*	*50 - 200*	*03/24/23 16:52*	*03/29/23 09:43*	*1*
13C6 PFDA	*53*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:43*	*1*
13C5 PFHxA	*57*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:43*	*1*
13C4 PFHpA	*53*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:43*	*1*
13C8 PFOA	*50*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:43*	*1*
13C9 PFNA	*50*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:43*	*1*
13C7 PFUnA	*56*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:43*	*1*
13C2 PFDoA	*63*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:43*	*1*
13C4 PFBA	*66*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:43*	*1*
13C5 PFPeA	*65*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:43*	*1*
13C3 PFBS	*90*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:43*	*1*
13C3 PFHxS	*97*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:43*	*1*
13C8 PFOS	*92*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:43*	*1*
13C2-4:2-FTS	*111*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:43*	*1*
13C2-6:2-FTS	*99*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:43*	*1*
13C2-8:2-FTS	*91*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:43*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:42	1
Perfluorooctanesulfonic acid (PFOS)	**2.0**		2.0		ng/L		03/14/23 13:20	03/15/23 22:42	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:42	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:42	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:42	1
Perfluorohexanoic acid (PFHxA)	**2.0**		2.0		ng/L		03/14/23 13:20	03/15/23 22:42	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:42	1
Perfluorooctanoic acid (PFOA)	**2.2**		2.0		ng/L		03/14/23 13:20	03/15/23 22:42	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:42	1
Perfluorohexanesulfonic acid (PFHxS)	**2.4**		2.0		ng/L		03/14/23 13:20	03/15/23 22:42	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:42	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:42	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:42	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:42	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:42	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:42	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*87*		*70 - 130*	*03/14/23 13:20*	*03/15/23 22:42*	*1*

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

Lab Sample ID: 380-39968-3

Date Collected: 03/07/23 10:19
Date Received: 03/09/23 09:20

Matrix: Drinking Water
PWSID Number: HI0000331

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*96*		*70 - 130*	*03/14/23 13:20*	*03/15/23 22:42*	*1*
13C2 PFDA	*101*		*70 - 130*	*03/14/23 13:20*	*03/15/23 22:42*	*1*
13C3-GenX	*96*		*70 - 130*	*03/14/23 13:20*	*03/15/23 22:42*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
Acenaphthene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
Acenaphthylene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
Anthracene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
Biphenyl	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
Chrysene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
Dibenzothiophene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		03/10/23 00:00	03/31/23 04:28	1
Fluoranthene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
Fluorene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
Naphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
Perylene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
Phenanthrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1
Pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 04:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*88*		*27 - 133*	*03/10/23 00:00*	*03/31/23 04:28*	*1*
(d10-Phenanthrene)	*98*		*43 - 129*	*03/10/23 00:00*	*03/31/23 04:28*	*1*
(d12-Chrysene)	*109*		*52 - 144*	*03/10/23 00:00*	*03/31/23 04:28*	*1*
(d12-Perylene)	*89*		*36 - 161*	*03/10/23 00:00*	*03/31/23 04:28*	*1*
(d8-Naphthalene)	*84*		*25 - 125*	*03/10/23 00:00*	*03/31/23 04:28*	*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			03/13/23 19:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*93*		*60 - 140*		*03/13/23 19:29*	*1*

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

Lab Sample ID: 380-39968-3

Date Collected: 03/07/23 10:19
Date Received: 03/09/23 09:20

Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.027		mg/L			03/20/23 18:19	1
JP5	ND	U	0.055		mg/L			03/20/23 18:19	1
JP8	ND	U	0.055		mg/L			03/20/23 18:19	1
MOTOR OIL	ND	U	0.055		mg/L			03/20/23 18:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOBENZENE	*70*		*60 - 130*		*03/20/23 18:19*	*1*
HEXACOSANE	*107*		*60 - 130*		*03/20/23 18:19*	*1*

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

Lab Sample ID: 380-39968-4

Date Collected: 03/07/23 11:09
Date Received: 03/09/23 09:20

Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
2,4'-DDE	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
2,4'-DDT	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
2,4-Dinitrotoluene	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
2,6-Dinitrotoluene	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
4,4'-DDD	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
4,4'-DDE	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
4,4'-DDT	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Acenaphthene	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Acenaphthylene	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Acetochlor	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Alachlor	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:58	1
alpha-BHC	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
alpha-Chlordane	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:58	1
Anthracene	ND		0.020		ug/L		03/12/23 12:12	03/13/23 18:58	1
Atrazine	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:58	1
Benz(a)anthracene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:58	1
Benzo[a]pyrene	ND	*+	0.020		ug/L		03/12/23 12:12	03/13/23 18:58	1
Benzo[b]fluoranthene	ND	^3+	0.020		ug/L		03/12/23 12:12	03/13/23 18:58	1
Benzo[g,h,i]perylene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:58	1
Benzo[k]fluoranthene	ND		0.020		ug/L		03/12/23 12:12	03/13/23 18:58	1
beta-BHC	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Bromacil	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Butachlor	ND	^3+	0.049		ug/L		03/12/23 12:12	03/13/23 18:58	1
Butylbenzylphthalate	ND		0.49		ug/L		03/12/23 12:12	03/13/23 18:58	1
Caffeine	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:58	1
Chlorobenzilate	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Chloroneb	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Chlorothalonil (Draconil, Bravo)	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Chlorpyrifos	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:58	1
Chrysene	ND		0.020		ug/L		03/12/23 12:12	03/13/23 18:58	1
delta-BHC	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Di(2-ethylhexyl)adipate	ND	*+	0.59		ug/L		03/12/23 12:12	03/13/23 18:58	1

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Lab Sample ID: 380-39968-4
Date Collected: 03/07/23 11:09
Matrix: Drinking Water
Date Received: 03/09/23 09:20
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		0.59		ug/L		03/12/23 12:12	03/13/23 18:58	1
Diazinon (Qualitative)	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Dibenz(a,h)anthracene	ND	^3+	0.049		ug/L		03/12/23 12:12	03/13/23 18:58	1
Diclorvos (DDVP)	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:58	1
Dieldrin	ND		0.20		ug/L		03/12/23 12:12	03/13/23 18:58	1
Diethylphthalate	ND		0.49		ug/L		03/12/23 12:12	03/13/23 18:58	1
Dimethoate	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Dimethylphthalate	ND		0.49		ug/L		03/12/23 12:12	03/13/23 18:58	1
Di-n-butyl phthalate	ND		0.98		ug/L		03/12/23 12:12	03/13/23 18:58	1
Di-n-octyl phthalate	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Endosulfan I (Alpha)	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Endosulfan II (Beta)	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Endosulfan sulfate	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Endrin	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Endrin aldehyde	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
EPTC	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Fluoranthene	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Fluorene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:58	1
gamma-Chlordane	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:58	1
Heptachlor	ND		0.039		ug/L		03/12/23 12:12	03/13/23 18:58	1
Heptachlor epoxide (isomer B)	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:58	1
Hexachlorobenzene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:58	1
Hexachlorocyclopentadiene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:58	1
Indeno[1,2,3-cd]pyrene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:58	1
Isophorone	ND		0.49		ug/L		03/12/23 12:12	03/13/23 18:58	1
Lindane	ND		0.039		ug/L		03/12/23 12:12	03/13/23 18:58	1
Malathion	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Methoxychlor	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Metolachlor	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:58	1
Metribuzin	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:58	1
Molinate	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Naphthalene	ND		0.29		ug/L		03/12/23 12:12	03/13/23 18:58	1
Parathion	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Pendimethalin (Penoxaline)	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Total Permethrin (mixed isomers)	ND	^3+	0.20		ug/L		03/12/23 12:12	03/13/23 18:58	1
Phenanthrene	ND		0.039		ug/L		03/12/23 12:12	03/13/23 18:58	1
Propachlor	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:58	1
Pyrene	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:58	1
Simazine	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:58	1
Terbacil	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Terbuthylazine	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1
Thiobencarb	ND		0.20		ug/L		03/12/23 12:12	03/13/23 18:58	1
trans-Nonachlor	ND		0.049		ug/L		03/12/23 12:12	03/13/23 18:58	1
Trifluralin	ND		0.098		ug/L		03/12/23 12:12	03/13/23 18:58	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*			*N/A*	*03/12/23 12:12*	*03/13/23 18:58*	*1*

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

Job ID: 380-39968-1

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Date Collected: 03/07/23 11:09
Date Received: 03/09/23 09:20

Lab Sample ID: 380-39968-4
Matrix: Drinking Water
PWSID Number: HI0000331

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*96*		*70 - 130*	*03/12/23 12:12*	*03/13/23 18:58*	*1*
Triphenylphosphate	*108*		*70 - 130*	*03/12/23 12:12*	*03/13/23 18:58*	*1*
Perylene-d12	*99*		*70 - 130*	*03/12/23 12:12*	*03/13/23 18:58*	*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		03/24/23 16:52	03/29/23 10:30	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:30	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:30	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:30	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:30	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:30	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:30	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:30	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:30	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:30	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:30	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:30	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:30	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:30	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:30	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:30	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:30	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:30	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:30	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:30	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:30	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:30	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:30	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:30	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:30	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*51*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:30*	*1*
13C6 PFDA	*58*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:30*	*1*
13C5 PFHxA	*56*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:30*	*1*
13C4 PFHpA	*54*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:30*	*1*
13C8 PFOA	*56*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:30*	*1*
13C9 PFNA	*60*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:30*	*1*
13C7 PFUnA	*62*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:30*	*1*

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Lab Sample ID: 380-39968-4
Date Collected: 03/07/23 11:09
Matrix: Drinking Water
Date Received: 03/09/23 09:20
PWSID Number: HI0000331

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDoA	*65*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:30*	*1*
13C4 PFBA	*62*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:30*	*1*
13C5 PFPeA	*62*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:30*	*1*
13C3 PFBS	*90*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:30*	*1*
13C3 PFHxS	*94*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:30*	*1*
13C8 PFOS	*91*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:30*	*1*
13C2-4:2-FTS	*106*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:30*	*1*
13C2-6:2-FTS	*95*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:30*	*1*
13C2-8:2-FTS	*91*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:30*	*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		03/14/23 13:20	03/15/23 20:16	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 20:16	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 20:16	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 20:16	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 20:16	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 20:16	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 20:16	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 20:16	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 20:16	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 20:16	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 20:16	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 20:16	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 20:16	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 20:16	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 20:16	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 20:16	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 20:16	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 20:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*92*		*70 - 130*	*03/14/23 13:20*	*03/15/23 20:16*	*1*
13C2 PFHxA	*98*		*70 - 130*	*03/14/23 13:20*	*03/15/23 20:16*	*1*
13C2 PFDA	*99*		*70 - 130*	*03/14/23 13:20*	*03/15/23 20:16*	*1*
13C3-GenX	*101*		*70 - 130*	*03/14/23 13:20*	*03/15/23 20:16*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Lab Sample ID: 380-39968-4
Date Collected: 03/07/23 11:09
Matrix: Drinking Water
Date Received: 03/09/23 09:20
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1
Acenaphthylene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1
Anthracene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1
Biphenyl	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1
Chrysene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1
Dibenzothiophene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		03/10/23 00:00	03/31/23 06:15	1
Fluoranthene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1
Fluorene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1
Naphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1
Perylene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1
Phenanthrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1
Pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/31/23 06:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*90*		*27 - 133*	*03/10/23 00:00*	*03/31/23 06:15*	*1*
(d10-Phenanthrene)	*97*		*43 - 129*	*03/10/23 00:00*	*03/31/23 06:15*	*1*
(d12-Chrysene)	*109*		*52 - 144*	*03/10/23 00:00*	*03/31/23 06:15*	*1*
(d12-Perylene)	*89*		*36 - 161*	*03/10/23 00:00*	*03/31/23 06:15*	*1*
(d8-Naphthalene)	*84*		*25 - 125*	*03/10/23 00:00*	*03/31/23 06:15*	*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			03/13/23 20:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*89*		*60 - 140*		*03/13/23 20:05*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.026		mg/L			03/20/23 18:38	1
JP5	ND	U	0.052		mg/L			03/20/23 18:38	1
JP8	ND	U	0.052		mg/L			03/20/23 18:38	1
MOTOR OIL	ND	U	0.052		mg/L			03/20/23 18:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOBENZENE	*90*		*60 - 130*		*03/20/23 18:38*	*1*
HEXACOSANE	*120*		*60 - 130*		*03/20/23 18:38*	*1*

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

Lab Sample ID: 380-39968-5
Date Collected: 03/07/23 09:47
Matrix: Water
Date Received: 03/09/23 09:20

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			03/13/23 20:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*88*		*60 - 140*		*03/13/23 20:41*	*1*

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

Lab Sample ID: 380-39968-6
Date Collected: 03/07/23 10:44
Matrix: Water
Date Received: 03/09/23 09:20

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			03/13/23 21:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*95*		*60 - 140*		*03/13/23 21:17*	*1*

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

Lab Sample ID: 380-39968-7
Date Collected: 03/07/23 10:19
Matrix: Water
Date Received: 03/09/23 09:20

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			03/13/23 21:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*86*		*60 - 140*		*03/13/23 21:52*	*1*

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

Lab Sample ID: 380-39968-8
Date Collected: 03/07/23 11:09
Matrix: Water
Date Received: 03/09/23 09:20

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			03/13/23 22:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*87*		*60 - 140*		*03/13/23 22:28*	*1*

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

Lab Sample ID: 380-39968-9
Date Collected: 03/07/23 09:47
Matrix: Water
Date Received: 03/09/23 09:20

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		03/24/23 16:52	03/29/23 10:40	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:40	1

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

Job ID: 380-39968-1

Client Sample ID: FB:MOANALUA WELLS (331-223-TP202)
Date Collected: 03/07/23 09:47
Date Received: 03/09/23 09:20

Lab Sample ID: 380-39968-9
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:40	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:40	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:40	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:40	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:40	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:40	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:40	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:40	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:40	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:40	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:40	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:40	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:40	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:40	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:40	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:40	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:40	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:40	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:40	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:40	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:40	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*79*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:40*	*1*
13C6 PFDA	*85*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:40*	*1*
13C5 PFHxA	*96*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:40*	*1*
13C4 PFHpA	*89*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:40*	*1*
13C8 PFOA	*91*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:40*	*1*
13C9 PFNA	*89*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:40*	*1*
13C7 PFUnA	*83*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:40*	*1*
13C2 PFDoA	*82*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:40*	*1*
13C4 PFBA	*93*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:40*	*1*
13C5 PFPeA	*93*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:40*	*1*
13C3 PFBS	*92*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:40*	*1*
13C3 PFHxS	*95*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:40*	*1*
13C8 PFOS	*92*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:40*	*1*
13C2-4:2-FTS	*101*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:40*	*1*
13C2-6:2-FTS	*98*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:40*	*1*
13C2-8:2-FTS	*91*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:40*	*1*

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

Lab Sample ID: 380-39968-9

Date Collected: 03/07/23 09:47

Matrix: Water

Date Received: 03/09/23 09:20

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:52	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:52	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:52	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:52	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:52	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:52	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:52	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:52	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:52	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:52	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:52	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:52	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:52	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:52	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:52	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:52	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:52	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 22:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*88*		*70 - 130*	*03/14/23 13:20*	*03/15/23 22:52*	*1*
13C2 PFHxA	*99*		*70 - 130*	*03/14/23 13:20*	*03/15/23 22:52*	*1*
13C2 PFDA	*102*		*70 - 130*	*03/14/23 13:20*	*03/15/23 22:52*	*1*
13C3-GenX	*94*		*70 - 130*	*03/14/23 13:20*	*03/15/23 22:52*	*1*

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

Lab Sample ID: 380-39968-10

Date Collected: 03/07/23 10:44

Matrix: Water

Date Received: 03/09/23 09:20

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		03/24/23 16:52	03/29/23 10:50	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:50	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:50	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:50	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:50	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:50	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:50	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:50	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:50	1

Client Sample ID: FB:AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)
Lab Sample ID: 380-39968-10
Date Collected: 03/07/23 10:44
Matrix: Water
Date Received: 03/09/23 09:20

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:50	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:50	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:50	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:50	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:50	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:50	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:50	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:50	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:50	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:50	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:50	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:50	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:50	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:50	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*78*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:50*	*1*
13C6 PFDA	*83*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:50*	*1*
13C5 PFHxA	*86*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:50*	*1*
13C4 PFHpA	*84*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:50*	*1*
13C8 PFOA	*85*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:50*	*1*
13C9 PFNA	*87*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:50*	*1*
13C7 PFUnA	*81*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:50*	*1*
13C2 PFDoA	*84*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:50*	*1*
13C4 PFBA	*89*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:50*	*1*
13C5 PFPeA	*95*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:50*	*1*
13C3 PFBS	*90*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:50*	*1*
13C3 PFHxS	*91*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:50*	*1*
13C8 PFOS	*89*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:50*	*1*
13C2-4:2-FTS	*102*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:50*	*1*
13C2-6:2-FTS	*96*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:50*	*1*
13C2-8:2-FTS	*87*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:50*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:01	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:01	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:01	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:01	1

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

Lab Sample ID: 380-39968-10

Date Collected: 03/07/23 10:44
Date Received: 03/09/23 09:20

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:01	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:01	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:01	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:01	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:01	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:01	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:01	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:01	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:01	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:01	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:01	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:01	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:01	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*89*		*70 - 130*	*03/14/23 13:20*	*03/15/23 23:01*	*1*
13C2 PFHxA	*100*		*70 - 130*	*03/14/23 13:20*	*03/15/23 23:01*	*1*
13C2 PFDA	*102*		*70 - 130*	*03/14/23 13:20*	*03/15/23 23:01*	*1*
13C3-GenX	*101*		*70 - 130*	*03/14/23 13:20*	*03/15/23 23:01*	*1*

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

Lab Sample ID: 380-39968-11

Date Collected: 03/07/23 10:19
Date Received: 03/09/23 09:20

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		03/24/23 16:52	03/29/23 10:59	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:59	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:59	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:59	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:59	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:59	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:59	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:59	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:59	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:59	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:59	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:59	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:59	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:59	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:59	1

Client Sample ID: FB:HALAWA WELLS UNITS 1 & 2 (331-206-TP065)
Date Collected: 03/07/23 10:19
Date Received: 03/09/23 09:20

Lab Sample ID: 380-39968-11
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:59	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:59	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:59	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:59	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:59	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:59	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:59	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:59	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:59	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 10:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*81*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:59*	*1*
13C6 PFDA	*83*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:59*	*1*
13C5 PFHxA	*90*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:59*	*1*
13C4 PFHpA	*88*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:59*	*1*
13C8 PFOA	*89*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:59*	*1*
13C9 PFNA	*88*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:59*	*1*
13C7 PFUnA	*81*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:59*	*1*
13C2 PFDoA	*82*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:59*	*1*
13C4 PFBA	*94*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:59*	*1*
13C5 PFPeA	*98*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:59*	*1*
13C3 PFBS	*96*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:59*	*1*
13C3 PFHxS	*96*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:59*	*1*
13C8 PFOS	*92*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:59*	*1*
13C2-4:2-FTS	*107*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:59*	*1*
13C2-6:2-FTS	*103*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:59*	*1*
13C2-8:2-FTS	*91*		*50 - 200*	*03/24/23 16:52*	*03/29/23 10:59*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:11	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:11	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:11	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:11	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:11	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:11	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:11	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:11	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:11	1

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

Lab Sample ID: 380-39968-11

Date Collected: 03/07/23 10:19
Date Received: 03/09/23 09:20

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:11	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:11	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:11	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:11	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:11	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:11	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:11	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:11	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*85*		*70 - 130*	*03/14/23 13:20*	*03/15/23 23:11*	*1*
13C2 PFHxA	*98*		*70 - 130*	*03/14/23 13:20*	*03/15/23 23:11*	*1*
13C2 PFDA	*103*		*70 - 130*	*03/14/23 13:20*	*03/15/23 23:11*	*1*
13C3-GenX	*102*		*70 - 130*	*03/14/23 13:20*	*03/15/23 23:11*	*1*

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

Lab Sample ID: 380-39968-12

Date Collected: 03/07/23 11:09
Date Received: 03/09/23 09:20

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		03/24/23 16:52	03/29/23 11:09	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 11:09	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 11:09	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 11:09	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 11:09	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 11:09	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 11:09	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 11:09	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 11:09	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 11:09	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 11:09	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 11:09	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 11:09	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 11:09	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 11:09	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 11:09	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 11:09	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 11:09	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 11:09	1

Client Sample ID: FB:AIEA GULCH WELLS P2 (331-202-TP072) **Lab Sample ID: 380-39968-12**
Date Collected: 03/07/23 11:09 **Matrix: Water**
Date Received: 03/09/23 09:20

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 11:09	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 11:09	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 11:09	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 11:09	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 11:09	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 11:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*80*		*50 - 200*	*03/24/23 16:52*	*03/29/23 11:09*	*1*
13C6 PFDA	*81*		*50 - 200*	*03/24/23 16:52*	*03/29/23 11:09*	*1*
13C5 PFHxA	*86*		*50 - 200*	*03/24/23 16:52*	*03/29/23 11:09*	*1*
13C4 PFHpA	*86*		*50 - 200*	*03/24/23 16:52*	*03/29/23 11:09*	*1*
13C8 PFOA	*90*		*50 - 200*	*03/24/23 16:52*	*03/29/23 11:09*	*1*
13C9 PFNA	*88*		*50 - 200*	*03/24/23 16:52*	*03/29/23 11:09*	*1*
13C7 PFUnA	*83*		*50 - 200*	*03/24/23 16:52*	*03/29/23 11:09*	*1*
13C2 PFDoA	*87*		*50 - 200*	*03/24/23 16:52*	*03/29/23 11:09*	*1*
13C4 PFBA	*96*		*50 - 200*	*03/24/23 16:52*	*03/29/23 11:09*	*1*
13C5 PFPeA	*100*		*50 - 200*	*03/24/23 16:52*	*03/29/23 11:09*	*1*
13C3 PFBS	*91*		*50 - 200*	*03/24/23 16:52*	*03/29/23 11:09*	*1*
13C3 PFHxS	*94*		*50 - 200*	*03/24/23 16:52*	*03/29/23 11:09*	*1*
13C8 PFOS	*90*		*50 - 200*	*03/24/23 16:52*	*03/29/23 11:09*	*1*
13C2-4:2-FTS	*112*		*50 - 200*	*03/24/23 16:52*	*03/29/23 11:09*	*1*
13C2-6:2-FTS	*96*		*50 - 200*	*03/24/23 16:52*	*03/29/23 11:09*	*1*
13C2-8:2-FTS	*92*		*50 - 200*	*03/24/23 16:52*	*03/29/23 11:09*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:21	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:21	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:21	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:21	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:21	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:21	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:21	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:21	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:21	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:21	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:21	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:21	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:21	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:21	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:21	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:21	1

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

Job ID: 380-39968-1

Client Sample ID: FB:AIEA GULCH WELLS P2 (331-202-TP072)
Date Collected: 03/07/23 11:09
Date Received: 03/09/23 09:20

Lab Sample ID: 380-39968-12
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 23:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*89*		*70 - 130*	*03/14/23 13:20*	*03/15/23 23:21*	*1*
13C2 PFHxA	*101*		*70 - 130*	*03/14/23 13:20*	*03/15/23 23:21*	*1*
13C2 PFDA	*102*		*70 - 130*	*03/14/23 13:20*	*03/15/23 23:21*	*1*
13C3-GenX	*103*		*70 - 130*	*03/14/23 13:20*	*03/15/23 23:21*	*1*

Action Limit Summary

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

Job ID: 380-39968-1

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

Lab Sample ID: 380-39968-1

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Alachlor	ND		ug/L	2	0.049	525.2	Total/NA
Atrazine	ND		ug/L	3	0.049	525.2	Total/NA
Benzo[a]pyrene	ND	*+	ug/L	0.2	0.019	525.2	Total/NA
Di(2-ethylhexyl)adipate	ND	*+	ug/L	400	0.58	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	ND		ug/L	6	0.58	525.2	Total/NA
Endrin	ND		ug/L	2	0.097	525.2	Total/NA
Heptachlor	ND		ug/L	0.4	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	ND		ug/L	0.2	0.049	525.2	Total/NA
Hexachlorobenzene	ND		ug/L	1	0.049	525.2	Total/NA
Hexachlorocyclopentadiene	ND		ug/L	50	0.049	525.2	Total/NA
Lindane	ND		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	ND		ug/L	40	0.097	525.2	Total/NA
Simazine	ND		ug/L	4	0.049	525.2	Total/NA

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

Lab Sample ID: 380-39968-2

PWSID Number: HI0000331

Compliance Check

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

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

Action Limit Summary

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

Job ID: 380-39968-1

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

Lab Sample ID: 380-39968-3

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Alachlor	ND		ug/L	2	0.049	525.2	Total/NA
Atrazine	ND		ug/L	3	0.049	525.2	Total/NA
Benzo[a]pyrene	ND	*+	ug/L	0.2	0.019	525.2	Total/NA
Di(2-ethylhexyl)adipate	ND	*+	ug/L	400	0.58	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	ND		ug/L	6	0.58	525.2	Total/NA
Endrin	ND		ug/L	2	0.097	525.2	Total/NA
Heptachlor	ND		ug/L	0.4	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	ND		ug/L	0.2	0.049	525.2	Total/NA
Hexachlorobenzene	ND		ug/L	1	0.049	525.2	Total/NA
Hexachlorocyclopentadiene	ND		ug/L	50	0.049	525.2	Total/NA
Lindane	ND		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	ND		ug/L	40	0.097	525.2	Total/NA
Simazine	ND		ug/L	4	0.049	525.2	Total/NA

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

Lab Sample ID: 380-39968-4

PWSID Number: HI0000331

Compliance Check

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

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

Surrogate Summary

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

Job ID: 380-39968-1

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)
380-39968-1	MOANALUA WELLS (331-223-T	99	114	91
380-39968-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	99	110	95
380-39968-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	98	109	93
380-39968-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	96	108	99

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)		
		2NMX	TPP	PRY
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)
380-37547-T-1-A MS	Matrix Spike	101	116	101
380-39791-D-1-A DU	Duplicate	103	112	89
LCS 380-33555/3-A	Lab Control Sample	99	110	97
LCSD 380-33555/4-A	Lab Control Sample Dup	98	115	98
MB 380-33555/1-A	Method Blank	97	108	89
MRL 380-33555/2-A	Lab Control Sample	98	107	84

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)
380-39968-1	MOANALUA WELLS (331-223-T	84	102	100	100
380-39968-1 MS	MOANALUA WELLS (331-223-TP202)	85	101	102	97
380-39968-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	88	97	95	99
380-39968-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	87	96	101	96
380-39968-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	92	98	99	101
380-39968-4 DU	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	88	102	103	102

Surrogate Legend

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

Surrogate Summary

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

Job ID: 380-39968-1

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)
380-39968-9	FB:MOANALUA WELLS (331-22	88	99	102	94
380-39968-10	FB:AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	89	100	102	101
380-39968-11	FB:HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	85	98	103	102
380-39968-12	FB:AIEA GULCH WELLS P2 (331-202-TP072)	89	101	102	103
LCS 380-33706/3-A	Lab Control Sample	89	101	107	103
LCSD 380-33706/4-A	Lab Control Sample Dup	98	111	115	108
MBL 380-33706/1-A	Method Blank	96	105	109	104
MRL 380-33706/2-A	Lab Control Sample	89	102	103	99

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)
104491-B1	Method Blank	91	98	109	87	91
104491-BS1	Lab Control Sample	95	100	108	89	95
104491-BS2	Lab Control Sample Dup	96	100	107	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)
380-39968-1	MOANALUA WELLS (331-223-T	89	97	109	85	89
380-39968-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	88	96	108	84	88
380-39968-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	88	98	109	84	89
380-39968-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	90	97	109	84	89

Surrogate Legend

(d10-Acenaphthene) = (d10-Acenaphthene)
(d10-Phenanthrene) = (d10-Phenanthrene)
CRY = (d12-Chrysene)

Surrogate Summary

Client: City & County of Honolulu
Job ID: 380-39968-1
Project/Site: RED-HILL

NPT = (d8-Naphthalene)
PRY = (d12-Perylene)

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

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

		Percent Surrogate Recovery (Acceptance Limits)
		BFB
Lab Sample ID	Client Sample ID	(60-140)
380-39968-1	MOANALUA WELLS (331-223-T	90
380-39968-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	87
380-39968-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	93
380-39968-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	89

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)
23C153-01M	Matrix Spike	112
23C153-01S	Matrix Spike Duplicate	116

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	
23VG39C03B	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)
23VG39C03C	LCD	115
23VG39C03L	Lab Control Sample	116

Surrogate Legend
BFB = BROMOFLUOROBENZENE

Surrogate Summary

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

Job ID: 380-39968-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)
		BFB
Lab Sample ID	Client Sample ID	(60-140)
380-39968-5	TB:MOANALUA WELLS (331-22	88
380-39968-6	TB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	95
380-39968-7	TB: HALAWA WELLS UNITS 1&2 (331-206-TP065)	86
380-39968-8	TB:AIEA GULCH WELLS P2 (331-202-TP072)	87

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BB	XACOSAI
Lab Sample ID	Client Sample ID	(60-130)	(60-130)
380-39968-1	MOANALUA WELLS (331-223-T	77	108
380-39968-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	90	118
380-39968-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	70	107
380-39968-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	90	120

Surrogate Legend

BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

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

Matrix: WATER — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BB	XACOSAI
Lab Sample ID	Client Sample ID	(60-130)	(60-130)
23DSC021WC	LCD	80	106
23DSC021WL	Lab Control Sample	89	113
23J5C021WC	LCD	88	99
23J5C021WL	Lab Control Sample	83	98
23J8C021WC	LCD	99	112
23J8C021WL	Lab Control Sample	93	101

Surrogate Legend

BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

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

Matrix: WATER — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BB	XACOSAI
Lab Sample ID	Client Sample ID		
23DSC021WB	Method Blank		

Surrogate Legend

Surrogate Summary

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

Job ID: 380-39968-1

BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

Isotope Dilution Summary

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

Job ID: 380-39968-1

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)
380-39968-1	MOANALUA WELLS (331-223-T	69	75	76	77	77	77	72	74
380-39968-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	68	77	76	76	81	82	76	79
380-39968-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	49 *5-	53	57	53	50	50	56	63
380-39968-3 MS	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	47 *5-	35 *5-	47 *5-	41 *5-	36 *5-	32 *5-	41 *5-	48 *5-
380-39968-3 MSD	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	51	52	54	48 *5-	46 *5-	47 *5-	55	62
380-39968-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	51	58	56	54	56	60	62	65

		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)
380-39968-1	MOANALUA WELLS (331-223-T	77	77	91	89	88	101	92	90
380-39968-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	77	80	89	88	88	106	97	94
380-39968-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	66	65	90	97	92	111	99	91
380-39968-3 MS	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	54	57	88	94	92	112	97	96
380-39968-3 MSD	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	66	63	92	95	93	110	95	93
380-39968-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	62	62	90	94	91	106	95	91

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)
380-39968-9	FB:MOANALUA WELLS (331-22	79	85	96	89	91	89	83	82
380-39968-10	FB:AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	78	83	86	84	85	87	81	84

Isotope Dilution Summary

Client: City & County of Honolulu
Job ID: 380-39968-1
Project/Site: RED-HILL

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

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-39968-11	FB:HALAWA WELLS UNITS 1 &	81	83	90	88	89	88	81	82
380-39968-12	FB:AIEA GULCH WELLS P2 (331-202-TP072)	80	81	86	86	90	88	83	87
380-40536-L-4-A LMS	Matrix Spike	69	78	75	74	79	79	75	76
380-40536-M-4-A LMSD	Matrix Spike Duplicate	75	78	77	78	83	80	76	77
LCS 380-34733/23-A	Lab Control Sample	82	84	86	86	87	87	86	84
LCS 380-34852/23-A	Lab Control Sample	85	85	84	85	91	90	84	82
LCSD 380-34733/24-A	Lab Control Sample Dup	89	91	95	91	93	92	91	92
LCSD 380-34852/24-A	Lab Control Sample Dup	85	87	90	89	89	88	82	87
MB 380-34733/21-A	Method Blank	63	70	71	71	71	71	70	72
MBL 380-34852/21-A	Method Blank	84	93	86	85	90	87	82	83
MRL 380-34733/22-A	Lab Control Sample	79	90	92	90	92	93	86	89
MRL 380-34852/22-A	Lab Control Sample	85	82	92	87	89	87	80	81

		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)
380-39968-9	FB:MOANALUA WELLS (331-22	93	93	92	95	92	101	98	91
380-39968-10	FB:AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	89	95	90	91	89	102	96	87
380-39968-11	FB:HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	94	98	96	96	92	107	103	91
380-39968-12	FB:AIEA GULCH WELLS P2 (331-202-TP072)	96	100	91	94	90	112	96	92
380-40536-L-4-A LMS	Matrix Spike	75	76	85	85	87	96	90	87
380-40536-M-4-A LMSD	Matrix Spike Duplicate	76	73	87	86	84	93	89	87
LCS 380-34733/23-A	Lab Control Sample	92	95	90	95	90	104	97	93
LCS 380-34852/23-A	Lab Control Sample	87	85	86	88	90	97	93	92
LCSD 380-34733/24-A	Lab Control Sample Dup	89	90	89	94	90	100	93	93
LCSD 380-34852/24-A	Lab Control Sample Dup	88	88	83	85	85	93	88	88
MB 380-34733/21-A	Method Blank	75	76	76	79	78	87	89	92
MBL 380-34852/21-A	Method Blank	86	85	88	87	86	108	100	154
MRL 380-34733/22-A	Lab Control Sample	90	97	82	90	89	98	92	90
MRL 380-34852/22-A	Lab Control Sample	86	92	93	87	86	106	96	91

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 380-33555/1-A
Matrix: Water
Analysis Batch: 33584

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33555

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
2,4'-DDE	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
2,4'-DDT	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
2,4-Dinitrotoluene	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
2,6-Dinitrotoluene	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
4,4'-DDD	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
4,4'-DDE	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
4,4'-DDT	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Acenaphthene	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Acenaphthylene	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Acetochlor	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Alachlor	ND		0.050		ug/L		03/12/23 12:12	03/13/23 12:15	1
alpha-BHC	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
alpha-Chlordane	ND		0.050		ug/L		03/12/23 12:12	03/13/23 12:15	1
Anthracene	ND		0.020		ug/L		03/12/23 12:12	03/13/23 12:15	1
Atrazine	ND		0.050		ug/L		03/12/23 12:12	03/13/23 12:15	1
Benz(a)anthracene	ND		0.050		ug/L		03/12/23 12:12	03/13/23 12:15	1
Benzo[a]pyrene	ND		0.020		ug/L		03/12/23 12:12	03/13/23 12:15	1
Benzo[b]fluoranthene	ND		0.020		ug/L		03/12/23 12:12	03/13/23 12:15	1
Benzo[g,h,i]perylene	ND		0.050		ug/L		03/12/23 12:12	03/13/23 12:15	1
Benzo[k]fluoranthene	ND		0.020		ug/L		03/12/23 12:12	03/13/23 12:15	1
beta-BHC	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Bromacil	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Butachlor	ND		0.050		ug/L		03/12/23 12:12	03/13/23 12:15	1
Butylbenzylphthalate	ND		0.50		ug/L		03/12/23 12:12	03/13/23 12:15	1
Caffeine	ND		0.050		ug/L		03/12/23 12:12	03/13/23 12:15	1
Chlorobenzilate	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Chloroneb	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Chlorothalonil (Draconil, Bravo)	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Chlorpyrifos	ND		0.050		ug/L		03/12/23 12:12	03/13/23 12:15	1
Chrysene	ND		0.020		ug/L		03/12/23 12:12	03/13/23 12:15	1
delta-BHC	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Di(2-ethylhexyl)adipate	ND		0.59		ug/L		03/12/23 12:12	03/13/23 12:15	1
Bis(2-ethylhexyl) phthalate	ND		0.59		ug/L		03/12/23 12:12	03/13/23 12:15	1
Diazinon (Qualitative)	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Dibenz(a,h)anthracene	ND		0.050		ug/L		03/12/23 12:12	03/13/23 12:15	1
Diclorvos (DDVP)	ND		0.050		ug/L		03/12/23 12:12	03/13/23 12:15	1
Dieldrin	ND		0.20		ug/L		03/12/23 12:12	03/13/23 12:15	1
Diethylphthalate	ND		0.50		ug/L		03/12/23 12:12	03/13/23 12:15	1
Dimethoate	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Dimethylphthalate	ND		0.50		ug/L		03/12/23 12:12	03/13/23 12:15	1
Di-n-butyl phthalate	ND		0.99		ug/L		03/12/23 12:12	03/13/23 12:15	1
Di-n-octyl phthalate	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Endosulfan I (Alpha)	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Endosulfan II (Beta)	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Endosulfan sulfate	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Endrin	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Endrin aldehyde	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1

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

Lab Sample ID: MB 380-33555/1-A
Matrix: Water
Analysis Batch: 33584

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33555

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
EPTC	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Fluoranthene	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Fluorene	ND		0.050		ug/L		03/12/23 12:12	03/13/23 12:15	1
gamma-Chlordane	ND		0.050		ug/L		03/12/23 12:12	03/13/23 12:15	1
Heptachlor	ND		0.040		ug/L		03/12/23 12:12	03/13/23 12:15	1
Heptachlor epoxide (isomer B)	ND		0.050		ug/L		03/12/23 12:12	03/13/23 12:15	1
Hexachlorobenzene	ND		0.050		ug/L		03/12/23 12:12	03/13/23 12:15	1
Hexachlorocyclopentadiene	ND		0.050		ug/L		03/12/23 12:12	03/13/23 12:15	1
Indeno[1,2,3-cd]pyrene	ND		0.050		ug/L		03/12/23 12:12	03/13/23 12:15	1
Isophorone	ND		0.50		ug/L		03/12/23 12:12	03/13/23 12:15	1
Lindane	ND		0.040		ug/L		03/12/23 12:12	03/13/23 12:15	1
Malathion	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Methoxychlor	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Metolachlor	ND		0.050		ug/L		03/12/23 12:12	03/13/23 12:15	1
Metribuzin	ND		0.050		ug/L		03/12/23 12:12	03/13/23 12:15	1
Molinate	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Naphthalene	ND		0.30		ug/L		03/12/23 12:12	03/13/23 12:15	1
Parathion	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Pendimethalin (Penoxaline)	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Total Permethrin (mixed isomers)	ND		0.20		ug/L		03/12/23 12:12	03/13/23 12:15	1
Phenanthrene	ND		0.040		ug/L		03/12/23 12:12	03/13/23 12:15	1
Propachlor	ND		0.050		ug/L		03/12/23 12:12	03/13/23 12:15	1
Pyrene	ND		0.050		ug/L		03/12/23 12:12	03/13/23 12:15	1
Simazine	ND		0.050		ug/L		03/12/23 12:12	03/13/23 12:15	1
Terbacil	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Terbuthylazine	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1
Thiobencarb	ND		0.20		ug/L		03/12/23 12:12	03/13/23 12:15	1
trans-Nonachlor	ND		0.050		ug/L		03/12/23 12:12	03/13/23 12:15	1
Trifluralin	ND		0.099		ug/L		03/12/23 12:12	03/13/23 12:15	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*0.838*	*T J*	*ug/L*		*2.28*	*N/A*	*03/12/23 12:12*	*03/13/23 12:15*	*1*
Unknown	*0.548*	*T J*	*ug/L*		*2.36*	*N/A*	*03/12/23 12:12*	*03/13/23 12:15*	*1*
Unknown	*1.71*	*T J*	*ug/L*		*2.47*	*N/A*	*03/12/23 12:12*	*03/13/23 12:15*	*1*
Benzene, (3-iodo-1-methoxypropyl)-	*1.02*	*T J N*	*ug/L*		*4.34*	*1000327-31-9*	*03/12/23 12:12*	*03/13/23 12:15*	*1*
Unknown	*0.993*	*T J*	*ug/L*		*5.91*	*N/A*	*03/12/23 12:12*	*03/13/23 12:15*	*1*
Unknown	*0.582*	*T J*	*ug/L*		*6.60*	*N/A*	*03/12/23 12:12*	*03/13/23 12:15*	*1*
Unknown	*0.926*	*T J*	*ug/L*		*7.15*	*N/A*	*03/12/23 12:12*	*03/13/23 12:15*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*97*		*70 - 130*	*03/12/23 12:12*	*03/13/23 12:15*	*1*
Triphenylphosphate	*108*		*70 - 130*	*03/12/23 12:12*	*03/13/23 12:15*	*1*
Perylene-d12	*89*		*70 - 130*	*03/12/23 12:12*	*03/13/23 12:15*	*1*

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

Lab Sample ID: LCS 380-33555/3-A
Matrix: Water
Analysis Batch: 33584

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33555

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	1.97	1.84		ug/L		94	70 - 130
2,4'-DDE	1.97	1.99		ug/L		101	70 - 130
2,4'-DDT	1.97	2.12		ug/L		108	70 - 130
2,4-Dinitrotoluene	1.97	1.82		ug/L		92	70 - 130
2,6-Dinitrotoluene	1.97	1.76		ug/L		89	70 - 130
4,4'-DDD	1.97	2.10		ug/L		107	70 - 130
4,4'-DDE	1.97	2.17		ug/L		110	70 - 130
4,4'-DDT	1.97	2.11		ug/L		107	70 - 130
Acenaphthene	1.97	1.90		ug/L		96	70 - 130
Acenaphthylene	1.97	2.11		ug/L		107	70 - 130
Acetochlor	1.97	2.14		ug/L		109	70 - 130
Alachlor	1.97	2.11		ug/L		107	70 - 130
alpha-BHC	1.97	2.05		ug/L		104	70 - 130
alpha-Chlordane	1.97	2.50		ug/L		127	70 - 130
Anthracene	1.97	1.94		ug/L		98	70 - 130
Atrazine	1.97	2.33		ug/L		118	70 - 130
Benz(a)anthracene	1.97	2.20		ug/L		112	70 - 130
Benzo[a]pyrene	1.97	2.59	*+	ug/L		132	70 - 130
Benzo[b]fluoranthene	1.97	2.17		ug/L		110	70 - 130
Benzo[g,h,i]perylene	1.97	2.20		ug/L		112	70 - 130
Benzo[k]fluoranthene	1.97	2.04		ug/L		104	70 - 130
beta-BHC	1.97	2.14		ug/L		109	70 - 130
Bromacil	1.97	2.19		ug/L		111	70 - 130
Butachlor	1.97	2.18		ug/L		110	70 - 130
Butylbenzylphthalate	1.97	2.46		ug/L		125	70 - 130
Caffeine	1.97	1.33		ug/L		68	45 - 137
Chlorobenzilate	1.97	2.03		ug/L		103	70 - 130
Chloroneb	1.97	2.09		ug/L		106	70 - 130
Chlorothalonil (Draconil, Bravo)	1.97	2.16		ug/L		110	70 - 130
Chlorpyrifos	1.97	2.31		ug/L		117	70 - 130
Chrysene	1.97	2.22		ug/L		113	70 - 130
delta-BHC	1.97	2.06		ug/L		105	70 - 130
Di(2-ethylhexyl)adipate	1.97	2.64	*+	ug/L		134	70 - 130
Bis(2-ethylhexyl) phthalate	1.97	2.49		ug/L		126	70 - 130
Diazinon (Qualitative)	1.97	1.78		ug/L		90	15 - 132
Dibenz(a,h)anthracene	1.97	2.10		ug/L		107	70 - 130
Diclorvos (DDVP)	1.97	2.27		ug/L		115	70 - 130
Dieldrin	1.97	1.97		ug/L		100	70 - 130
Diethylphthalate	1.97	2.16		ug/L		110	70 - 130
Dimethoate	1.97	1.02		ug/L		52	35 - 100
Dimethylphthalate	1.97	2.17		ug/L		110	70 - 130
Di-n-butyl phthalate	3.94	4.32		ug/L		110	70 - 130
Di-n-octyl phthalate	1.97	2.19		ug/L		111	70 - 130
Endosulfan I (Alpha)	1.97	2.18		ug/L		111	70 - 130
Endosulfan II (Beta)	1.97	2.29		ug/L		116	70 - 130
Endosulfan sulfate	1.97	2.19		ug/L		111	70 - 130
Endrin	1.97	2.25		ug/L		114	70 - 130
Endrin aldehyde	1.97	1.93		ug/L		98	70 - 130

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

Lab Sample ID: LCS 380-33555/3-A
Matrix: Water
Analysis Batch: 33584

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33555

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
EPTC	1.97	2.14		ug/L		109	70 - 130
Fluoranthene	1.97	2.26		ug/L		115	70 - 130
Fluorene	1.97	2.04		ug/L		103	70 - 130
gamma-Chlordane	1.97	2.50		ug/L		127	70 - 130
Heptachlor	1.97	2.13		ug/L		108	70 - 130
Heptachlor epoxide (isomer B)	1.97	2.49		ug/L		126	70 - 130
Hexachlorobenzene	1.97	1.94		ug/L		99	70 - 130
Hexachlorocyclopentadiene	1.97	2.09		ug/L		106	70 - 130
Indeno[1,2,3-cd]pyrene	1.97	2.13		ug/L		108	70 - 130
Isophorone	1.97	2.14		ug/L		109	70 - 130
Lindane	1.97	2.08		ug/L		106	70 - 130
Malathion	1.97	2.20		ug/L		112	70 - 130
Methoxychlor	1.97	2.24		ug/L		114	70 - 130
Metolachlor	1.97	2.28		ug/L		116	70 - 130
Metribuzin	1.97	1.87		ug/L		95	70 - 130
Molinate	1.97	2.09		ug/L		106	70 - 130
Naphthalene	1.97	1.79		ug/L		91	70 - 130
Parathion	1.97	2.18		ug/L		111	70 - 130
Pendimethalin (Penoxaline)	1.97	2.04		ug/L		104	70 - 130
Phenanthrene	1.97	1.86		ug/L		94	70 - 130
Propachlor	1.97	2.13		ug/L		108	70 - 130
Pyrene	1.97	2.26		ug/L		115	70 - 130
Simazine	1.97	2.27		ug/L		115	70 - 130
Terbacil	1.97	2.22		ug/L		113	70 - 130
Terbuthylazine	1.97	2.19		ug/L		111	70 - 130
Thiobencarb	1.97	2.07		ug/L		105	70 - 130
trans-Nonachlor	1.97	2.33		ug/L		118	70 - 130
Trifluralin	1.97	1.88		ug/L		95	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Nitro-m-xylene	*99*		*70 - 130*
Triphenylphosphate	*110*		*70 - 130*
Perylene-d12	*97*		*70 - 130*

Lab Sample ID: LCSD 380-33555/4-A
Matrix: Water
Analysis Batch: 33584

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33555

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4'-DDD	2.00	1.88		ug/L		94	70 - 130	2	20
2,4'-DDE	2.00	2.04		ug/L		102	70 - 130	2	20
2,4'-DDT	2.00	2.18		ug/L		109	70 - 130	3	20
2,4-Dinitrotoluene	2.00	1.94		ug/L		97	70 - 130	6	20
2,6-Dinitrotoluene	2.00	1.89		ug/L		95	70 - 130	7	20
4,4'-DDD	2.00	2.15		ug/L		108	70 - 130	2	20
4,4'-DDE	2.00	2.24		ug/L		112	70 - 130	3	20
4,4'-DDT	2.00	2.15		ug/L		108	70 - 130	2	20
Acenaphthene	2.00	1.95		ug/L		97	70 - 130	3	20

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

Lab Sample ID: LCSD 380-33555/4-A
Matrix: Water
Analysis Batch: 33584

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33555

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Acenaphthylene			2.00	2.18		ug/L		109	70 - 130	3	20
Acetochlor			2.00	2.25		ug/L		113	70 - 130	5	20
Alachlor			2.00	2.13		ug/L		107	70 - 130	1	20
alpha-BHC			2.00	2.13		ug/L		107	70 - 130	4	20
alpha-Chlordane			2.00	2.58		ug/L		129	70 - 130	3	20
Anthracene			2.00	2.03		ug/L		102	70 - 130	4	20
Atrazine			2.00	2.37		ug/L		119	70 - 130	2	20
Benz(a)anthracene			2.00	2.23		ug/L		112	70 - 130	1	20
Benzo[a]pyrene			2.00	2.70	*+	ug/L		135	70 - 130	4	20
Benzo[b]fluoranthene			2.00	2.27		ug/L		113	70 - 130	4	20
Benzo[g,h,i]perylene			2.00	2.26		ug/L		113	70 - 130	3	20
Benzo[k]fluoranthene			2.00	2.17		ug/L		109	70 - 130	6	20
beta-BHC			2.00	2.17		ug/L		109	70 - 130	1	20
Bromacil			2.00	2.37		ug/L		119	70 - 130	8	20
Butachlor			2.00	2.23		ug/L		111	70 - 130	2	20
Butylbenzylphthalate			2.00	2.53		ug/L		127	70 - 130	3	20
Caffeine			2.00	1.47		ug/L		73	45 - 137	9	20
Chlorobenzilate			2.00	2.14		ug/L		107	70 - 130	6	20
Chloroneb			2.00	2.15		ug/L		108	70 - 130	3	20
Chlorothalonil (Draconil, Bravo)			2.00	2.25		ug/L		113	70 - 130	4	20
Chlorpyrifos			2.00	2.40		ug/L		120	70 - 130	4	20
Chrysene			2.00	2.28		ug/L		114	70 - 130	3	20
delta-BHC			2.00	2.14		ug/L		107	70 - 130	4	20
Di(2-ethylhexyl)adipate			2.00	2.61	*+	ug/L		131	70 - 130	1	20
Bis(2-ethylhexyl) phthalate			2.00	2.37		ug/L		119	70 - 130	5	20
Diazinon (Qualitative)			2.00	1.85		ug/L		92	15 - 132	4	20
Dibenz(a,h)anthracene			2.00	2.12		ug/L		106	70 - 130	1	20
Diclorvos (DDVP)			2.00	2.30		ug/L		115	70 - 130	1	20
Dieldrin			2.00	2.03		ug/L		102	70 - 130	3	20
Diethylphthalate			2.00	2.25		ug/L		113	70 - 130	4	20
Dimethoate			2.00	1.19		ug/L		60	35 - 100	15	20
Dimethylphthalate			2.00	2.22		ug/L		111	70 - 130	2	20
Di-n-butyl phthalate			3.99	4.33		ug/L		108	70 - 130	0	20
Di-n-octyl phthalate			2.00	2.24		ug/L		112	70 - 130	3	20
Endosulfan I (Alpha)			2.00	2.21		ug/L		111	70 - 130	1	20
Endosulfan II (Beta)			2.00	2.35		ug/L		118	70 - 130	3	20
Endosulfan sulfate			2.00	2.24		ug/L		112	70 - 130	2	20
Endrin			2.00	2.29		ug/L		115	70 - 130	2	20
Endrin aldehyde			2.00	2.14		ug/L		107	70 - 130	10	20
EPTC			2.00	2.24		ug/L		112	70 - 130	5	20
Fluoranthene			2.00	2.34		ug/L		117	70 - 130	3	20
Fluorene			2.00	2.13		ug/L		107	70 - 130	5	20
gamma-Chlordane			2.00	2.60		ug/L		130	70 - 130	4	20
Heptachlor			2.00	2.17		ug/L		108	70 - 130	1	20
Heptachlor epoxide (isomer B)			2.00	2.60		ug/L		130	70 - 130	4	20
Hexachlorobenzene			2.00	2.04		ug/L		102	70 - 130	5	20
Hexachlorocyclopentadiene			2.00	2.15		ug/L		108	70 - 130	3	20
Indeno[1,2,3-cd]pyrene			2.00	2.18		ug/L		109	70 - 130	2	20
Isophorone			2.00	2.17		ug/L		109	70 - 130	2	20

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

Lab Sample ID: LCSD 380-33555/4-A
Matrix: Water
Analysis Batch: 33584

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33555

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lindane	2.00	2.13		ug/L		107	70 - 130	2	20
Malathion	2.00	2.29		ug/L		115	70 - 130	4	20
Methoxychlor	2.00	2.32		ug/L		116	70 - 130	3	20
Metolachlor	2.00	2.36		ug/L		118	70 - 130	4	20
Metribuzin	2.00	2.09		ug/L		105	70 - 130	11	20
Molinate	2.00	2.19		ug/L		110	70 - 130	5	20
Naphthalene	2.00	1.81		ug/L		91	70 - 130	1	20
Parathion	2.00	2.24		ug/L		112	70 - 130	3	20
Pendimethalin (Penoxaline)	2.00	2.12		ug/L		106	70 - 130	4	20
Phenanthrene	2.00	1.95		ug/L		98	70 - 130	5	20
Propachlor	2.00	2.24		ug/L		112	70 - 130	5	20
Pyrene	2.00	2.31		ug/L		116	70 - 130	2	20
Simazine	2.00	2.28		ug/L		114	70 - 130	0	20
Terbacil	2.00	2.37		ug/L		119	70 - 130	7	20
Terbuthylazine	2.00	2.23		ug/L		112	70 - 130	2	20
Thiobencarb	2.00	2.10		ug/L		105	70 - 130	1	20
trans-Nonachlor	2.00	2.42		ug/L		121	70 - 130	4	20
Trifluralin	2.00	1.94		ug/L		97	70 - 130	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Nitro-m-xylene	*98*		*70 - 130*
Triphenylphosphate	*115*		*70 - 130*
Perylene-d12	*98*		*70 - 130*

Lab Sample ID: MRL 380-33555/2-A
Matrix: Water
Analysis Batch: 33584

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33555

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	0.0997	0.145		ug/L		146	50 - 150
2,4'-DDE	0.0997	0.109		ug/L		110	50 - 150
2,4'-DDT	0.0997	0.109		ug/L		110	50 - 150
2,4-Dinitrotoluene	0.0997	0.118		ug/L		118	50 - 150
2,6-Dinitrotoluene	0.0997	0.142		ug/L		143	50 - 150
4,4'-DDD	0.0997	0.136		ug/L		137	50 - 150
4,4'-DDE	0.0997	0.0964	J	ug/L		97	50 - 150
4,4'-DDT	0.0997	0.143		ug/L		144	50 - 150
Acenaphthene	0.0997	0.105		ug/L		106	50 - 150
Acenaphthylene	0.0997	0.0994	J	ug/L		100	50 - 150
Acetochlor	0.0498	0.0629	J	ug/L		126	50 - 150
Alachlor	0.0498	0.0631		ug/L		127	50 - 150
alpha-BHC	0.0997	0.105		ug/L		105	50 - 150
alpha-Chlordane	0.0249	ND		ug/L		101	50 - 150
Anthracene	0.0199	0.0198	J	ug/L		99	50 - 150
Atrazine	0.0498	0.0513		ug/L		103	50 - 150
Benz(a)anthracene	0.0498	0.0417	J	ug/L		84	50 - 150
Benzo[a]pyrene	0.0199	0.0178	J	ug/L		89	50 - 150
Benzo[b]fluoranthene	0.0199	0.0325	^3+	ug/L		163	50 - 150

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

Lab Sample ID: MRL 380-33555/2-A
Matrix: Water
Analysis Batch: 33584

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33555

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Benzo[g,h,i]perylene	0.0498	0.0600		ug/L		120	50 - 150
Benzo[k]fluoranthene	0.0199	0.0244		ug/L		123	50 - 150
beta-BHC	0.0997	0.108		ug/L		108	50 - 150
Bromacil	0.0997	0.115		ug/L		115	50 - 150
Butachlor	0.0498	0.0827	^3+	ug/L		166	50 - 150
Butylbenzylphthalate	0.149	0.173	J	ug/L		115	50 - 150
Caffeine	0.0498	0.0279	J	ug/L		56	50 - 150
Chlorobenzilate	0.0997	0.137		ug/L		138	50 - 150
Chloroneb	0.0997	0.108		ug/L		109	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0997	0.108		ug/L		109	50 - 150
Chlorpyrifos	0.0498	0.0512		ug/L		103	50 - 150
Chrysene	0.0199	0.0217		ug/L		109	50 - 150
delta-BHC	0.0997	0.106		ug/L		106	50 - 150
Di(2-ethylhexyl)adipate	0.299	0.370	J	ug/L		124	50 - 150
Bis(2-ethylhexyl) phthalate	0.598	0.673		ug/L		113	50 - 150
Diazinon (Qualitative)	0.0997	0.108		ug/L		108	15 - 132
Dibenz(a,h)anthracene	0.0498	0.0758	^3+	ug/L		152	50 - 150
Diclorvos (DDVP)	0.0498	0.0549		ug/L		110	50 - 150
Dieldrin	0.0997	0.106	J	ug/L		107	50 - 150
Diethylphthalate	0.149	0.172	J	ug/L		115	50 - 150
Dimethoate	0.0997	0.0543	J	ug/L		54	35 - 100
Dimethylphthalate	0.299	0.329	J	ug/L		110	50 - 150
Di-n-butyl phthalate	0.299	0.361	J	ug/L		121	49 - 243
Di-n-octyl phthalate	0.0997	0.136		ug/L		136	50 - 150
Endosulfan I (Alpha)	0.0997	0.0883	J	ug/L		89	50 - 150
Endosulfan II (Beta)	0.0997	0.109		ug/L		110	50 - 150
Endosulfan sulfate	0.0997	0.115		ug/L		115	50 - 150
Endrin	0.0997	0.0980	J	ug/L		98	50 - 150
Endrin aldehyde	0.0997	0.140		ug/L		140	50 - 150
EPTC	0.0997	0.107		ug/L		107	50 - 150
Fluoranthene	0.0498	0.0529	J	ug/L		106	50 - 150
Fluorene	0.0498	0.0538		ug/L		108	50 - 150
gamma-Chlordane	0.0249	0.0258	J	ug/L		104	50 - 150
Heptachlor	0.0399	0.0503		ug/L		126	50 - 150
Heptachlor epoxide (isomer B)	0.0498	0.0433	J	ug/L		87	50 - 150
Hexachlorobenzene	0.0498	0.0486	J	ug/L		98	50 - 150
Hexachlorocyclopentadiene	0.0498	0.0495	J	ug/L		99	50 - 150
Indeno[1,2,3-cd]pyrene	0.0498	0.0745		ug/L		150	50 - 150
Isophorone	0.0997	0.110	J	ug/L		110	50 - 150
Lindane	0.0399	0.0452		ug/L		113	50 - 150
Malathion	0.0997	0.122		ug/L		123	50 - 150
Methoxychlor	0.0997	0.141		ug/L		141	50 - 150
Metolachlor	0.0498	0.0566		ug/L		114	50 - 150
Metribuzin	0.0498	0.0571		ug/L		115	50 - 150
Molinate	0.0997	0.106		ug/L		107	50 - 150
Naphthalene	0.0997	0.104	J	ug/L		104	50 - 150
Parathion	0.0997	0.118		ug/L		119	50 - 150
Pendimethalin (Penoxaline)	0.0997	0.120		ug/L		120	50 - 150
Phenanthrene	0.0199	0.0229	J	ug/L		115	50 - 150

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

Lab Sample ID: MRL 380-33555/2-A
Matrix: Water
Analysis Batch: 33584

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33555

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Propachlor			0.0498	0.0518		ug/L		104	50 - 150		
Pyrene			0.0498	0.0524		ug/L		105	50 - 150		
Simazine			0.0498	0.0553		ug/L		111	50 - 150		
Terbacil			0.0997	0.121		ug/L		122	50 - 150		
Terbuthylazine			0.0997	0.106		ug/L		106	50 - 150		
Thiobencarb			0.0997	0.114	J	ug/L		114	50 - 150		
trans-Nonachlor			0.0249	ND		ug/L		103	50 - 150		
Trifluralin			0.0997	0.113		ug/L		114	50 - 150		

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
2-Nitro-m-xylene	*98*		*70 - 130*
Triphenylphosphate	*107*		*70 - 130*
Perylene-d12	*84*		*70 - 130*

Lab Sample ID: 380-37547-T-1-A MS
Matrix: Water
Analysis Batch: 33584

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 33555

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
2,4'-DDD	ND		1.96	1.87		ug/L		96	70 - 130		
2,4'-DDE	ND		1.96	2.00		ug/L		102	70 - 130		
2,4'-DDT	ND		1.96	2.14		ug/L		109	70 - 130		
2,4-Dinitrotoluene	ND		1.96	1.85		ug/L		94	70 - 130		
2,6-Dinitrotoluene	ND		1.96	1.75		ug/L		89	70 - 130		
4,4'-DDD	ND		1.96	2.15		ug/L		110	70 - 130		
4,4'-DDE	ND		1.96	2.21		ug/L		113	70 - 130		
4,4'-DDT	ND		1.96	2.13		ug/L		109	70 - 130		
Acenaphthene	ND		1.96	1.88		ug/L		96	70 - 130		
Acenaphthylene	ND		1.96	2.14		ug/L		109	70 - 130		
Acetochlor	ND		1.96	2.18		ug/L		111	70 - 130		
Alachlor	ND		1.96	2.12		ug/L		108	70 - 130		
alpha-BHC	ND		1.96	2.08		ug/L		106	70 - 130		
alpha-Chlordane	ND	F1	1.96	2.59	F1	ug/L		132	70 - 130		
Anthracene	ND		1.96	1.75		ug/L		89	70 - 130		
Atrazine	ND		1.96	2.39		ug/L		122	70 - 130		
Benz(a)anthracene	ND		1.96	2.19		ug/L		112	70 - 130		
Benzo[a]pyrene	ND	*+ F1	1.96	2.57	F1	ug/L		131	70 - 130		
Benzo[b]fluoranthene	ND	^3+	1.96	2.25		ug/L		115	70 - 130		
Benzo[g,h,i]perylene	ND		1.96	2.21		ug/L		113	70 - 130		
Benzo[k]fluoranthene	ND		1.96	2.16		ug/L		110	70 - 130		
beta-BHC	ND		1.96	2.17		ug/L		111	70 - 130		
Bromacil	ND		1.96	2.45		ug/L		125	70 - 130		
Butachlor	ND	^3+	1.96	2.24		ug/L		114	70 - 130		
Butylbenzylphthalate	ND	F1	1.96	2.57	F1	ug/L		131	70 - 130		
Caffeine	ND		1.96	1.40		ug/L		71	46 - 144		
Chlorobenzilate	ND		1.96	1.64		ug/L		84	70 - 130		
Chloroneb	ND		1.96	2.33		ug/L		119	70 - 130		
Chlorothalonil (Draconil, Bravo)	ND		1.96	2.17		ug/L		111	70 - 130		

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

Lab Sample ID: 380-37547-T-1-A MS
Matrix: Water
Analysis Batch: 33584

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 33555

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorpyrifos	ND		1.96	2.34		ug/L		120	70 - 130
Chrysene	ND		1.96	2.15		ug/L		110	70 - 130
delta-BHC	ND		1.96	2.03		ug/L		103	70 - 130
Di(2-ethylhexyl)adipate	ND	*+	1.96	2.53		ug/L		129	70 - 130
Bis(2-ethylhexyl) phthalate	ND		1.96	2.17		ug/L		111	70 - 130
Diazinon (Qualitative)	ND		1.96	1.82		ug/L		93	15 - 132
Dibenz(a,h)anthracene	ND	^3+	1.96	2.09		ug/L		107	70 - 130
Diclorvos (DDVP)	ND		1.96	2.24		ug/L		114	70 - 130
Dieldrin	ND		1.96	1.99		ug/L		102	70 - 130
Diethylphthalate	ND		1.96	2.21		ug/L		113	70 - 130
Dimethoate	ND		1.96	1.28		ug/L		65	34 - 111
Dimethylphthalate	ND		1.96	2.10		ug/L		107	70 - 130
Di-n-butyl phthalate	ND		3.92	4.36		ug/L		111	70 - 130
Di-n-octyl phthalate	ND		1.96	2.06		ug/L		105	70 - 130
Endosulfan I (Alpha)	ND		1.96	2.22		ug/L		113	70 - 130
Endosulfan II (Beta)	ND		1.96	2.32		ug/L		118	70 - 130
Endosulfan sulfate	ND		1.96	2.22		ug/L		113	70 - 130
Endrin	ND		1.96	2.24		ug/L		114	70 - 130
Endrin aldehyde	ND	F1	1.96	0.970	F1	ug/L		49	70 - 130
EPTC	ND		1.96	2.23		ug/L		114	70 - 130
Fluoranthene	ND		1.96	2.32		ug/L		118	70 - 130
Fluorene	ND		1.96	2.02		ug/L		103	70 - 130
gamma-Chlordane	ND	F1	1.96	2.59	F1	ug/L		132	70 - 130
Heptachlor	ND		1.96	2.10		ug/L		107	70 - 130
Heptachlor epoxide (isomer B)	ND		1.96	2.55		ug/L		130	70 - 130
Hexachlorobenzene	ND		1.96	1.96		ug/L		100	70 - 130
Hexachlorocyclopentadiene	ND		1.96	2.11		ug/L		108	70 - 130
Indeno[1,2,3-cd]pyrene	ND		1.96	2.18		ug/L		111	70 - 130
Isophorone	ND		1.96	2.19		ug/L		112	70 - 130
Lindane	ND		1.96	2.15		ug/L		109	70 - 130
Malathion	ND		1.96	2.29		ug/L		117	70 - 130
Methoxychlor	ND		1.96	2.30		ug/L		118	70 - 130
Metolachlor	ND		1.96	2.36		ug/L		120	70 - 130
Metribuzin	ND		1.96	1.59		ug/L		81	70 - 130
Molinate	ND		1.96	2.10		ug/L		107	70 - 130
Naphthalene	ND		1.96	1.79		ug/L		92	70 - 130
Parathion	ND		1.96	2.26		ug/L		115	70 - 130
Pendimethalin (Penoxaline)	ND		1.96	2.13		ug/L		109	70 - 130
Phenanthrene	ND		1.96	1.89		ug/L		96	70 - 130
Propachlor	ND		1.96	2.18		ug/L		111	70 - 130
Pyrene	ND		1.96	2.32		ug/L		119	70 - 130
Simazine	ND		1.96	2.30		ug/L		117	70 - 130
Terbacil	ND	F1	1.96	2.57	F1	ug/L		131	70 - 130
Terbuthylazine	ND		1.96	2.29		ug/L		117	70 - 130
Thiobencarb	ND		1.96	2.06		ug/L		105	70 - 130
trans-Nonachlor	ND		1.96	2.37		ug/L		121	70 - 130
Trifluralin	ND		1.96	1.96		ug/L		100	70 - 130

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

Lab Sample ID: 380-37547-T-1-A MS
Matrix: Water
Analysis Batch: 33584

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 33555

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Nitro-m-xylene	101		70 - 130
Triphenylphosphate	116		70 - 130
Perylene-d12	101		70 - 130

Lab Sample ID: 380-39791-D-1-A DU
Matrix: Water
Analysis Batch: 33584

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 33555

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

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

Lab Sample ID: 380-39791-D-1-A DU
Matrix: Water
Analysis Batch: 33584

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 33555

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Dimethoate	ND			ND		ug/L				NC	20
Dimethylphthalate	ND			ND		ug/L				NC	20
Di-n-butyl phthalate	ND			ND		ug/L				NC	20
Di-n-octyl phthalate	ND			ND		ug/L				NC	20
Endosulfan I (Alpha)	ND			ND		ug/L				NC	20
Endosulfan II (Beta)	ND			ND		ug/L				NC	20
Endosulfan sulfate	ND			ND		ug/L				NC	20
Endrin	ND			ND		ug/L				NC	20
Endrin aldehyde	ND			ND		ug/L				NC	20
EPTC	ND			ND		ug/L				NC	20
Fluoranthene	ND			ND		ug/L				NC	20
Fluorene	ND			ND		ug/L				NC	20
gamma-Chlordane	ND			ND		ug/L				NC	20
Heptachlor	ND			ND		ug/L				NC	20
Heptachlor epoxide (isomer B)	ND			ND		ug/L				NC	20
Hexachlorobenzene	ND			ND		ug/L				NC	20
Hexachlorocyclopentadiene	ND			ND		ug/L				NC	20
Indeno[1,2,3-cd]pyrene	ND			ND		ug/L				NC	20
Isophorone	ND			ND		ug/L				NC	20
Lindane	ND			ND		ug/L				NC	20
Malathion	ND			ND		ug/L				NC	20
Methoxychlor	ND			ND		ug/L				NC	20
Metolachlor	ND			ND		ug/L				NC	20
Metribuzin	ND			ND		ug/L				NC	20
Molinate	ND			ND		ug/L				NC	20
Naphthalene	ND			ND		ug/L				NC	20
Parathion	ND			ND		ug/L				NC	20
Pendimethalin (Penoxaline)	ND			ND		ug/L				NC	20
Total Permethrin (mixed isomers)	ND	^3+		ND		ug/L				NC	20
Phenanthrene	ND			ND		ug/L				NC	20
Propachlor	ND			ND		ug/L				NC	20
Pyrene	ND			ND		ug/L				NC	20
Simazine	ND			ND		ug/L				NC	20
Terbacil	ND			ND		ug/L				NC	20
Terbuthylazine	ND			ND		ug/L				NC	20
Thiobencarb	ND			ND		ug/L				NC	20
trans-Nonachlor	ND			ND		ug/L				NC	20
Trifluralin	ND			ND		ug/L				NC	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
2-Nitro-m-xylene	*103*		*70 - 130*
Triphenylphosphate	*112*		*70 - 130*
Perylene-d12	*89*		*70 - 130*

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

Lab Sample ID: MB 380-34733/21-A
Matrix: Water
Analysis Batch: 35004

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34733

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		03/24/23 16:52	03/29/23 09:03	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*63*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:03*	*1*
13C6 PFDA	*70*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:03*	*1*
13C5 PFHxA	*71*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:03*	*1*
13C4 PFHpA	*71*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:03*	*1*
13C8 PFOA	*71*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:03*	*1*
13C9 PFNA	*71*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:03*	*1*
13C7 PFUnA	*70*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:03*	*1*
13C2 PFDoA	*72*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:03*	*1*
13C4 PFBA	*75*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:03*	*1*
13C5 PFPeA	*76*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:03*	*1*
13C3 PFBS	*76*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:03*	*1*
13C3 PFHxS	*79*		*50 - 200*	*03/24/23 16:52*	*03/29/23 09:03*	*1*

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

Lab Sample ID: MB 380-34733/21-A
Matrix: Water
Analysis Batch: 35004

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34733

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	78		50 - 200	03/24/23 16:52	03/29/23 09:03	1
13C2-4:2-FTS	87		50 - 200	03/24/23 16:52	03/29/23 09:03	1
13C2-6:2-FTS	89		50 - 200	03/24/23 16:52	03/29/23 09:03	1
13C2-8:2-FTS	92		50 - 200	03/24/23 16:52	03/29/23 09:03	1

Lab Sample ID: LCS 380-34733/23-A
Matrix: Water
Analysis Batch: 35004

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34733

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.1	57.4		ng/L		96	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.1	55.9		ng/L		93	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.1	53.8		ng/L		89	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.1	58.9		ng/L		98	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.1	55.9		ng/L		93	70 - 130
Perfluorodecanoic acid (PFDA)	60.1	59.5		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	60.1	57.8		ng/L		96	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.1	57.3		ng/L		95	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.1	55.7		ng/L		93	70 - 130
Perfluorohexanoic acid (PFHxA)	60.1	57.3		ng/L		95	70 - 130
Perfluorononanoic acid (PFNA)	60.1	58.8		ng/L		98	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.1	58.6		ng/L		97	70 - 130
Perfluorooctanoic acid (PFOA)	60.1	60.2		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.1	58.1		ng/L		97	70 - 130
Perfluorobutanoic acid (PFBA)	60.1	56.9		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.1	56.4		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.1	55.7		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.1	59.5		ng/L		99	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.1	55.5		ng/L		92	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	60.1	56.8		ng/L		95	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.1	59.8		ng/L		99	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.1	56.1		ng/L		93	70 - 130
Perfluoropentanoic acid (PFPeA)	60.1	56.4		ng/L		94	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.1	60.9		ng/L		101	70 - 130

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

Lab Sample ID: LCS 380-34733/23-A
Matrix: Water
Analysis Batch: 35004

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34733

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoropentanesulfonic acid (PFPeS)			60.1	53.6		ng/L		89	70 - 130		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*82*		*50 - 200*
13C6 PFDA	*84*		*50 - 200*
13C5 PFHxA	*86*		*50 - 200*
13C4 PFHpA	*86*		*50 - 200*
13C8 PFOA	*87*		*50 - 200*
13C9 PFNA	*87*		*50 - 200*
13C7 PFUnA	*86*		*50 - 200*
13C2 PFDoA	*84*		*50 - 200*
13C4 PFBA	*92*		*50 - 200*
13C5 PFPeA	*95*		*50 - 200*
13C3 PFBS	*90*		*50 - 200*
13C3 PFHxS	*95*		*50 - 200*
13C8 PFOS	*90*		*50 - 200*
13C2-4:2-FTS	*104*		*50 - 200*
13C2-6:2-FTS	*97*		*50 - 200*
13C2-8:2-FTS	*93*		*50 - 200*

Lab Sample ID: LCSD 380-34733/24-A
Matrix: Water
Analysis Batch: 35004

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34733

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			60.0	56.5		ng/L		94	70 - 130	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			60.0	56.3		ng/L		94	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			60.0	56.3		ng/L		94	70 - 130	5	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			60.0	58.3		ng/L		97	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)			60.0	57.5		ng/L		96	70 - 130	3	30
Perfluorodecanoic acid (PFDA)			60.0	57.7		ng/L		96	70 - 130	3	30
Perfluorododecanoic acid (PFDoA)			60.0	56.8		ng/L		95	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)			60.0	58.2		ng/L		97	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)			60.0	57.5		ng/L		96	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)			60.0	54.8		ng/L		91	70 - 130	4	30
Perfluorononanoic acid (PFNA)			60.0	59.3		ng/L		99	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)			60.0	58.5		ng/L		97	70 - 130	0	30
Perfluorooctanoic acid (PFOA)			60.0	57.9		ng/L		97	70 - 130	4	30
Perfluoroundecanoic acid (PFUnA)			60.0	56.2		ng/L		94	70 - 130	3	30
Perfluorobutanoic acid (PFBA)			60.0	60.1		ng/L		100	70 - 130	5	30

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

Lab Sample ID: LCSD 380-34733/24-A
Matrix: Water
Analysis Batch: 35004

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34733

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)			60.0	57.6		ng/L		96	70 - 130	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			60.0	58.8		ng/L		98	70 - 130	5	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			60.0	58.5		ng/L		97	70 - 130	2	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			60.0	53.1		ng/L		88	70 - 130	4	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			60.0	58.8		ng/L		98	70 - 130	3	30
Perfluoro-3-methoxypropanoic acid (PFMPA)			60.0	60.8		ng/L		101	70 - 130	2	30
Perfluoro-4-methoxybutanoic acid (PFMBA)			60.0	59.1		ng/L		99	70 - 130	5	30
Perfluoropentanoic acid (PFPeA)			60.0	57.7		ng/L		96	70 - 130	2	30
Perfluoroheptanesulfonic acid (PFHpS)			60.0	58.7		ng/L		98	70 - 130	4	30
Perfluoropentanesulfonic acid (PFPeS)			60.0	57.6		ng/L		96	70 - 130	7	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*89*		*50 - 200*
13C6 PFDA	*91*		*50 - 200*
13C5 PFHxA	*95*		*50 - 200*
13C4 PFHpA	*91*		*50 - 200*
13C8 PFOA	*93*		*50 - 200*
13C9 PFNA	*92*		*50 - 200*
13C7 PFUnA	*91*		*50 - 200*
13C2 PFDoA	*92*		*50 - 200*
13C4 PFBA	*89*		*50 - 200*
13C5 PFPeA	*90*		*50 - 200*
13C3 PFBS	*89*		*50 - 200*
13C3 PFHxS	*94*		*50 - 200*
13C8 PFOS	*90*		*50 - 200*
13C2-4:2-FTS	*100*		*50 - 200*
13C2-6:2-FTS	*93*		*50 - 200*
13C2-8:2-FTS	*93*		*50 - 200*

Lab Sample ID: MRL 380-34733/22-A
Matrix: Water
Analysis Batch: 35004

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34733

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.00	1.95	J	ng/L		98	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			2.00	1.93	J	ng/L		97	50 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.00	2.10		ng/L		105	50 - 150		

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

Lab Sample ID: MRL 380-34733/22-A
Matrix: Water
Analysis Batch: 35004

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34733

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.36		ng/L		118	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.11		ng/L		106	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.11		ng/L		106	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.15		ng/L		107	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.19		ng/L		110	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.07		ng/L		104	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.31		ng/L		115	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.25		ng/L		113	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.23		ng/L		112	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.50		ng/L		125	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.23		ng/L		111	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.34		ng/L		117	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.18		ng/L		109	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.36		ng/L		118	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.38		ng/L		119	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	1.97	J	ng/L		99	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.00	2.23		ng/L		111	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.21		ng/L		110	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	1.95	J	ng/L		97	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.12		ng/L		106	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.06		ng/L		103	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	1.92	J	ng/L		96	50 - 150

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*79*		*50 - 200*
13C6 PFDA	*90*		*50 - 200*
13C5 PFHxA	*92*		*50 - 200*
13C4 PFHpA	*90*		*50 - 200*
13C8 PFOA	*92*		*50 - 200*
13C9 PFNA	*93*		*50 - 200*
13C7 PFUnA	*86*		*50 - 200*
13C2 PFDoA	*89*		*50 - 200*
13C4 PFBA	*90*		*50 - 200*
13C5 PFPeA	*97*		*50 - 200*
13C3 PFBS	*82*		*50 - 200*
13C3 PFHxS	*90*		*50 - 200*
13C8 PFOS	*89*		*50 - 200*

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

Lab Sample ID: MRL 380-34733/22-A
Matrix: Water
Analysis Batch: 35004

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34733

Isotope Dilution	MRL %Recovery	MRL Qualifier	Limits
13C2-4:2-FTS	98		50 - 200
13C2-6:2-FTS	92		50 - 200
13C2-8:2-FTS	90		50 - 200

Lab Sample ID: 380-39968-3 MS
Matrix: Drinking Water
Analysis Batch: 35004

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)
Prep Type: Total/NA
Prep Batch: 34733

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		60.1	54.3		ng/L		90	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		60.1	53.5		ng/L		89	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		60.1	52.4	*5-	ng/L		87	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND	*5-	60.1	58.3	*5-	ng/L		97	70 - 130
Perfluorobutanesulfonic acid (PFBS)	ND		60.1	57.4		ng/L		93	70 - 130
Perfluorodecanoic acid (PFDA)	ND		60.1	56.5	*5-	ng/L		94	70 - 130
Perfluorododecanoic acid (PFDoA)	ND		60.1	57.0	*5-	ng/L		95	70 - 130
Perfluoroheptanoic acid (PFHpA)	ND		60.1	56.4	*5-	ng/L		92	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	2.2		60.1	58.1		ng/L		93	70 - 130
Perfluorohexanoic acid (PFHxA)	ND		60.1	57.1	*5-	ng/L		92	70 - 130
Perfluorononanoic acid (PFNA)	ND		60.1	59.9	*5-	ng/L		100	70 - 130
Perfluorooctanesulfonic acid (PFOS)	2.2		60.1	58.0		ng/L		93	70 - 130
Perfluorooctanoic acid (PFOA)	2.1		60.1	59.2	*5-	ng/L		95	70 - 130
Perfluoroundecanoic acid (PFUnA)	ND		60.1	57.3	*5-	ng/L		95	70 - 130
Perfluorobutanoic acid (PFBA)	ND		60.1	56.2		ng/L		92	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		60.1	59.8		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		60.1	58.6		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		60.1	57.3		ng/L		95	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		60.1	50.1	*5-	ng/L		83	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		60.1	58.2		ng/L		97	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		60.1	58.8		ng/L		98	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		60.1	52.6		ng/L		87	70 - 130
Perfluoropentanoic acid (PFPeA)	2.1		60.1	58.0		ng/L		93	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	ND		60.1	57.9		ng/L		96	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	ND		60.1	55.0		ng/L		91	70 - 130

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

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3 HFPO-DA	47	*5-	50 - 200
13C6 PFDA	35	*5-	50 - 200
13C5 PFHxA	47	*5-	50 - 200
13C4 PFHpA	41	*5-	50 - 200
13C8 PFOA	36	*5-	50 - 200
13C9 PFNA	32	*5-	50 - 200
13C7 PFUnA	41	*5-	50 - 200
13C2 PFDoA	48	*5-	50 - 200
13C4 PFBA	54		50 - 200
13C5 PFPeA	57		50 - 200
13C3 PFBS	88		50 - 200
13C3 PFHxS	94		50 - 200
13C8 PFOS	92		50 - 200
13C2-4:2-FTS	112		50 - 200
13C2-6:2-FTS	97		50 - 200
13C2-8:2-FTS	96		50 - 200

Lab Sample ID: 380-39968-3 MSD — **Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)**
Matrix: Drinking Water — **Prep Type: Total/NA**
Analysis Batch: 35004 — **Prep Batch: 34733**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		60.2	53.6		ng/L		89	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		60.2	53.0		ng/L		88	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		60.2	51.1	*5-	ng/L		85	70 - 130	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND	*5-	60.2	57.8		ng/L		96	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	ND		60.2	56.0		ng/L		91	70 - 130	2	30
Perfluorodecanoic acid (PFDA)	ND		60.2	56.0		ng/L		93	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	ND		60.2	57.6		ng/L		96	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	ND		60.2	58.2	*5-	ng/L		95	70 - 130	3	30
Perfluorohexanesulfonic acid (PFHxS)	2.2		60.2	58.0		ng/L		93	70 - 130	0	30
Perfluorohexanoic acid (PFHxA)	ND		60.2	57.8		ng/L		93	70 - 130	1	30
Perfluorononanoic acid (PFNA)	ND		60.2	58.4	*5-	ng/L		97	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	2.2		60.2	59.3		ng/L		95	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	2.1		60.2	59.0	*5-	ng/L		95	70 - 130	0	30
Perfluoroundecanoic acid (PFUnA)	ND		60.2	57.9		ng/L		96	70 - 130	1	30
Perfluorobutanoic acid (PFBA)	ND		60.2	57.2		ng/L		93	70 - 130	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		60.2	59.8		ng/L		99	70 - 130	0	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		60.2	56.2		ng/L		93	70 - 130	4	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		60.2	58.9		ng/L		98	70 - 130	3	30

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

Lab Sample ID: 380-39968-3 MSD
Matrix: Drinking Water
Analysis Batch: 35004

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)
Prep Type: Total/NA
Prep Batch: 34733

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		60.2	54.7		ng/L		91	70 - 130	9	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		60.2	53.8		ng/L		89	70 - 130	8	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		60.2	55.9		ng/L		93	70 - 130	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		60.2	52.8		ng/L		88	70 - 130	0	30
Perfluoropentanoic acid (PFPeA)	2.1		60.2	56.9		ng/L		91	70 - 130	2	30
Perfluoroheptanesulfonic acid (PFHpS)	ND		60.2	58.3		ng/L		97	70 - 130	1	30
Perfluoropentanesulfonic acid (PFPeS)	ND		60.2	57.0		ng/L		94	70 - 130	4	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C3 HFPO-DA	*51*		*50 - 200*
13C6 PFDA	*52*		*50 - 200*
13C5 PFHxA	*54*		*50 - 200*
13C4 PFHpA	*48*	*5-*	*50 - 200*
13C8 PFOA	*46*	*5-*	*50 - 200*
13C9 PFNA	*47*	*5-*	*50 - 200*
13C7 PFUnA	*55*		*50 - 200*
13C2 PFDoA	*62*		*50 - 200*
13C4 PFBA	*66*		*50 - 200*
13C5 PFPeA	*63*		*50 - 200*
13C3 PFBS	*92*		*50 - 200*
13C3 PFHxS	*95*		*50 - 200*
13C8 PFOS	*93*		*50 - 200*
13C2-4:2-FTS	*110*		*50 - 200*
13C2-6:2-FTS	*95*		*50 - 200*
13C2-8:2-FTS	*93*		*50 - 200*

Lab Sample ID: MBL 380-34852/21-A
Matrix: Water
Analysis Batch: 35136

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34852

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		03/26/23 17:30	03/30/23 14:43	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 14:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 14:43	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 14:43	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 14:43	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 14:43	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 14:43	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 14:43	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 14:43	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 14:43	1

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

Lab Sample ID: MBL 380-34852/21-A
Matrix: Water
Analysis Batch: 35136

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34852

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 14:43	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 14:43	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 14:43	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 14:43	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 14:43	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 14:43	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 14:43	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 14:43	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 14:43	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 14:43	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 14:43	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 14:43	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 14:43	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 14:43	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		03/26/23 17:30	03/30/23 14:43	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*84*		*50 - 200*	*03/26/23 17:30*	*03/30/23 14:43*	*1*
13C6 PFDA	*93*		*50 - 200*	*03/26/23 17:30*	*03/30/23 14:43*	*1*
13C5 PFHxA	*86*		*50 - 200*	*03/26/23 17:30*	*03/30/23 14:43*	*1*
13C4 PFHpA	*85*		*50 - 200*	*03/26/23 17:30*	*03/30/23 14:43*	*1*
13C8 PFOA	*90*		*50 - 200*	*03/26/23 17:30*	*03/30/23 14:43*	*1*
13C9 PFNA	*87*		*50 - 200*	*03/26/23 17:30*	*03/30/23 14:43*	*1*
13C7 PFUnA	*82*		*50 - 200*	*03/26/23 17:30*	*03/30/23 14:43*	*1*
13C2 PFDoA	*83*		*50 - 200*	*03/26/23 17:30*	*03/30/23 14:43*	*1*
13C4 PFBA	*86*		*50 - 200*	*03/26/23 17:30*	*03/30/23 14:43*	*1*
13C5 PFPeA	*85*		*50 - 200*	*03/26/23 17:30*	*03/30/23 14:43*	*1*
13C3 PFBS	*88*		*50 - 200*	*03/26/23 17:30*	*03/30/23 14:43*	*1*
13C3 PFHxS	*87*		*50 - 200*	*03/26/23 17:30*	*03/30/23 14:43*	*1*
13C8 PFOS	*86*		*50 - 200*	*03/26/23 17:30*	*03/30/23 14:43*	*1*
13C2-4:2-FTS	*108*		*50 - 200*	*03/26/23 17:30*	*03/30/23 14:43*	*1*
13C2-6:2-FTS	*100*		*50 - 200*	*03/26/23 17:30*	*03/30/23 14:43*	*1*
13C2-8:2-FTS	*154*		*50 - 200*	*03/26/23 17:30*	*03/30/23 14:43*	*1*

Lab Sample ID: LCS 380-34852/23-A
Matrix: Water
Analysis Batch: 35136

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34852

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			60.1	55.7		ng/L		93	70 - 130		

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

Lab Sample ID: LCS 380-34852/23-A
Matrix: Water
Analysis Batch: 35136

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34852

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.1	55.0		ng/L		92	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.1	55.0		ng/L		91	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.1	56.9		ng/L		95	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.1	58.1		ng/L		97	70 - 130
Perfluorodecanoic acid (PFDA)	60.1	58.1		ng/L		97	70 - 130
Perfluorododecanoic acid (PFDoA)	60.1	58.3		ng/L		97	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.1	56.8		ng/L		95	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.1	56.2		ng/L		93	70 - 130
Perfluorohexanoic acid (PFHxA)	60.1	57.5		ng/L		96	70 - 130
Perfluorononanoic acid (PFNA)	60.1	57.4		ng/L		95	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.1	57.0		ng/L		95	70 - 130
Perfluorooctanoic acid (PFOA)	60.1	56.2		ng/L		93	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.1	57.6		ng/L		96	70 - 130
Perfluorobutanoic acid (PFBA)	60.1	58.8		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.1	57.9		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.1	59.8		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.1	61.3		ng/L		102	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.1	56.6		ng/L		94	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	60.1	59.3		ng/L		99	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.1	57.7		ng/L		96	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.1	56.4		ng/L		94	70 - 130
Perfluoropentanoic acid (PFPeA)	60.1	59.5		ng/L		99	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.1	58.9		ng/L		98	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	60.1	55.9		ng/L		93	70 - 130

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*85*		*50 - 200*
13C6 PFDA	*85*		*50 - 200*
13C5 PFHxA	*84*		*50 - 200*
13C4 PFHpA	*85*		*50 - 200*
13C8 PFOA	*91*		*50 - 200*
13C9 PFNA	*90*		*50 - 200*
13C7 PFUnA	*84*		*50 - 200*
13C2 PFDoA	*82*		*50 - 200*
13C4 PFBA	*87*		*50 - 200*

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

Lab Sample ID: LCS 380-34852/23-A
Matrix: Water
Analysis Batch: 35136

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34852

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C5 PFPeA	85		50 - 200
13C3 PFBS	86		50 - 200
13C3 PFHxS	88		50 - 200
13C8 PFOS	90		50 - 200
13C2-4:2-FTS	97		50 - 200
13C2-6:2-FTS	93		50 - 200
13C2-8:2-FTS	92		50 - 200

Lab Sample ID: LCSD 380-34852/24-A
Matrix: Water
Analysis Batch: 35136

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34852

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	56.8		ng/L		94	70 - 130	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			60.1	56.1		ng/L		93	70 - 130	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			60.1	55.8		ng/L		93	70 - 130	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			60.1	58.5		ng/L		97	70 - 130	3	30
Perfluorobutanesulfonic acid (PFBS)			60.1	58.0		ng/L		96	70 - 130	0	30
Perfluorodecanoic acid (PFDA)			60.1	57.6		ng/L		96	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)			60.1	55.8		ng/L		93	70 - 130	5	30
Perfluoroheptanoic acid (PFHpA)			60.1	56.7		ng/L		94	70 - 130	0	30
Perfluorohexanesulfonic acid (PFHxS)			60.1	56.1		ng/L		93	70 - 130	0	30
Perfluorohexanoic acid (PFHxA)			60.1	56.8		ng/L		95	70 - 130	1	30
Perfluorononanoic acid (PFNA)			60.1	57.9		ng/L		96	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)			60.1	55.8		ng/L		93	70 - 130	2	30
Perfluorooctanoic acid (PFOA)			60.1	56.8		ng/L		95	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)			60.1	59.6		ng/L		99	70 - 130	3	30
Perfluorobutanoic acid (PFBA)			60.1	59.9		ng/L		100	70 - 130	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)			60.1	59.3		ng/L		99	70 - 130	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			60.1	57.1		ng/L		95	70 - 130	5	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			60.1	58.1		ng/L		97	70 - 130	5	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			60.1	54.9		ng/L		91	70 - 130	3	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			60.1	57.5		ng/L		96	70 - 130	3	30
Perfluoro-3-methoxypropanoic acid (PFMPA)			60.1	60.2		ng/L		100	70 - 130	4	30
Perfluoro-4-methoxybutanoic acid (PFMBA)			60.1	55.6		ng/L		92	70 - 130	1	30

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

Lab Sample ID: LCSD 380-34852/24-A
Matrix: Water
Analysis Batch: 35136

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34852

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanoic acid (PFPeA)			60.1	56.5		ng/L		94	70 - 130	5	30
Perfluoroheptanesulfonic acid (PFHpS)			60.1	60.0		ng/L		100	70 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)			60.1	53.7		ng/L		89	70 - 130	4	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*85*		*50 - 200*
13C6 PFDA	*87*		*50 - 200*
13C5 PFHxA	*90*		*50 - 200*
13C4 PFHpA	*89*		*50 - 200*
13C8 PFOA	*89*		*50 - 200*
13C9 PFNA	*88*		*50 - 200*
13C7 PFUnA	*82*		*50 - 200*
13C2 PFDoA	*87*		*50 - 200*
13C4 PFBA	*88*		*50 - 200*
13C5 PFPeA	*88*		*50 - 200*
13C3 PFBS	*83*		*50 - 200*
13C3 PFHxS	*85*		*50 - 200*
13C8 PFOS	*85*		*50 - 200*
13C2-4:2-FTS	*93*		*50 - 200*
13C2-6:2-FTS	*88*		*50 - 200*
13C2-8:2-FTS	*88*		*50 - 200*

Lab Sample ID: MRL 380-34852/22-A
Matrix: Water
Analysis Batch: 35136

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34852

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.00	2.03		ng/L		101	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			2.00	1.97	J	ng/L		99	50 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.00	2.12		ng/L		106	50 - 150		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			2.00	2.13		ng/L		107	50 - 150		
Perfluorobutanesulfonic acid (PFBS)			2.00	1.97	J	ng/L		99	50 - 150		
Perfluorodecanoic acid (PFDA)			2.00	2.20		ng/L		110	50 - 150		
Perfluorododecanoic acid (PFDoA)			2.00	2.23		ng/L		112	50 - 150		
Perfluoroheptanoic acid (PFHpA)			2.00	2.13		ng/L		107	50 - 150		
Perfluorohexanesulfonic acid (PFHxS)			2.00	2.07		ng/L		104	50 - 150		
Perfluorohexanoic acid (PFHxA)			2.00	2.13		ng/L		106	50 - 150		
Perfluorononanoic acid (PFNA)			2.00	2.14		ng/L		107	50 - 150		
Perfluorooctanesulfonic acid (PFOS)			2.00	2.05		ng/L		102	50 - 150		
Perfluorooctanoic acid (PFOA)			2.00	2.22		ng/L		111	50 - 150		

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

Lab Sample ID: MRL 380-34852/22-A
Matrix: Water
Analysis Batch: 35136

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34852

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.00	2.26		ng/L		113	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.14		ng/L		107	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.07		ng/L		103	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.13		ng/L		107	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.26		ng/L		113	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	1.95	J	ng/L		97	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.00	2.12		ng/L		106	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.13		ng/L		106	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	1.88	J	ng/L		94	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.12		ng/L		106	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.09		ng/L		105	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	2.03		ng/L		102	50 - 150

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*85*		*50 - 200*
13C6 PFDA	*82*		*50 - 200*
13C5 PFHxA	*92*		*50 - 200*
13C4 PFHpA	*87*		*50 - 200*
13C8 PFOA	*89*		*50 - 200*
13C9 PFNA	*87*		*50 - 200*
13C7 PFUnA	*80*		*50 - 200*
13C2 PFDoA	*81*		*50 - 200*
13C4 PFBA	*86*		*50 - 200*
13C5 PFPeA	*92*		*50 - 200*
13C3 PFBS	*93*		*50 - 200*
13C3 PFHxS	*87*		*50 - 200*
13C8 PFOS	*86*		*50 - 200*
13C2-4:2-FTS	*106*		*50 - 200*
13C2-6:2-FTS	*96*		*50 - 200*
13C2-8:2-FTS	*91*		*50 - 200*

Lab Sample ID: 380-40536-L-4-A LMS
Matrix: Water
Analysis Batch: 35136

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 34852

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	1.85	J	ng/L		92	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.01	1.96	J	ng/L		98	50 - 150

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

Lab Sample ID: 380-40536-L-4-A LMS
Matrix: Water
Analysis Batch: 35136

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 34852

Analyte	Sample Result	Sample Qualifier	Spike Added	LMS Result	LMS Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.01	2.04		ng/L		101	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.01	2.04		ng/L		101	50 - 150
Perfluorobutanesulfonic acid (PFBS)	ND		2.01	2.26		ng/L		113	50 - 150
Perfluorodecanoic acid (PFDA)	ND		2.01	2.23		ng/L		111	50 - 150
Perfluorododecanoic acid (PFDoA)	ND		2.01	2.06		ng/L		103	50 - 150
Perfluoroheptanoic acid (PFHpA)	ND		2.01	2.30		ng/L		115	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	ND		2.01	2.29		ng/L		114	50 - 150
Perfluorohexanoic acid (PFHxA)	ND		2.01	2.30		ng/L		115	50 - 150
Perfluorononanoic acid (PFNA)	ND		2.01	2.18		ng/L		109	50 - 150
Perfluorooctanesulfonic acid (PFOS)	ND		2.01	2.06		ng/L		103	50 - 150
Perfluorooctanoic acid (PFOA)	ND		2.01	2.45		ng/L		98	50 - 150
Perfluoroundecanoic acid (PFUnA)	ND		2.01	2.14		ng/L		106	50 - 150
Perfluorobutanoic acid (PFBA)	ND		2.01	2.21		ng/L		110	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.01	2.39		ng/L		119	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.01	2.19		ng/L		109	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.01	2.25		ng/L		112	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.01	1.92	J	ng/L		96	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.01	2.18		ng/L		109	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.01	2.01		ng/L		100	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.01	1.92	J	ng/L		96	50 - 150
Perfluoropentanoic acid (PFPeA)	ND		2.01	2.52		ng/L		103	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.01	2.04		ng/L		102	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	ND		2.01	2.09		ng/L		104	50 - 150

Isotope Dilution	*LMS %Recovery*	*LMS Qualifier*	*Limits*
13C3 HFPO-DA	*69*		*50 - 200*
13C6 PFDA	*78*		*50 - 200*
13C5 PFHxA	*75*		*50 - 200*
13C4 PFHpA	*74*		*50 - 200*
13C8 PFOA	*79*		*50 - 200*
13C9 PFNA	*79*		*50 - 200*
13C7 PFUnA	*75*		*50 - 200*
13C2 PFDoA	*76*		*50 - 200*
13C4 PFBA	*75*		*50 - 200*
13C5 PFPeA	*76*		*50 - 200*
13C3 PFBS	*85*		*50 - 200*
13C3 PFHxS	*85*		*50 - 200*

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

Lab Sample ID: 380-40536-L-4-A LMS
Matrix: Water
Analysis Batch: 35136

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 34852

Isotope Dilution	LMS %Recovery	LMS Qualifier	Limits
13C8 PFOS	87		50 - 200
13C2-4:2-FTS	96		50 - 200
13C2-6:2-FTS	90		50 - 200
13C2-8:2-FTS	87		50 - 200

Lab Sample ID: 380-40536-M-4-A LMSD
Matrix: Water
Analysis Batch: 35136

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 34852

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	1.94	J	ng/L		97	50 - 150	5	50
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.01	2.02		ng/L		101	50 - 150	3	50
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.01	1.96	J	ng/L		98	50 - 150	4	50
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.01	1.99	J	ng/L		99	50 - 150	2	50
Perfluorobutanesulfonic acid (PFBS)	ND		2.01	2.25		ng/L		112	50 - 150	1	50
Perfluorodecanoic acid (PFDA)	ND		2.01	2.17		ng/L		108	50 - 150	3	50
Perfluorododecanoic acid (PFDoA)	ND		2.01	2.20		ng/L		110	50 - 150	6	50
Perfluoroheptanoic acid (PFHpA)	ND		2.01	2.29		ng/L		114	50 - 150	1	50
Perfluorohexanesulfonic acid (PFHxS)	ND		2.01	2.32		ng/L		116	50 - 150	2	50
Perfluorohexanoic acid (PFHxA)	ND		2.01	2.40		ng/L		119	50 - 150	4	50
Perfluorononanoic acid (PFNA)	ND		2.01	2.16		ng/L		108	50 - 150	1	50
Perfluorooctanesulfonic acid (PFOS)	ND		2.01	2.08		ng/L		103	50 - 150	1	50
Perfluorooctanoic acid (PFOA)	ND		2.01	2.43		ng/L		97	50 - 150	1	50
Perfluoroundecanoic acid (PFUnA)	ND		2.01	2.38		ng/L		118	50 - 150	11	50
Perfluorobutanoic acid (PFBA)	ND		2.01	2.35		ng/L		117	50 - 150	6	50
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.01	2.40		ng/L		120	50 - 150	1	50
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.01	2.19		ng/L		109	50 - 150	0	50
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.01	2.30		ng/L		115	50 - 150	2	50
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.01	2.05		ng/L		102	50 - 150	6	50
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.01	2.13		ng/L		106	50 - 150	3	50
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.01	2.07		ng/L		103	50 - 150	3	50
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.01	2.27		ng/L		113	50 - 150	16	50
Perfluoropentanoic acid (PFPeA)	ND		2.01	2.78		ng/L		116	50 - 150	10	50
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.01	2.16		ng/L		108	50 - 150	6	50

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

Lab Sample ID: 380-40536-M-4-A LMSD
Matrix: Water
Analysis Batch: 35136

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 34852

Analyte	Sample Result	Sample Qualifier	Spike Added	LMSD Result	LMSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanesulfonic acid (PFPeS)	ND		2.01	1.99	J	ng/L		99	50 - 150	5	50

Isotope Dilution	*LMSD %Recovery*	*LMSD Qualifier*	*Limits*
13C3 HFPO-DA	*75*		*50 - 200*
13C6 PFDA	*78*		*50 - 200*
13C5 PFHxA	*77*		*50 - 200*
13C4 PFHpA	*78*		*50 - 200*
13C8 PFOA	*83*		*50 - 200*
13C9 PFNA	*80*		*50 - 200*
13C7 PFUnA	*76*		*50 - 200*
13C2 PFDoA	*77*		*50 - 200*
13C4 PFBA	*76*		*50 - 200*
13C5 PFPeA	*73*		*50 - 200*
13C3 PFBS	*87*		*50 - 200*
13C3 PFHxS	*86*		*50 - 200*
13C8 PFOS	*84*		*50 - 200*
13C2-4:2-FTS	*93*		*50 - 200*
13C2-6:2-FTS	*89*		*50 - 200*
13C2-8:2-FTS	*87*		*50 - 200*

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

Lab Sample ID: MBL 380-33706/1-A
Matrix: Water
Analysis Batch: 33850

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33706

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:17	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:17	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:17	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:17	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:17	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:17	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:17	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:17	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:17	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:17	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:17	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:17	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:17	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:17	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:17	1

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

Lab Sample ID: MBL 380-33706/1-A
Matrix: Water
Analysis Batch: 33850

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33706

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		03/14/23 13:20	03/15/23 19:17	1

Surrogate	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*96*		*70 - 130*	*03/14/23 13:20*	*03/15/23 19:17*	*1*
13C2 PFHxA	*105*		*70 - 130*	*03/14/23 13:20*	*03/15/23 19:17*	*1*
13C2 PFDA	*109*		*70 - 130*	*03/14/23 13:20*	*03/15/23 19:17*	*1*
13C3-GenX	*104*		*70 - 130*	*03/14/23 13:20*	*03/15/23 19:17*	*1*

Lab Sample ID: LCS 380-33706/3-A
Matrix: Water
Analysis Batch: 33850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33706

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			50.1	51.6		ng/L		103	70 - 130		
Perfluorooctanesulfonic acid (PFOS)			46.4	47.4		ng/L		102	70 - 130		
Perfluoroundecanoic acid (PFUnA)			50.1	53.2		ng/L		106	70 - 130		
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			50.1	52.4		ng/L		104	70 - 130		
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			50.1	50.0		ng/L		100	70 - 130		
Perfluorohexanoic acid (PFHxA)			50.1	55.4		ng/L		111	70 - 130		
Perfluorododecanoic acid (PFDoA)			50.1	52.4		ng/L		105	70 - 130		
Perfluorooctanoic acid (PFOA)			50.1	51.9		ng/L		104	70 - 130		
Perfluorodecanoic acid (PFDA)			50.1	53.9		ng/L		108	70 - 130		
Perfluorohexanesulfonic acid (PFHxS)			45.7	47.4		ng/L		104	70 - 130		
Perfluorobutanesulfonic acid (PFBS)			44.3	45.7		ng/L		103	70 - 130		
Perfluoroheptanoic acid (PFHpA)			50.1	53.0		ng/L		106	70 - 130		
Perfluorononanoic acid (PFNA)			50.1	53.4		ng/L		107	70 - 130		
Perfluorotetradecanoic acid (PFTA)			50.1	50.8		ng/L		101	70 - 130		
Perfluorotridecanoic acid (PFTrDA)			50.1	53.5		ng/L		107	70 - 130		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			46.8	47.9		ng/L		102	70 - 130		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			47.3	47.6		ng/L		101	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			47.3	49.7		ng/L		105	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
d5-NEtFOSAA	*89*		*70 - 130*
13C2 PFHxA	*101*		*70 - 130*
13C2 PFDA	*107*		*70 - 130*

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

Lab Sample ID: LCS 380-33706/3-A
Matrix: Water
Analysis Batch: 33850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33706

Surrogate	LCS %Recovery	LCS Qualifier	Limits
13C3-GenX	103		70 - 130

Lab Sample ID: LCSD 380-33706/4-A
Matrix: Water
Analysis Batch: 33850

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33706

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			50.1	49.8		ng/L		99	70 - 130	4	30
Perfluorooctanesulfonic acid (PFOS)			46.4	46.6		ng/L		101	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)			50.1	52.7		ng/L		105	70 - 130	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			50.1	50.1		ng/L		100	70 - 130	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			50.1	51.5		ng/L		103	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)			50.1	53.8		ng/L		107	70 - 130	3	30
Perfluorododecanoic acid (PFDoA)			50.1	51.6		ng/L		103	70 - 130	2	30
Perfluorooctanoic acid (PFOA)			50.1	51.4		ng/L		103	70 - 130	1	30
Perfluorodecanoic acid (PFDA)			50.1	52.9		ng/L		106	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)			45.7	45.7		ng/L		100	70 - 130	4	30
Perfluorobutanesulfonic acid (PFBS)			44.3	43.7		ng/L		99	70 - 130	4	30
Perfluoroheptanoic acid (PFHpA)			50.1	51.2		ng/L		102	70 - 130	4	30
Perfluorononanoic acid (PFNA)			50.1	54.0		ng/L		108	70 - 130	1	30
Perfluorotetradecanoic acid (PFTA)			50.1	51.4		ng/L		103	70 - 130	1	30
Perfluorotridecanoic acid (PFTrDA)			50.1	52.9		ng/L		106	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			46.8	45.3		ng/L		97	70 - 130	6	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			47.3	47.0		ng/L		99	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			47.3	48.4		ng/L		102	70 - 130	3	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
d5-NEtFOSAA	98		70 - 130
13C2 PFHxA	111		70 - 130
13C2 PFDA	115		70 - 130
13C3-GenX	108		70 - 130

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

Lab Sample ID: MRL 380-33706/2-A
Matrix: Water
Analysis Batch: 33850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33706

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.29		ng/L		114	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.86	2.28		ng/L		123	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.45		ng/L		122	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.37		ng/L		118	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.51		ng/L		125	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.43		ng/L		121	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.47		ng/L		123	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.56		ng/L		128	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.53		ng/L		126	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.83	2.32		ng/L		127	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.77	2.00		ng/L		113	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.44		ng/L		122	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.50		ng/L		125	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.50		ng/L		125	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.42		ng/L		121	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.87	2.23		ng/L		119	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.89	2.10		ng/L		111	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	2.33		ng/L		123	50 - 150

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
d5-NEtFOSAA	*89*		*70 - 130*
13C2 PFHxA	*102*		*70 - 130*
13C2 PFDA	*103*		*70 - 130*
13C3-GenX	*99*		*70 - 130*

Lab Sample ID: 380-39968-1 MS
Matrix: Drinking Water
Analysis Batch: 33850

Client Sample ID: MOANALUA WELLS (331-223-TP202)
Prep Type: Total/NA
Prep Batch: 33706

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		25.2	25.8		ng/L		103	70 - 130
Perfluorooctanesulfonic acid (PFOS)	ND		23.3	25.9		ng/L		104	70 - 130
Perfluoroundecanoic acid (PFUnA)	ND		25.2	26.0		ng/L		103	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		25.2	26.9		ng/L		107	70 - 130

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

Lab Sample ID: 380-39968-1 MS
Matrix: Drinking Water
Analysis Batch: 33850

Client Sample ID: MOANALUA WELLS (331-223-TP202)
Prep Type: Total/NA
Prep Batch: 33706

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		25.2	25.7		ng/L		102	70 - 130
Perfluorohexanoic acid (PFHxA)	ND		25.2	27.2		ng/L		104	70 - 130
Perfluorododecanoic acid (PFDoA)	ND		25.2	26.3		ng/L		105	70 - 130
Perfluorooctanoic acid (PFOA)	ND		25.2	27.1		ng/L		104	70 - 130
Perfluorodecanoic acid (PFDA)	ND		25.2	26.5		ng/L		106	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	ND		23.0	26.4		ng/L		108	70 - 130
Perfluorobutanesulfonic acid (PFBS)	ND		22.3	24.0		ng/L		105	70 - 130
Perfluoroheptanoic acid (PFHpA)	ND		25.2	28.2		ng/L		109	70 - 130
Perfluorononanoic acid (PFNA)	ND		25.2	27.6		ng/L		110	70 - 130
Perfluorotetradecanoic acid (PFTA)	ND		25.2	27.3		ng/L		109	70 - 130
Perfluorotridecanoic acid (PFTrDA)	ND		25.2	26.2		ng/L		104	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		23.5	24.2		ng/L		103	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		23.8	23.8		ng/L		100	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		23.8	26.0		ng/L		109	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
d5-NEtFOSAA	*85*		*70 - 130*
13C2 PFHxA	*101*		*70 - 130*
13C2 PFDA	*102*		*70 - 130*
13C3-GenX	*97*		*70 - 130*

Lab Sample ID: 380-39968-4 DU
Matrix: Drinking Water
Analysis Batch: 33850

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Prep Type: Total/NA
Prep Batch: 33706

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: 380-39968-4 DU
Matrix: Drinking Water
Analysis Batch: 33850

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Prep Type: Total/NA
Prep Batch: 33706

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	*88*		*70 - 130*
13C2 PFHxA	*102*		*70 - 130*
13C2 PFDA	*103*		*70 - 130*
13C3-GenX	*102*		*70 - 130*

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

Lab Sample ID: 104491-B1
Matrix: BlankMatrix
Analysis Batch: O-40154

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-40154_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1
Acenaphthene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1
Acenaphthylene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1
Anthracene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1
Biphenyl	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1
Chrysene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1
Dibenzothiophene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1

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

Lab Sample ID: 104491-B1
Matrix: BlankMatrix
Analysis Batch: O-40154

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-40154_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		03/10/23 00:00	03/30/23 19:35	1
Fluoranthene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1
Fluorene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1
Naphthalene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1
Perylene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1
Phenanthrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1
Pyrene	ND		0.005	0.001	µg/L		03/10/23 00:00	03/30/23 19:35	1

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*91*		*27 - 133*	*03/10/23 00:00*	*03/30/23 19:35*	*1*
(d10-Phenanthrene)	*98*		*43 - 129*	*03/10/23 00:00*	*03/30/23 19:35*	*1*
(d12-Chrysene)	*109*		*52 - 144*	*03/10/23 00:00*	*03/30/23 19:35*	*1*
(d12-Perylene)	*91*		*36 - 161*	*03/10/23 00:00*	*03/30/23 19:35*	*1*
(d8-Naphthalene)	*87*		*25 - 125*	*03/10/23 00:00*	*03/30/23 19:35*	*1*

Lab Sample ID: 104491-BS1
Matrix: BlankMatrix
Analysis Batch: O-40154

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-40154_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.5	0.439		µg/L		88	31 - 128
1-Methylphenanthrene	0.5	0.45		µg/L		90	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.433		µg/L		87	55 - 122
2,6-Dimethylnaphthalene	0.5	0.443		µg/L		89	48 - 120
2-Methylnaphthalene	0.5	0.435		µg/L		87	47 - 130
Acenaphthene	0.5	0.447		µg/L		89	53 - 131
Acenaphthylene	0.5	0.443		µg/L		89	43 - 140
Anthracene	0.5	0.437		µg/L		87	58 - 135
Benz[a]anthracene	0.5	0.462		µg/L		92	55 - 145
Benzo[a]pyrene	0.5	0.436		µg/L		87	51 - 143
Benzo[b]fluoranthene	0.5	0.437		µg/L		87	46 - 165
Benzo[e]pyrene	0.5	0.44		µg/L		88	42 - 152
Benzo[g,h,i]perylene	0.5	0.444		µg/L		89	63 - 133
Benzo[k]fluoranthene	0.5	0.428		µg/L		86	56 - 145
Biphenyl	0.5	0.451		µg/L		90	56 - 119
Chrysene	0.5	0.467		µg/L		93	56 - 141
Dibenz[a,h]anthracene	0.5	0.409		µg/L		82	55 - 150
Dibenzo[a,l]pyrene	0.5	0.46		µg/L		92	50 - 150
Dibenzothiophene	0.5	0.464		µg/L		93	46 - 126
Disalicylidenepropanediamine	50	49.5		µg/L		99	50 - 150
Fluoranthene	0.5	0.451		µg/L		90	60 - 146
Fluorene	0.5	0.434		µg/L		87	58 - 131
Indeno[1,2,3-cd]pyrene	0.5	0.409		µg/L		82	50 - 151
Naphthalene	0.5	0.437		µg/L		87	41 - 126
Perylene	0.5	0.426		µg/L		85	48 - 141
Phenanthrene	0.5	0.439		µg/L		88	67 - 127
Pyrene	0.5	0.442		µg/L		88	54 - 156

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

Lab Sample ID: 104491-BS1
Matrix: BlankMatrix
Analysis Batch: O-40154

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-40154_P

Surrogate	LCS %Recovery	LCS Qualifier	Limits
(d10-Acenaphthene)	95		27 - 133
(d10-Phenanthrene)	100		43 - 129
(d12-Chrysene)	108		52 - 144
(d12-Perylene)	95		36 - 161
(d8-Naphthalene)	89		25 - 125

Lab Sample ID: 104491-BS2
Matrix: BlankMatrix
Analysis Batch: O-40154

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-40154_P

Analyte			Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene			0.5	0.444		µg/L		89	31 - 128	1	30
1-Methylphenanthrene			0.5	0.444		µg/L		89	66 - 127	1	30
2,3,5-Trimethylnaphthalene			0.5	0.436		µg/L		87	55 - 122	0	30
2,6-Dimethylnaphthalene			0.5	0.449		µg/L		90	48 - 120	1	30
2-Methylnaphthalene			0.5	0.44		µg/L		88	47 - 130	1	30
Acenaphthene			0.5	0.456		µg/L		91	53 - 131	2	30
Acenaphthylene			0.5	0.448		µg/L		90	43 - 140	1	30
Anthracene			0.5	0.434		µg/L		87	58 - 135	0	30
Benz[a]anthracene			0.5	0.457		µg/L		91	55 - 145	1	30
Benzo[a]pyrene			0.5	0.435		µg/L		87	51 - 143	0	30
Benzo[b]fluoranthene			0.5	0.436		µg/L		87	46 - 165	0	30
Benzo[e]pyrene			0.5	0.434		µg/L		87	42 - 152	1	30
Benzo[g,h,i]perylene			0.5	0.439		µg/L		88	63 - 133	1	30
Benzo[k]fluoranthene			0.5	0.441		µg/L		88	56 - 145	2	30
Biphenyl			0.5	0.459		µg/L		92	56 - 119	2	30
Chrysene			0.5	0.467		µg/L		93	56 - 141	0	30
Dibenz[a,h]anthracene			0.5	0.413		µg/L		83	55 - 150	1	30
Dibenzo[a,l]pyrene			0.5	0.463		µg/L		93	50 - 150	1	30
Dibenzothiophene			0.5	0.465		µg/L		93	46 - 126	0	30
Disalicylidenepropanediamine			50	51.9		µg/L		104	50 - 150	5	30
Fluoranthene			0.5	0.449		µg/L		90	60 - 146	0	30
Fluorene			0.5	0.436		µg/L		87	58 - 131	0	30
Indeno[1,2,3-cd]pyrene			0.5	0.416		µg/L		83	50 - 151	1	30
Naphthalene			0.5	0.443		µg/L		89	41 - 126	2	30
Perylene			0.5	0.428		µg/L		86	48 - 141	1	30
Phenanthrene			0.5	0.436		µg/L		87	67 - 127	1	30
Pyrene			0.5	0.442		µg/L		88	54 - 156	0	30

Surrogate	LCS DUP %Recovery	LCS DUP Qualifier	Limits
(d10-Acenaphthene)	96		27 - 133
(d10-Phenanthrene)	100		43 - 129
(d12-Chrysene)	107		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: 23VG39C03B
Matrix: WATER
Analysis Batch: 23VG39C03

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			03/13/23 12:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE					*03/13/23 12:52*	*1*

Lab Sample ID: 23VG39C03L
Matrix: WATER
Analysis Batch: 23VG39C03

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	0.452		mg/L		90	60 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
BROMOFLUOROBENZENE	*116*		*70 - 130*

Lab Sample ID: 23C153-01M
Matrix: WATER
Analysis Batch: 23VG39C03

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	0.473		mg/L		95	50 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
BROMOFLUOROBENZENE	*112*		*60 - 140*

Lab Sample ID: 23C153-01S
Matrix: WATER
Analysis Batch: 23VG39C03

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	0.461		mg/L		92	50 - 130	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
BROMOFLUOROBENZENE	*116*		*60 - 140*

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

Lab Sample ID: 23DSC021WB
Matrix: WATER
Analysis Batch: 23DSC021W

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.025		mg/L			03/20/23 15:32	1
JP5	ND	U	0.050		mg/L			03/20/23 15:32	1
JP8	ND	U	0.050		mg/L			03/20/23 15:32	1
MOTOR OIL	ND	U	0.050		mg/L			03/20/23 15:32	1

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

Lab Sample ID: 23DSC021WB
Matrix: WATER
Analysis Batch: 23DSC021W

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE					03/20/23 15:32	1
HEXACOSANE					03/20/23 15:32	1

Lab Sample ID: 23DSC021WL
Matrix: WATER
Analysis Batch: 23DSC021W

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	2.61		mg/L		104	50 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOBENZENE	89		60 - 130
HEXACOSANE	113		60 - 130

Lab Sample ID: 23J5C021WL
Matrix: WATER
Analysis Batch: 23DSC021W

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
JP5			2.50	1.97		mg/L		79	30 - 160		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOBENZENE	83		60 - 130
HEXACOSANE	98		60 - 130

Lab Sample ID: 23J8C021WL
Matrix: WATER
Analysis Batch: 23DSC021W

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	2.02		mg/L		81	30 - 160		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOBENZENE	93		60 - 130
HEXACOSANE	101		60 - 130

GC/MS Semi VOA

Prep Batch: 33555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-39968-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	525.2	
380-39968-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	525.2	
380-39968-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	525.2	
380-39968-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	525.2	
MB 380-33555/1-A	Method Blank	Total/NA	Water	525.2	
LCS 380-33555/3-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-33555/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-33555/2-A	Lab Control Sample	Total/NA	Water	525.2	
380-37547-T-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-39791-D-1-A DU	Duplicate	Total/NA	Water	525.2	

Analysis Batch: 33584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-39968-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	525.2	33555
380-39968-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	525.2	33555
380-39968-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	525.2	33555
380-39968-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	525.2	33555
MB 380-33555/1-A	Method Blank	Total/NA	Water	525.2	33555
LCS 380-33555/3-A	Lab Control Sample	Total/NA	Water	525.2	33555
LCSD 380-33555/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	33555
MRL 380-33555/2-A	Lab Control Sample	Total/NA	Water	525.2	33555
380-37547-T-1-A MS	Matrix Spike	Total/NA	Water	525.2	33555
380-39791-D-1-A DU	Duplicate	Total/NA	Water	525.2	33555

LCMS

Prep Batch: 33706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-39968-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	537.1 DW	
380-39968-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	537.1 DW	
380-39968-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	537.1 DW	
380-39968-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1 DW	
380-39968-9	FB:MOANALUA WELLS (331-223-TP202)	Total/NA	Water	537.1 DW	
380-39968-10	FB:AIEA WELLS PUMPS 1&2 (260) (331-203-TP	Total/NA	Water	537.1 DW	
380-39968-11	FB:HALAWA WELLS UNITS 1 & 2 (331-206-TP0(	Total/NA	Water	537.1 DW	
380-39968-12	FB:AIEA GULCH WELLS P2 (331-202-TP072)	Total/NA	Water	537.1 DW	
MBL 380-33706/1-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-33706/3-A	Lab Control Sample	Total/NA	Water	537.1 DW	
LCSD 380-33706/4-A	Lab Control Sample Dup	Total/NA	Water	537.1 DW	
MRL 380-33706/2-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-39968-1 MS	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	537.1 DW	
380-39968-4 DU	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1 DW	

Analysis Batch: 33850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-39968-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	537.1	33706
380-39968-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	537.1	33706
380-39968-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	537.1	33706
380-39968-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1	33706
380-39968-9	FB:MOANALUA WELLS (331-223-TP202)	Total/NA	Water	537.1	33706
380-39968-10	FB:AIEA WELLS PUMPS 1&2 (260) (331-203-TP	Total/NA	Water	537.1	33706

LCMS (Continued)

Analysis Batch: 33850 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-39968-11	FB:HALAWA WELLS UNITS 1 & 2 (331-206-TP0	Total/NA	Water	537.1	33706
380-39968-12	FB:AIEA GULCH WELLS P2 (331-202-TP072)	Total/NA	Water	537.1	33706
MBL 380-33706/1-A	Method Blank	Total/NA	Water	537.1	33706
LCS 380-33706/3-A	Lab Control Sample	Total/NA	Water	537.1	33706
LCSD 380-33706/4-A	Lab Control Sample Dup	Total/NA	Water	537.1	33706
MRL 380-33706/2-A	Lab Control Sample	Total/NA	Water	537.1	33706
380-39968-1 MS	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	537.1	33706
380-39968-4 DU	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1	33706

Prep Batch: 34733

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-39968-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	533	
380-39968-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	
380-39968-9	FB:MOANALUA WELLS (331-223-TP202)	Total/NA	Water	533	
380-39968-10	FB:AIEA WELLS PUMPS 1&2 (260) (331-203-TP	Total/NA	Water	533	
380-39968-11	FB:HALAWA WELLS UNITS 1 & 2 (331-206-TP0	Total/NA	Water	533	
380-39968-12	FB:AIEA GULCH WELLS P2 (331-202-TP072)	Total/NA	Water	533	
MB 380-34733/21-A	Method Blank	Total/NA	Water	533	
LCS 380-34733/23-A	Lab Control Sample	Total/NA	Water	533	
LCSD 380-34733/24-A	Lab Control Sample Dup	Total/NA	Water	533	
MRL 380-34733/22-A	Lab Control Sample	Total/NA	Water	533	
380-39968-3 MS	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	533	
380-39968-3 MSD	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	533	

Prep Batch: 34852

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-39968-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	
380-39968-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	533	
MBL 380-34852/21-A	Method Blank	Total/NA	Water	533	
LCS 380-34852/23-A	Lab Control Sample	Total/NA	Water	533	
LCSD 380-34852/24-A	Lab Control Sample Dup	Total/NA	Water	533	
MRL 380-34852/22-A	Lab Control Sample	Total/NA	Water	533	
380-40536-L-4-A LMS	Matrix Spike	Total/NA	Water	533	
380-40536-M-4-A LMSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 35004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-39968-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	533	34733
380-39968-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	34733
380-39968-9	FB:MOANALUA WELLS (331-223-TP202)	Total/NA	Water	533	34733
380-39968-10	FB:AIEA WELLS PUMPS 1&2 (260) (331-203-TP	Total/NA	Water	533	34733
380-39968-11	FB:HALAWA WELLS UNITS 1 & 2 (331-206-TP0	Total/NA	Water	533	34733
380-39968-12	FB:AIEA GULCH WELLS P2 (331-202-TP072)	Total/NA	Water	533	34733
MB 380-34733/21-A	Method Blank	Total/NA	Water	533	34733
LCS 380-34733/23-A	Lab Control Sample	Total/NA	Water	533	34733
LCSD 380-34733/24-A	Lab Control Sample Dup	Total/NA	Water	533	34733
MRL 380-34733/22-A	Lab Control Sample	Total/NA	Water	533	34733
380-39968-3 MS	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	533	34733
380-39968-3 MSD	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	533	34733

QC Association Summary

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

Job ID: 380-39968-1

LCMS

Analysis Batch: 35136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-39968-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	34852
380-39968-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	533	34852
MBL 380-34852/21-A	Method Blank	Total/NA	Water	533	34852
LCS 380-34852/23-A	Lab Control Sample	Total/NA	Water	533	34852
LCSD 380-34852/24-A	Lab Control Sample Dup	Total/NA	Water	533	34852
MRL 380-34852/22-A	Lab Control Sample	Total/NA	Water	533	34852
380-40536-L-4-A LMS	Matrix Spike	Total/NA	Water	533	34852
380-40536-M-4-A LMSD	Matrix Spike Duplicate	Total/NA	Water	533	34852

Subcontract

Analysis Batch: O-40154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-39968-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-40154_P
380-39968-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-40154_P
380-39968-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-40154_P
380-39968-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-40154_P
104491-B1	Method Blank	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40154_P
104491-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40154_P
104491-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40154_P

Analysis Batch: 23DSC021W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-39968-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/JP8	
380-39968-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/JP8	
380-39968-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/JP8	
380-39968-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/JP8	
23DSC021WB	Method Blank	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	
23DSC021WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	
23J5C021WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	
23J8C021WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	

Subcontract

Analysis Batch: 23VG39C03

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-39968-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-39968-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-39968-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-39968-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-39968-5	TB:MOANALUA WELLS (331-223-TP202)	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-39968-6	TB: AIEA WELLS PUMPS 1&2 (260) (331-203-TF	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-39968-7	TB: HALAWA WELLS UNITS 1&2 (331-206-TP06	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-39968-8	TB:AIEA GULCH WELLS P2 (331-202-TP072)	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
23VG39C03B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23VG39C03L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23C153-01M	Matrix Spike	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23C153-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Prep Batch: O-40154_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-39968-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	EPA_625	
380-39968-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40(	Total/NA	Drinking Water	EPA_625	
380-39968-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	EPA_625	
380-39968-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	EPA_625	
104491-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
104491-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
104491-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	

Lab Chronicle

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

Job ID: 380-39968-1

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

Lab Sample ID: 380-39968-1

Date Collected: 03/07/23 09:47
Date Received: 03/09/23 09:20

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			33555	N8NE	EA MON	03/12/23 12:12
Total/NA	Analysis	525.2		1	33584	Q8LA	EA MON	03/13/23 17:57
Total/NA	Prep	533			34852	J9ZD	EA MON	03/26/23 17:30
Total/NA	Analysis	533		1	35136	UKYM	EA MON	03/30/23 15:51
Total/NA	Prep	537.1 DW			33706	P8ZX	EA MON	03/14/23 13:20
Total/NA	Analysis	537.1		1	33850	UKYM	EA MON	03/15/23 19:57
Total/NA	Prep	EPA_625		1	O-40154_P			03/10/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-40154	YC		03/31/23 00:55
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39C03	SCerva		03/13/23 17:05
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSC021W	SDees		03/20/23 17:42

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

Lab Sample ID: 380-39968-2

Date Collected: 03/07/23 10:44
Date Received: 03/09/23 09:20

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			33555	N8NE	EA MON	03/12/23 12:12
Total/NA	Analysis	525.2		1	33584	Q8LA	EA MON	03/13/23 18:17
Total/NA	Prep	533			34852	J9ZD	EA MON	03/26/23 17:30
Total/NA	Analysis	533		1	35136	UKYM	EA MON	03/30/23 16:01
Total/NA	Prep	537.1 DW			33706	P8ZX	EA MON	03/14/23 13:20
Total/NA	Analysis	537.1		1	33850	UKYM	EA MON	03/15/23 22:33
Total/NA	Prep	EPA_625		1	O-40154_P			03/10/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-40154	YC		03/31/23 02:42
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39C03	SCerva		03/13/23 18:53
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSC021W	SDees		03/20/23 18:01

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

Lab Sample ID: 380-39968-3

Date Collected: 03/07/23 10:19
Date Received: 03/09/23 09:20

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			33555	N8NE	EA MON	03/12/23 12:12
Total/NA	Analysis	525.2		1	33584	Q8LA	EA MON	03/13/23 18:38
Total/NA	Prep	533			34733	EE6W	EA MON	03/24/23 16:52
Total/NA	Analysis	533		1	35004	UKYM	EA MON	03/29/23 09:43
Total/NA	Prep	537.1 DW			33706	P8ZX	EA MON	03/14/23 13:20
Total/NA	Analysis	537.1		1	33850	UKYM	EA MON	03/15/23 22:42

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

Lab Sample ID: 380-39968-3

Date Collected: 03/07/23 10:19

Matrix: Drinking Water

Date Received: 03/09/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA_625		1	O-40154_P			03/10/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-40154	YC		03/31/23 04:28
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39C03	SCerva		03/13/23 19:29
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSC021W	SDees		03/20/23 18:19

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

Lab Sample ID: 380-39968-4

Date Collected: 03/07/23 11:09

Matrix: Drinking Water

Date Received: 03/09/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			33555	N8NE	EA MON	03/12/23 12:12
Total/NA	Analysis	525.2		1	33584	Q8LA	EA MON	03/13/23 18:58
Total/NA	Prep	533			34733	EE6W	EA MON	03/24/23 16:52
Total/NA	Analysis	533		1	35004	UKYM	EA MON	03/29/23 10:30
Total/NA	Prep	537.1 DW			33706	P8ZX	EA MON	03/14/23 13:20
Total/NA	Analysis	537.1		1	33850	UKYM	EA MON	03/15/23 20:16
Total/NA	Prep	EPA_625		1	O-40154_P			03/10/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-40154	YC		03/31/23 06:15
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39C03	SCerva		03/13/23 20:05
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSC021W	SDees		03/20/23 18:38

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

Lab Sample ID: 380-39968-5

Date Collected: 03/07/23 09:47

Matrix: Water

Date Received: 03/09/23 09:20

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	23VG39C03	SCerva		03/13/23 20:41

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

Lab Sample ID: 380-39968-6

Date Collected: 03/07/23 10:44

Matrix: Water

Date Received: 03/09/23 09:20

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	23VG39C03	SCerva		03/13/23 21:17

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

Lab Sample ID: 380-39968-7

Date Collected: 03/07/23 10:19
Date Received: 03/09/23 09:20

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	23VG39C03	SCerva		03/13/23 21:52

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

Lab Sample ID: 380-39968-8

Date Collected: 03/07/23 11:09
Date Received: 03/09/23 09:20

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	23VG39C03	SCerva		03/13/23 22:28

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

Lab Sample ID: 380-39968-9

Date Collected: 03/07/23 09:47
Date Received: 03/09/23 09:20

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			34733	EE6W	EA MON	03/24/23 16:52
Total/NA	Analysis	533		1	35004	UKYM	EA MON	03/29/23 10:40
Total/NA	Prep	537.1 DW			33706	P8ZX	EA MON	03/14/23 13:20
Total/NA	Analysis	537.1		1	33850	UKYM	EA MON	03/15/23 22:52

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

Lab Sample ID: 380-39968-10

Date Collected: 03/07/23 10:44
Date Received: 03/09/23 09:20

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			34733	EE6W	EA MON	03/24/23 16:52
Total/NA	Analysis	533		1	35004	UKYM	EA MON	03/29/23 10:50
Total/NA	Prep	537.1 DW			33706	P8ZX	EA MON	03/14/23 13:20
Total/NA	Analysis	537.1		1	33850	UKYM	EA MON	03/15/23 23:01

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

Lab Sample ID: 380-39968-11

Date Collected: 03/07/23 10:19
Date Received: 03/09/23 09:20

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			34733	EE6W	EA MON	03/24/23 16:52
Total/NA	Analysis	533		1	35004	UKYM	EA MON	03/29/23 10:59
Total/NA	Prep	537.1 DW			33706	P8ZX	EA MON	03/14/23 13:20
Total/NA	Analysis	537.1		1	33850	UKYM	EA MON	03/15/23 23:11

Lab Chronicle

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

Job ID: 380-39968-1

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

Lab Sample ID: 380-39968-12

Date Collected: 03/07/23 11:09

Matrix: Water

Date Received: 03/09/23 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			34733	EE6W	EA MON	03/24/23 16:52
Total/NA	Analysis	533		1	35004	UKYM	EA MON	03/29/23 11:09
Total/NA	Prep	537.1 DW			33706	P8ZX	EA MON	03/14/23 13:20
Total/NA	Analysis	537.1		1	33850	UKYM	EA MON	03/15/23 23:21

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: 380-39968-1

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: 380-39968-1

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: 380-39968-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-39968-1	MOANALUA WELLS (331-223-TP202)	Drinking Water	03/07/23 09:47	03/09/23 09:20	HI0000331
380-39968-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Drinking Water	03/07/23 10:44	03/09/23 09:20	HI0000331
380-39968-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Drinking Water	03/07/23 10:19	03/09/23 09:20	HI0000331
380-39968-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Drinking Water	03/07/23 11:09	03/09/23 09:20	HI0000331
380-39968-5	TB:MOANALUA WELLS (331-223-TP202)	Water	03/07/23 09:47	03/09/23 09:20	
380-39968-6	TB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Water	03/07/23 10:44	03/09/23 09:20	
380-39968-7	TB: HALAWA WELLS UNITS 1&2 (331-206-TP065)	Water	03/07/23 10:19	03/09/23 09:20	
380-39968-8	TB:AIEA GULCH WELLS P2 (331-202-TP072)	Water	03/07/23 11:09	03/09/23 09:20	
380-39968-9	FB:MOANALUA WELLS (331-223-TP202)	Water	03/07/23 09:47	03/09/23 09:20	
380-39968-10	FB:AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Water	03/07/23 10:44	03/09/23 09:20	
380-39968-11	FB:HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Water	03/07/23 10:19	03/09/23 09:20	
380-39968-12	FB:AIEA GULCH WELLS P2 (331-202-TP072)	Water	03/07/23 11:09	03/09/23 09:20	

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

Date: 03-28-2023
EMAX Batch No.: 23C153

Attn: Jackie Contreras

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

Subject: Laboratory Report
Project: 380-39968

Enclosed is the Laboratory report for samples received on 03/11/23.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-39968-1	C153-01	03/07/23	WATER	TPH GASOLINE
				TPH
380-39968-2	C153-02	03/07/23	WATER	TPH GASOLINE
				TPH
380-39968-3	C153-03	03/07/23	WATER	TPH GASOLINE
				TPH
380-39968-4	C153-04	03/07/23	WATER	TPH GASOLINE
				TPH
380-39968-5	C153-05	03/07/23	WATER	TPH GASOLINE
380-39968-6	C153-06	03/07/23	WATER	TPH GASOLINE
380-39968-7	C153-07	03/07/23	WATER	TPH GASOLINE
380-39968-8	C153-08	03/07/23	WATER	TPH GASOLINE
380-39968-1MS	C153-01M	03/07/23	WATER	TPH GASOLINE
380-39968-1MSD	C153-01S	03/07/23	WATER	TPH GASOLINE

The results are summarized on the following pages.

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

Sincerely yours,

Caspar J. Pang
Laboratory Director

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

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

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

23C153

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-41475.1
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 #: 380-39968-1
Address: 3051 Fujita Street, ,	Due Date Requested: 3/23/2023			
City: Torrance	TAT Requested (days):			
State, Zip: CA, 90505	PO #:			
Phone:	WO #:			
Email:	Project #: 38001111			
Project Name: RED-HILL	SSOW#:			
Site: Honolulu BWS Sites				

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:

Analysis Requested

	Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (8015 Gas (Purgeable) LL (EAL)/ 8015 Gas (Purgeable) LL (EAL)	SUB (8015 LL DRO/MRO/JP5/JP8)/ 8015 LL DRO/MRO/JP5/JP8	Total Number of containers	Special Instructions/Note:
				Preservation Code:							
1	MOANALUA WELLS (331-223-TP202) (380-39968-1)	3/7/23	09:47 Hawaiian		Water			X	X	6	See Attached Instructions
2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400) (380-39968-2)	3/7/23	10:44 Hawaiian		Water			X	X	6	See Attached Instructions
3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065) (380-39968-3)	3/7/23	10:19 Hawaiian		Water			X	X	6	See Attached Instructions
4	AIEA GULCH WELLS PUMP 2 (331-202-TP072) (380-39968-4)	3/7/23	11:09 Hawaiian		Water			X	X	4	See Attached Instructions
5	TB:MOANALUA WELLS (331-223-TP202) (380-39968-5)	3/7/23	09:47 Hawaiian		Water			X		2	See Attached Instructions
6	TB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400) (380-3996	3/7/23	10:44 Hawaiian		Water			X		2	See Attached Instructions
7	TB: HALAWA WELLS UNITS 1&2 (331-206-TP065) (380-39968-7	3/7/23	10:19 Hawaiian		Water			X		2	See Attached Instructions
8	TB:AIEA GULCH WELLS P2 (331-202-TP072) (380-39968-8)	3/7/23	11:09 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: B.REITNER	Date/Time: 03/10/2023	Company CEA	Received by:	Date/Time: 3-10-23 6:30 PM	Company	
Relinquished by:	Date/Time: 3-11-23 11:10	Company	Received by:	Date/Time: 03/11/23	Company 11:10	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: Temp. 2.9/2.7			

Ver: 06/08/2021

EMAX LABORATORIES, INC.

REFERENCE: EMAX-SM02 Rev. 12

SAMPLE RECEIPT FORM 1

Type of Delivery	Airbill / Tracking Number	ECN 23C153
☐ Fedex ☐ UPS ☐ GSO ☐ Others		Recipient Maria Rivera
☐ EMAX Courier ☒ Client Delivery		Date 03/11/23 Time 11:10

COC INSPECTION

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

Note:

PACKAGING INSPECTION

Container ☒ Cooler ☐ Box ☐ Other
Condition correction ☐ Custody Seal ☐ Intact ☐ Damaged
Packaging factor: -0.2 ☒ Bubble Pack ☐ Styrofoam ☐ Popcorn ☐ Sufficient ☐ _____
Temperatures ☒ Cooler 1 2.9/2.7 °C ☐ Cooler 2 _____ °C ☐ Cooler 3 _____ °C ☐ Cooler 4 _____ °C ☐ Cooler 5 _____ °C
(Cool, ≤6 °C but not frozen) ☐ Cooler 6 _____ °C ☐ Cooler 7 _____ °C ☐ Cooler 8 _____ °C ☐ Cooler 9 _____ °C ☐ Cooler 10 _____ °C
Thermometer: A - S/N 221052768 B - S/N 210760237 C - S/N _____ D - S/N _____

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

Note:

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
1-4	5,6,11,12,17,18,23,24	D1	JPS / JP8 not on label	R1 R8
4	19-24	D11	received 6 containers total for all analysis requested	
5-8	25-28, 30, 32	D22	2nd Date reads: 3/3/23	R1

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

NOTES/OBSERVATIONS: Vials → Two labels; one indicates pres. w/ Sodium Thiosulfate, while the other indicates sodium thiosulfate and HCl

SAMPLE MATRIX IS DRINKING WATER? ☐ YES ☐ NO

☐ Continue to next page.

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
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	

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 Maria Rivera Date 03/13/23 — 3/13/23
SRF — Date 3/13/23
PM — Date 3/13/23

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

380-39968

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

SDG#: 23C153

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-39968

SDG : 23C153

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

A total of eight(8) water samples were received on 03/11/23 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. VG39C03B - 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. VG39C03L/VG39C03C 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 C153-01M/C153-01S. 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 : 380-39968

SDG NO. : 23C153
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	VG39C03B	1	NA	03/13/2312:52	03/13/2312:52	EC13004A	EC13003A	23VG39C03	Method Blank
LCS1W	VG39C03L	1	NA	03/13/2313:29	03/13/2313:29	EC13005A	EC13003A	23VG39C03	Lab Control Sample (LCS)
LCD1W	VG39C03C	1	NA	03/13/2314:05	03/13/2314:05	EC13006A	EC13003A	23VG39C03	LCS Duplicate
380-39968-1	C153-01	1	NA	03/13/2317:05	03/13/2317:05	EC13011A	EC13010A	23VG39C03	Field Sample
380-39968-1MS	C153-01M	1	NA	03/13/2317:41	03/13/2317:41	EC13012A	EC13010A	23VG39C03	Matrix Spike Sample (MS)
380-39968-1MSD	C153-01S	1	NA	03/13/2318:17	03/13/2318:17	EC13013A	EC13010A	23VG39C03	MS Duplicate (MSD)
380-39968-2	C153-02	1	NA	03/13/2318:53	03/13/2318:53	EC13014A	EC13010A	23VG39C03	Field Sample
380-39968-3	C153-03	1	NA	03/13/2319:29	03/13/2319:29	EC13015A	EC13010A	23VG39C03	Field Sample
380-39968-4	C153-04	1	NA	03/13/2320:05	03/13/2320:05	EC13016A	EC13010A	23VG39C03	Field Sample
380-39968-5	C153-05	1	NA	03/13/2320:41	03/13/2320:41	EC13017A	EC13010A	23VG39C03	Field Sample
380-39968-6	C153-06	1	NA	03/13/2321:17	03/13/2321:17	EC13018A	EC13010A	23VG39C03	Field Sample
380-39968-7	C153-07	1	NA	03/13/2321:52	03/13/2321:52	EC13019A	EC13010A	23VG39C03	Field Sample
380-39968-8	C153-08	1	NA	03/13/2322:28	03/13/2322:28	EC13020A	EC13010A	23VG39C03	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

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

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/07/23 09:47
Project : 380-39968	Date Received: 03/11/23
Batch No. : 23C153	Date Extracted: 03/13/23 17:05
Sample ID : 380-39968-1	Date Analyzed: 03/13/23 17:05
Lab Samp ID: C153-01	Dilution Factor: 1
Lab File ID: EC13011A	Matrix: WATER
Ext Btch ID: 23VG39C03	% Moisture: NA
Calib. Ref.: EC13010A	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	0.0360	0.0400	90	60-140

Notes:
Parameter H-C Range
Gasoline C6-C10
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 5ml
Final Volume : 5ml
Prepared by : SCerva
Analyzed by : SCerva

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/07/23 10:44
Project	: 380-39968	Date Received:	03/11/23
Batch No.	: 23C153	Date Extracted:	03/13/23 18:53
Sample ID	: 380-39968-2	Date Analyzed:	03/13/23 18:53
Lab Samp ID:	C153-02	Dilution Factor:	1
Lab File ID:	EC13014A	Matrix:	WATER
Ext Btch ID:	23VG39C03	% Moisture:	NA
Calib. Ref.:	EC13010A	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	0.0349	0.0400	87	60-140

Notes:
Parameter H-C Range
Gasoline C6-C10
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 5ml Final Volume : 5ml
Prepared by : SCerva Analyzed by : SCerva

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

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/07/23 10:19
Project : 380-39968	Date Received: 03/11/23
Batch No. : 23C153	Date Extracted: 03/13/23 19:29
Sample ID : 380-39968-3	Date Analyzed: 03/13/23 19:29
Lab Samp ID: C153-03	Dilution Factor: 1
Lab File ID: EC13015A	Matrix: WATER
Ext Btch ID: 23VG39C03	% Moisture: NA
Calib. Ref.: EC13010A	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	0.0371	0.0400	93	60-140

Notes:
Parameter H-C Range
Gasoline C6-C10
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 5ml Final Volume : 5ml
Prepared by : SCerva Analyzed by : SCerva

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

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/07/23 11:09
Project : 380-39968	Date Received: 03/11/23
Batch No. : 23C153	Date Extracted: 03/13/23 20:05
Sample ID : 380-39968-4	Date Analyzed: 03/13/23 20:05
Lab Samp ID: C153-04	Dilution Factor: 1
Lab File ID: EC13016A	Matrix: WATER
Ext Btch ID: 23VG39C03	% Moisture: NA
Calib. Ref.: EC13010A	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	0.0354	0.0400	89	60-140

Notes:
Parameter H-C Range
Gasoline C6-C10
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 5ml
Final Volume : 5ml
Prepared by : SCerva
Analyzed by : SCerva

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/07/23 09:47
Project	: 380-39968	Date Received:	03/11/23
Batch No.	: 23C153	Date Extracted:	03/13/23 20:41
Sample ID	: 380-39968-5	Date Analyzed:	03/13/23 20:41
Lab Samp ID:	C153-05	Dilution Factor:	1
Lab File ID:	EC13017A	Matrix:	WATER
Ext Btch ID:	23VG39C03	% Moisture:	NA
Calib. Ref.:	EC13010A	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	0.0353	0.0400	88	60-140

Notes:
Parameter H-C Range
Gasoline C6-C10
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 5ml Final Volume : 5ml
Prepared by : SCerva Analyzed by : SCerva

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/07/23 10:44
Project	: 380-39968	Date Received:	03/11/23
Batch No.	: 23C153	Date Extracted:	03/13/23 21:17
Sample ID	: 380-39968-6	Date Analyzed:	03/13/23 21:17
Lab Samp ID:	C153-06	Dilution Factor:	1
Lab File ID:	EC13018A	Matrix:	WATER
Ext Btch ID:	23VG39C03	% Moisture:	NA
Calib. Ref.:	EC13010A	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	0.0380	0.0400	95	60-140

Notes:
Parameter H-C Range
Gasoline C6-C10
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 5ml Final Volume : 5ml
Prepared by : SCerva Analyzed by : SCerva

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/07/23 10:19
Project	: 380-39968	Date Received:	03/11/23
Batch No.	: 23C153	Date Extracted:	03/13/23 21:52
Sample ID	: 380-39968-7	Date Analyzed:	03/13/23 21:52
Lab Samp ID:	C153-07	Dilution Factor:	1
Lab File ID:	EC13019A	Matrix:	WATER
Ext Btch ID:	23VG39C03	% Moisture:	NA
Calib. Ref.:	EC13010A	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	0.0345	0.0400	86	60-140

Notes:
Parameter H-C Range
Gasoline C6-C10
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 5ml Final Volume : 5ml
Prepared by : SCerva Analyzed by : SCerva

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/07/23 11:09
Project	: 380-39968	Date Received:	03/11/23
Batch No.	: 23C153	Date Extracted:	03/13/23 22:28
Sample ID	: 380-39968-8	Date Analyzed:	03/13/23 22:28
Lab Samp ID:	C153-08	Dilution Factor:	1
Lab File ID:	EC13020A	Matrix:	WATER
Ext Btch ID:	23VG39C03	% Moisture:	NA
Calib. Ref.:	EC13010A	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	0.0347	0.0400	87	60-140

Notes:
Parameter H-C Range
Gasoline C6-C10
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 5ml Final Volume : 5ml
Prepared by : SCerva Analyzed by : SCerva

QC SUMMARIES

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

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/13/23 12:52
Project : 380-39968	Date Received: 03/13/23
Batch No. : 23C153	Date Extracted: 03/13/23 12:52
Sample ID : MBLK1W	Date Analyzed: 03/13/23 12:52
Lab Samp ID: VG39C03B	Dilution Factor: 1
Lab File ID: EC13004A	Matrix: WATER
Ext Btch ID: 23VG39C03	% Moisture: NA
Calib. Ref.: EC13003A	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	0.0338	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

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-39968
BATCH NO. : 23C153
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: VG39C03B	VG39C03L	VG39C03C
LAB FILE ID	: EC13004A	EC13005A	EC13006A
DATE PREPARED	: 03/13/23 12:52	03/13/23 13:29	03/13/23 14:05
DATE ANALYZED	: 03/13/23 12:52	03/13/23 13:29	03/13/23 14:05
PREP BATCH	: 23VG39C03	23VG39C03	23VG39C03
CALIBRATION REF	: EC13003A	EC13003A	EC13003A

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	0.452	90	0.500	0.477	95	5	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0465	116	0.0400	0.0461	115	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 : 380-39968
BATCH NO. : 23C153
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: 380-39968-1	380-39968-1MS	380-39968-1MSD
LAB SAMPLE ID	: C153-01	C153-01M	C153-01S
LAB FILE ID	: EC13011A	EC13012A	EC13013A
DATE PREPARED	: 03/13/23 17:05	03/13/23 17:41	03/13/23 18:17
DATE ANALYZED	: 03/13/23 17:05	03/13/23 17:41	03/13/23 18:17
PREP BATCH	: 23VG39C03	23VG39C03	23VG39C03
CALIBRATION REF	: EC13010A	EC13010A	EC13010A

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	0.473	95	0.500	0.461	92	3	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0446	112	0.0400	0.0462	116	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-39968

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 23C153

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-39968

SDG : 23C153

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 03/11/23 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. DSC021WB - 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. DSC021WL/DSC021WC 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: 380-39968

SDG : 23C153

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 03/11/23 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. DSC021WB - 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. J5C021WL/J5C021WC 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: 380-39968

SDG : 23C153

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 03/11/23 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. DSC021WB - 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. J8C021WL/J8C021WC 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 : 380-39968

SDG NO. : 23C153
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	DSC021WB	1	NA	03/20/2315:32	03/17/2316:15	LC20014A	LC20004A	23DSC021W	Method Blank
LCS1W	DSC021WL	1	NA	03/20/2315:50	03/17/2316:15	LC20015A	LC20004A	23DSC021W	Lab Control Sample (LCS)
LCD1W	DSC021WC	1	NA	03/20/2316:09	03/17/2316:15	LC20016A	LC20004A	23DSC021W	LCS Duplicate
380-39968-1	C153-01	1	NA	03/20/2317:42	03/17/2316:15	LC20021A	LC20004A	23DSC021W	Field Sample
380-39968-2	C153-02	1	NA	03/20/2318:01	03/17/2316:15	LC20022A	LC20004A	23DSC021W	Field Sample
380-39968-3	C153-03	1	NA	03/20/2318:19	03/17/2316:15	LC20023A	LC20004A	23DSC021W	Field Sample
380-39968-4	C153-04	1	NA	03/20/2318:38	03/17/2316:15	LC20024A	LC20004A	23DSC021W	Field Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
Project : 380-39968

SDG NO. : 23C153
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	DSC021WB	1	NA	03/20/2315:32	03/17/2316:15	LC20014A	LC20005A	23DSC021W	Method Blank
LCS1W	J5C021WL	1	NA	03/20/2316:28	03/17/2316:15	LC20017A	LC20005A	23DSC021W	Lab Control Sample (LCS)
LCD1W	J5C021WC	1	NA	03/20/2316:46	03/17/2316:15	LC20018A	LC20005A	23DSC021W	LCS Duplicate
380-39968-1	C153-01	1	NA	03/20/2317:42	03/17/2316:15	LC20021A	LC20005A	23DSC021W	Field Sample
380-39968-2	C153-02	1	NA	03/20/2318:01	03/17/2316:15	LC20022A	LC20005A	23DSC021W	Field Sample
380-39968-3	C153-03	1	NA	03/20/2318:19	03/17/2316:15	LC20023A	LC20005A	23DSC021W	Field Sample
380-39968-4	C153-04	1	NA	03/20/2318:38	03/17/2316:15	LC20024A	LC20005A	23DSC021W	Field Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
Project : 380-39968

SDG NO. : 23C153
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	DSC021WB	1	NA	03/20/2315:32	03/17/2316:15	LC20014A	LC20006A	23DSC021W	Method Blank
LCS1W	J8C021WL	1	NA	03/20/2317:05	03/17/2316:15	LC20019A	LC20006A	23DSC021W	Lab Control Sample (LCS)
LCD1W	J8C021WC	1	NA	03/20/2317:23	03/17/2316:15	LC20020A	LC20006A	23DSC021W	LCS Duplicate
380-39968-1	C153-01	1	NA	03/20/2317:42	03/17/2316:15	LC20021A	LC20006A	23DSC021W	Field Sample
380-39968-2	C153-02	1	NA	03/20/2318:01	03/17/2316:15	LC20022A	LC20006A	23DSC021W	Field Sample
380-39968-3	C153-03	1	NA	03/20/2318:19	03/17/2316:15	LC20023A	LC20006A	23DSC021W	Field Sample
380-39968-4	C153-04	1	NA	03/20/2318:38	03/17/2316:15	LC20024A	LC20006A	23DSC021W	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/07/23 09:47
Project	: 380-39968	Date Received:	03/11/23
Batch No.	: 23C153	Date Extracted:	03/17/23 16:15
Sample ID	: 380-39968-1	Date Analyzed:	03/20/23 17:42
Lab Samp ID:	23C153-01	Dilution Factor:	1
Lab File ID:	LC20021A	Matrix:	WATER
Ext Btch ID:	23DSC021W	% Moisture:	NA
Calib. Ref.:	LC20004A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Diesel	ND	0.030	0.015
Motor Oil	ND	0.059	0.030

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.457	0.590	77	60-130
Hexacosane	0.159	0.148	108	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 : 850ml
Final Volume : 5ml
Prepared by : POreto
Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/07/23 09:47
Project : 380-39968	Date Received: 03/11/23
Batch No. : 23C153	Date Extracted: 03/17/23 16:15
Sample ID : 380-39968-1	Date Analyzed: 03/20/23 17:42
Lab Samp ID: 23C153-01	Dilution Factor: 1
Lab File ID: LC20021A	Matrix: WATER
Ext Btch ID: 23DSC021W	% Moisture: NA
Calib. Ref.: LC20005A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.059	0.030

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.457	0.590	77	60-130
Hexacosane	0.159	0.148	108	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 : 850ml Final Volume : 5ml
Prepared by : POreto Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/07/23 09:47
Project : 380-39968	Date Received: 03/11/23
Batch No. : 23C153	Date Extracted: 03/17/23 16:15
Sample ID : 380-39968-1	Date Analyzed: 03/20/23 17:42
Lab Samp ID: 23C153-01	Dilution Factor: 1
Lab File ID: LC20021A	Matrix: WATER
Ext Btch ID: 23DSC021W	% Moisture: NA
Calib. Ref.: LC20006A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.059	0.030

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.457	0.590	77	60-130
Hexacosane	0.159	0.148	108	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 : 850ml Final Volume : 5ml
Prepared by : POreto Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/07/23 10:44
Project	: 380-39968	Date Received:	03/11/23
Batch No.	: 23C153	Date Extracted:	03/17/23 16:15
Sample ID	: 380-39968-2	Date Analyzed:	03/20/23 18:01
Lab Samp ID:	23C153-02	Dilution Factor:	1
Lab File ID:	LC20022A	Matrix:	WATER
Ext Btch ID:	23DSC021W	% Moisture:	NA
Calib. Ref.:	LC20004A	Instrument ID:	D5

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.489	0.545	90	60-130
Hexacosane	0.161	0.136	118	60-130

Notes:

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

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 920ml
Final Volume : 5ml
Prepared by : POreto
Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/07/23 10:44
Project	: 380-39968	Date Received:	03/11/23
Batch No.	: 23C153	Date Extracted:	03/17/23 16:15
Sample ID	: 380-39968-2	Date Analyzed:	03/20/23 18:01
Lab Samp ID:	23C153-02	Dilution Factor:	1
Lab File ID:	LC20022A	Matrix:	WATER
Ext Btch ID:	23DSC021W	% Moisture:	NA
Calib. Ref.:	LC20005A	Instrument ID:	D5

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.489	0.545	90	60-130
Hexacosane	0.161	0.136	118	60-130

Notes:
RL : Reporting Limit

Parameter	H-C Range
JP5	C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 920ml Final Volume : 5ml
Prepared by : POreto Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/07/23 10:44
Project : 380-39968	Date Received: 03/11/23
Batch No. : 23C153	Date Extracted: 03/17/23 16:15
Sample ID : 380-39968-2	Date Analyzed: 03/20/23 18:01
Lab Samp ID: 23C153-02	Dilution Factor: 1
Lab File ID: LC20022A	Matrix: WATER
Ext Btch ID: 23DSC021W	% Moisture: NA
Calib. Ref.: LC20006A	Instrument ID: D5

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.489	0.545	90	60-130
Hexacosane	0.161	0.136	118	60-130

Notes:
RL : Reporting Limit
Parameter H-C Range
JP8 C8-C18
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 920ml Final Volume : 5ml
Prepared by : POreto Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/07/23 10:19
Project	: 380-39968	Date Received:	03/11/23
Batch No.	: 23C153	Date Extracted:	03/17/23 16:15
Sample ID	: 380-39968-3	Date Analyzed:	03/20/23 18:19
Lab Samp ID:	23C153-03	Dilution Factor:	1
Lab File ID:	LC20023A	Matrix:	WATER
Ext Btch ID:	23DSC021W	% Moisture:	NA
Calib. Ref.:	LC20004A	Instrument ID:	D5

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.380	0.545	70	60-130
Hexacosane	0.146	0.136	107	60-130

Notes:

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

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount	: 920ml	Final Volume	: 5ml
Prepared by	: POreto	Analyzed by	: SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	03/07/23 10:19
Project	: 380-39968	Date Received:	03/11/23
Batch No.	: 23C153	Date Extracted:	03/17/23 16:15
Sample ID	: 380-39968-3	Date Analyzed:	03/20/23 18:19
Lab Samp ID:	23C153-03	Dilution Factor:	1
Lab File ID:	LC20023A	Matrix:	WATER
Ext Btch ID:	23DSC021W	% Moisture:	NA
Calib. Ref.:	LC20005A	Instrument ID:	D5

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.380	0.545	70	60-130
Hexacosane	0.146	0.136	107	60-130

Notes:
RL : Reporting Limit
Parameter H-C Range
JP5 C8-C18
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 920ml Final Volume : 5ml
Prepared by : POreto Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/07/23 10:19
Project : 380-39968	Date Received: 03/11/23
Batch No. : 23C153	Date Extracted: 03/17/23 16:15
Sample ID : 380-39968-3	Date Analyzed: 03/20/23 18:19
Lab Samp ID: 23C153-03	Dilution Factor: 1
Lab File ID: LC20023A	Matrix: WATER
Ext Btch ID: 23DSC021W	% Moisture: NA
Calib. Ref.: LC20006A	Instrument ID: D5

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.380	0.545	70	60-130
Hexacosane	0.146	0.136	107	60-130

Notes:
RL : Reporting Limit

Parameter	H-C Range
JP8	C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 920ml Final Volume : 5ml
Prepared by : POreto Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/07/23 11:09
Project : 380-39968	Date Received: 03/11/23
Batch No. : 23C153	Date Extracted: 03/17/23 16:15
Sample ID : 380-39968-4	Date Analyzed: 03/20/23 18:38
Lab Samp ID: 23C153-04	Dilution Factor: 1
Lab File ID: LC20024A	Matrix: WATER
Ext Btch ID: 23DSC021W	% Moisture: NA
Calib. Ref.: LC20004A	Instrument ID: D5

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.469	0.520	90	60-130
Hexacosane	0.156	0.130	120	60-130

Notes:

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

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 960ml Final Volume : 5ml
Prepared by : POreto Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/07/23 11:09
Project : 380-39968	Date Received: 03/11/23
Batch No. : 23C153	Date Extracted: 03/17/23 16:15
Sample ID : 380-39968-4	Date Analyzed: 03/20/23 18:38
Lab Samp ID: 23C153-04	Dilution Factor: 1
Lab File ID: LC20024A	Matrix: WATER
Ext Btch ID: 23DSC021W	% Moisture: NA
Calib. Ref.: LC20005A	Instrument ID: D5

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.469	0.520	90	60-130
Hexacosane	0.156	0.130	120	60-130

Notes:
RL : Reporting Limit
Parameter H-C Range
JP5 C8-C18
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 960ml Final Volume : 5ml
Prepared by : POreto Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/07/23 11:09
Project : 380-39968	Date Received: 03/11/23
Batch No. : 23C153	Date Extracted: 03/17/23 16:15
Sample ID : 380-39968-4	Date Analyzed: 03/20/23 18:38
Lab Samp ID: 23C153-04	Dilution Factor: 1
Lab File ID: LC20024A	Matrix: WATER
Ext Btch ID: 23DSC021W	% Moisture: NA
Calib. Ref.: LC20006A	Instrument ID: D5

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

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.469	0.520	90	60-130
Hexacosane	0.156	0.130	120	60-130

Notes:
RL : Reporting Limit
Parameter H-C Range
JP8 C8-C18
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 960ml Final Volume : 5ml
Prepared by : POreto Analyzed by : SDeeso

QC SUMMARIES

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/17/23 16:15
Project : 380-39968	Date Received: 03/17/23
Batch No. : 23C153	Date Extracted: 03/17/23 16:15
Sample ID : MBLK1W	Date Analyzed: 03/20/23 15:32
Lab Samp ID: DSC021WB	Dilution Factor: 1
Lab File ID: LC20014A	Matrix: WATER
Ext Btch ID: 23DSC021W	% Moisture: NA
Calib. Ref.: LC20004A	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	0.411	0.500	82	60-130
Hexacosane	0.136	0.125	108	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 : 380-39968
BATCH NO. : 23C153
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSC021WB	DSC021WL	DSC021WC
LAB FILE ID	: LC20014A	LC20015A	LC20016A
DATE PREPARED	: 03/17/23 16:15	03/17/23 16:15	03/17/23 16:15
DATE ANALYZED	: 03/20/23 15:32	03/20/23 15:50	03/20/23 16:09
PREP BATCH	: 23DSC021W	23DSC021W	23DSC021W
CALIBRATION REF:	LC20004A	LC20004A	LC20004A

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	2.61	104	2.50	2.28	91	13	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.446	89	0.500	0.402	80	60-130
Hexacosane	0.125	0.141	113	0.125	0.133	106	60-130

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

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/17/23 16:15
Project : 380-39968	Date Received: 03/17/23
Batch No. : 23C153	Date Extracted: 03/17/23 16:15
Sample ID : MBLK1W	Date Analyzed: 03/20/23 15:32
Lab Samp ID: DSC021WB	Dilution Factor: 1
Lab File ID: LC20014A	Matrix: WATER
Ext Btch ID: 23DSC021W	% Moisture: NA
Calib. Ref.: LC20005A	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	0.411	0.500	82	60-130
Hexacosane	0.136	0.125	108	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 : 380-39968
BATCH NO. : 23C153
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSC021WB	J5C021WL	J5C021WC
LAB FILE ID	: LC20014A	LC20017A	LC20018A
DATE PREPARED	: 03/17/23 16:15	03/17/23 16:15	03/17/23 16:15
DATE ANALYZED	: 03/20/23 15:32	03/20/23 16:28	03/20/23 16:46
PREP BATCH	: 23DSC021W	23DSC021W	23DSC021W
CALIBRATION REF:	LC20005A	LC20005A	LC20005A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP5	ND	2.50	1.97	79	2.50	1.95	78	1	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.417	83	0.500	0.439	88	60-130
Hexacosane	0.125	0.123	98	0.125	0.124	99	60-130

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

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 03/17/23 16:15
Project : 380-39968	Date Received: 03/17/23
Batch No. : 23C153	Date Extracted: 03/17/23 16:15
Sample ID : MBLK1W	Date Analyzed: 03/20/23 15:32
Lab Samp ID: DSC021WB	Dilution Factor: 1
Lab File ID: LC20014A	Matrix: WATER
Ext Btch ID: 23DSC021W	% Moisture: NA
Calib. Ref.: LC20006A	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	0.411	0.500	82	60-130
Hexacosane	0.136	0.125	108	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 : 380-39968
BATCH NO. : 23C153
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSC021WB	J8C021WL	J8C021WC
LAB FILE ID	: LC20014A	LC20019A	LC20020A
DATE PREPARED	: 03/17/23 16:15	03/17/23 16:15	03/17/23 16:15
DATE ANALYZED	: 03/20/23 15:32	03/20/23 17:05	03/20/23 17:23
PREP BATCH	: 23DSC021W	23DSC021W	23DSC021W
CALIBRATION REF	: LC20006A	LC20006A	LC20006A

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	2.02	81	2.50	2.56	102	24	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.463	93	0.500	0.496	99	60-130
Hexacosane	0.125	0.126	101	0.125	0.140	112	60-130

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

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

April 05, 2023

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

Project Name: RED-HILL Project # 38001111 Job # 380-39968-1
Physis Project ID: 1407003-382

Dear Rachelle,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 3/10/2023. A total of 4 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

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

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

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

Regards,

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

PROJECT SAMPLE LIST

Eurofins Eaton Analytical

PHYSIS Project ID: 1407003-382

RED-HILL Project # 38001111 Job # 380-39968-1

Total Samples: 4

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
104492	MOANALUA WELLS	331-223-TP202 (380-39968-1)	3/7/2023	9:47	Samplewater	Grab
104493	AIEA WELLS PUMPS 1&2 (2683)	331-203-TP400 (380-39968-2)	3/7/2023	10:44	Samplewater	Grab
104494	HALAWA WELLS UNITS 1 & 2	331-206-TP065 (380-39968-3)	3/7/2023	10:19	Samplewater	Grab
104495	AIEA GULCH WELLS PUMP 2	331-202-TP072 (380-39968-4)	3/7/2023	11:09	Samplewater	Grab

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ABBREVIATIONS and ACRONYMS

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

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QUALITY ASSURANCE SUMMARY

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

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

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

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

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

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

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

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

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

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: 1407003-382
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-39968-1

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 104492-R1	**MOANALUA WELLS 331-223-TP202**	**Matrix:**	**Samplewater**					**Sampled:**	**07-Mar-23 9:47**	**Received:**	**10-Mar-23**
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40154	10-Mar-23	31-Mar-23
Sample ID: 104493-R1	**AIEA WELLS PUMPS 1&2 (260) 331-**	**Matrix:**	**Samplewater**					**Sampled:**	**07-Mar-23 10:44**	**Received:**	**10-Mar-23**
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40154	10-Mar-23	31-Mar-23
Sample ID: 104494-R1	**HALAWA WELLS UNITS 1 & 2 331-2**	**Matrix:**	**Samplewater**					**Sampled:**	**07-Mar-23 10:19**	**Received:**	**10-Mar-23**
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40154	10-Mar-23	31-Mar-23
Sample ID: 104495-R1	**AIEA GULCH WELLS PUMP 2 331-20**	**Matrix:**	**Samplewater**					**Sampled:**	**07-Mar-23 11:09**	**Received:**	**10-Mar-23**
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40154	10-Mar-23	31-Mar-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 104492-R1	**MOANALUA WELLS 331-223-TP202**	**Matrix: Samplewater**					**Sampled: 07-Mar-23 9:47**			**Received: 10-Mar-23**	
(d10-Acenaphthene)	EPA 625.1	% Recovery	89	1			Total		O-40154	10-Mar-23	31-Mar-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	97	1			Total		O-40154	10-Mar-23	31-Mar-23
(d12-Chrysene)	EPA 625.1	% Recovery	109	1			Total		O-40154	10-Mar-23	31-Mar-23
(d12-Perylene)	EPA 625.1	% Recovery	89	1			Total		O-40154	10-Mar-23	31-Mar-23
(d8-Naphthalene)	EPA 625.1	% Recovery	85	1			Total		O-40154	10-Mar-23	31-Mar-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23

PHYSIS Project ID: 1407003-382
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-39968-1

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-40154	10-Mar-23	31-Mar-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 104493-R1	**AIEA WELLS PUMPS 1&2 (260) 331-**	**Matrix: Samplewater**					**Sampled: 07-Mar-23 10:44**			**Received: 10-Mar-23**	
(d10-Acenaphthene)	EPA 625.1	% Recovery	88	1			Total		O-40154	10-Mar-23	31-Mar-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	96	1			Total		O-40154	10-Mar-23	31-Mar-23
(d12-Chrysene)	EPA 625.1	% Recovery	108	1			Total		O-40154	10-Mar-23	31-Mar-23
(d12-Perylene)	EPA 625.1	% Recovery	88	1			Total		O-40154	10-Mar-23	31-Mar-23
(d8-Naphthalene)	EPA 625.1	% Recovery	84	1			Total		O-40154	10-Mar-23	31-Mar-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23

PHYSIS Project ID: 1407003-382
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-39968-1

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-40154	10-Mar-23	31-Mar-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 104494-R1	**HALAWA WELLS UNITS 1 & 2 331-2**	**Matrix: Samplewater**					**Sampled: 07-Mar-23 10:19**			**Received: 10-Mar-23**	
(d10-Acenaphthene)	EPA 625.1	% Recovery	88	1			Total		O-40154	10-Mar-23	31-Mar-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	98	1			Total		O-40154	10-Mar-23	31-Mar-23
(d12-Chrysene)	EPA 625.1	% Recovery	109	1			Total		O-40154	10-Mar-23	31-Mar-23
(d12-Perylene)	EPA 625.1	% Recovery	89	1			Total		O-40154	10-Mar-23	31-Mar-23
(d8-Naphthalene)	EPA 625.1	% Recovery	84	1			Total		O-40154	10-Mar-23	31-Mar-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23

PHYSIS Project ID: 1407003-382
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-39968-1

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-40154	10-Mar-23	31-Mar-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 104495-R1	**AIEA GULCH WELLS PUMP 2 331-20 Matrix: Samplewater**						**Sampled: 07-Mar-23 11:09**			**Received: 10-Mar-23**	
(d10-Acenaphthene)	EPA 625.1	% Recovery	90	1			Total		O-40154	10-Mar-23	31-Mar-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	97	1			Total		O-40154	10-Mar-23	31-Mar-23
(d12-Chrysene)	EPA 625.1	% Recovery	109	1			Total		O-40154	10-Mar-23	31-Mar-23
(d12-Perylene)	EPA 625.1	% Recovery	89	1			Total		O-40154	10-Mar-23	31-Mar-23
(d8-Naphthalene)	EPA 625.1	% Recovery	84	1			Total		O-40154	10-Mar-23	31-Mar-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23

PHYSIS Project ID: 1407003-382
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-39968-1

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-40154	10-Mar-23	31-Mar-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40154	10-Mar-23	31-Mar-23

QUALITY CONTROL REPORT

PHYSIS Project ID: 1407003-382
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-39968-1

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: 104491-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**					**Received:**	
		Method: EPA 625.1				Batch ID: O-40154		Prepared: 10-Mar-23				Analyzed: 30-Mar-23	
Disalicylidenepropanediamin	Total	ND	1	0.05	0.1	µg/L							
Sample ID: 104491-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**					**Received:**	
		Method: EPA 625.1				Batch ID: O-40154		Prepared: 10-Mar-23				Analyzed: 30-Mar-23	
Disalicylidenepropanediamin	Total	49.5	1	0.05	0.1	µg/L	50	0	99	50 - 150% PASS			
Sample ID: 104491-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**					**Received:**	
		Method: EPA 625.1				Batch ID: O-40154		Prepared: 10-Mar-23				Analyzed: 30-Mar-23	
Disalicylidenepropanediamin	Total	51.9	1	0.05	0.1	µg/L	50	0	104	50 - 150% PASS	5	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: 104491-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**					**Received:**	
		Method: EPA 625.1				Batch ID: O-40154		Prepared: 10-Mar-23				Analyzed: 30-Mar-23	
(d10-Acenaphthene)	Total	91	1			% Recovery	100	91	27 - 133%	PASS			
(d10-Phenanthrene)	Total	98	1			% Recovery	100	98	43 - 129%	PASS			
(d12-Chrysene)	Total	109	1			% Recovery	100	109	52 - 144%	PASS			
(d12-Perylene)	Total	91	1			% Recovery	100	91	36 - 161%	PASS			
(d8-Naphthalene)	Total	87	1			% Recovery	100	87	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: 1407003-382
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-39968-1

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: 104491-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**	
	Method: EPA 625.1					Batch ID: O-40154		Prepared: 10-Mar-23				Analyzed: 30-Mar-23	
(d10-Acenaphthene)	Total	95	1			% Recovery	100	0	95	27 - 133%	PASS		
(d10-Phenanthrene)	Total	100	1			% Recovery	100	0	100	43 - 129%	PASS		
(d12-Chrysene)	Total	108	1			% Recovery	100	0	108	52 - 144%	PASS		
(d12-Perylene)	Total	95	1			% Recovery	100	0	95	36 - 161%	PASS		
(d8-Naphthalene)	Total	89	1			% Recovery	100	0	89	25 - 125%	PASS		
1-Methylnaphthalene	Total	0.439	1	0.001	0.005	µg/L	0.5	0	88	31 - 128%	PASS		
1-Methylphenanthrene	Total	0.45	1	0.001	0.005	µg/L	0.5	0	90	66 - 127%	PASS		
2,3,5-Trimethylnaphthalene	Total	0.433	1	0.001	0.005	µg/L	0.5	0	87	55 - 122%	PASS		
2,6-Dimethylnaphthalene	Total	0.443	1	0.001	0.005	µg/L	0.5	0	89	48 - 120%	PASS		
2-Methylnaphthalene	Total	0.435	1	0.001	0.005	µg/L	0.5	0	87	47 - 130%	PASS		
Acenaphthene	Total	0.447	1	0.001	0.005	µg/L	0.5	0	89	53 - 131%	PASS		
Acenaphthylene	Total	0.443	1	0.001	0.005	µg/L	0.5	0	89	43 - 140%	PASS		
Anthracene	Total	0.437	1	0.001	0.005	µg/L	0.5	0	87	58 - 135%	PASS		
Benz[a]anthracene	Total	0.462	1	0.001	0.005	µg/L	0.5	0	92	55 - 145%	PASS		
Benzo[a]pyrene	Total	0.436	1	0.001	0.005	µg/L	0.5	0	87	51 - 143%	PASS		
Benzo[b]fluoranthene	Total	0.437	1	0.001	0.005	µg/L	0.5	0	87	46 - 165%	PASS		
Benzo[e]pyrene	Total	0.44	1	0.001	0.005	µg/L	0.5	0	88	42 - 152%	PASS		
Benzo[g,h,i]perylene	Total	0.444	1	0.001	0.005	µg/L	0.5	0	89	63 - 133%	PASS		
Benzo[k]fluoranthene	Total	0.428	1	0.001	0.005	µg/L	0.5	0	86	56 - 145%	PASS		
Biphenyl	Total	0.451	1	0.001	0.005	µg/L	0.5	0	90	56 - 119%	PASS		
Chrysene	Total	0.467	1	0.001	0.005	µg/L	0.5	0	93	56 - 141%	PASS		
Dibenz[a,h]anthracene	Total	0.409	1	0.001	0.005	µg/L	0.5	0	82	55 - 150%	PASS		
Dibenzo[a,l]pyrene	Total	0.46	1	0.001	0.005	µg/L	0.5	0	92	50 - 150%	PASS		
Dibenzothiophene	Total	0.464	1	0.001	0.005	µg/L	0.5	0	93	46 - 126%	PASS		

PHYSIS Project ID: 1407003-382
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-39968-1

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	0.451	1	0.001	0.005	µg/L	0.5	0	90	60 - 146%	PASS			
Fluorene	Total	0.434	1	0.001	0.005	µg/L	0.5	0	87	58 - 131%	PASS			
Indeno[1,2,3-cd]pyrene	Total	0.409	1	0.001	0.005	µg/L	0.5	0	82	50 - 151%	PASS			
Naphthalene	Total	0.437	1	0.001	0.005	µg/L	0.5	0	87	41 - 126%	PASS			
Perylene	Total	0.426	1	0.001	0.005	µg/L	0.5	0	85	48 - 141%	PASS			
Phenanthrene	Total	0.439	1	0.001	0.005	µg/L	0.5	0	88	67 - 127%	PASS			
Pyrene	Total	0.442	1	0.001	0.005	µg/L	0.5	0	88	54 - 156%	PASS			

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 104491-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**		
		Method: EPA 625.1				Batch ID: O-40154		Prepared: 10-Mar-23				Analyzed: 30-Mar-23		
(d10-Acenaphthene)	Total	96	1			% Recovery	100	0	96	27 - 133%	PASS	1	30	PASS
(d10-Phenanthrene)	Total	100	1			% Recovery	100	0	100	43 - 129%	PASS	0	30	PASS
(d12-Chrysene)	Total	107	1			% Recovery	100	0	107	52 - 144%	PASS	1	30	PASS
(d12-Perylene)	Total	93	1			% Recovery	100	0	93	36 - 161%	PASS	2	30	PASS
(d8-Naphthalene)	Total	90	1			% Recovery	100	0	90	25 - 125%	PASS	1	30	PASS
1-Methylnaphthalene	Total	0.444	1	0.001	0.005	µg/L	0.5	0	89	31 - 128%	PASS	1	30	PASS
1-Methylphenanthrene	Total	0.444	1	0.001	0.005	µg/L	0.5	0	89	66 - 127%	PASS	1	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.436	1	0.001	0.005	µg/L	0.5	0	87	55 - 122%	PASS	0	30	PASS
2,6-Dimethylnaphthalene	Total	0.449	1	0.001	0.005	µg/L	0.5	0	90	48 - 120%	PASS	1	30	PASS
2-Methylnaphthalene	Total	0.44	1	0.001	0.005	µg/L	0.5	0	88	47 - 130%	PASS	1	30	PASS
Acenaphthene	Total	0.456	1	0.001	0.005	µg/L	0.5	0	91	53 - 131%	PASS	2	30	PASS
Acenaphthylene	Total	0.448	1	0.001	0.005	µg/L	0.5	0	90	43 - 140%	PASS	1	30	PASS
Anthracene	Total	0.434	1	0.001	0.005	µg/L	0.5	0	87	58 - 135%	PASS	0	30	PASS
Benz[a]anthracene	Total	0.457	1	0.001	0.005	µg/L	0.5	0	91	55 - 145%	PASS	1	30	PASS
Benzo[a]pyrene	Total	0.435	1	0.001	0.005	µg/L	0.5	0	87	51 - 143%	PASS	0	30	PASS
Benzo[b]fluoranthene	Total	0.436	1	0.001	0.005	µg/L	0.5	0	87	46 - 165%	PASS	0	30	PASS
Benzo[e]pyrene	Total	0.434	1	0.001	0.005	µg/L	0.5	0	87	42 - 152%	PASS	1	30	PASS
Benzo[g,h,i]perylene	Total	0.439	1	0.001	0.005	µg/L	0.5	0	88	63 - 133%	PASS	1	30	PASS
Benzo[k]fluoranthene	Total	0.441	1	0.001	0.005	µg/L	0.5	0	88	56 - 145%	PASS	2	30	PASS
Biphenyl	Total	0.459	1	0.001	0.005	µg/L	0.5	0	92	56 - 119%	PASS	2	30	PASS
Chrysene	Total	0.467	1	0.001	0.005	µg/L	0.5	0	93	56 - 141%	PASS	0	30	PASS
Dibenz[a,h]anthracene	Total	0.413	1	0.001	0.005	µg/L	0.5	0	83	55 - 150%	PASS	1	30	PASS
Dibenzo[a,l]pyrene	Total	0.463	1	0.001	0.005	µg/L	0.5	0	93	50 - 150%	PASS	1	30	PASS
Dibenzothiophene	Total	0.465	1	0.001	0.005	µg/L	0.5	0	93	46 - 126%	PASS	0	30	PASS

PHYSIS Project ID: 1407003-382
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-39968-1

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	0.449	1	0.001	0.005	µg/L	0.5	0	90	60 - 146%	PASS	0	30	PASS	
Fluorene	Total	0.436	1	0.001	0.005	µg/L	0.5	0	87	58 - 131%	PASS	0	30	PASS	
Indeno[1,2,3-cd]pyrene	Total	0.416	1	0.001	0.005	µg/L	0.5	0	83	50 - 151%	PASS	1	30	PASS	
Naphthalene	Total	0.443	1	0.001	0.005	µg/L	0.5	0	89	41 - 126%	PASS	2	30	PASS	
Perylene	Total	0.428	1	0.001	0.005	µg/L	0.5	0	86	48 - 141%	PASS	1	30	PASS	
Phenanthrene	Total	0.436	1	0.001	0.005	µg/L	0.5	0	87	67 - 127%	PASS	1	30	PASS	
Pyrene	Total	0.442	1	0.001	0.005	µg/L	0.5	0	88	54 - 156%	PASS	0	30	PASS	

TENTATIVELY IDENTIFIED COMPOUNDS

Sample ID: 104492

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
36.2973	6.2570	1111	Anthracene-D10-	1517-22-2	93
10.9639	2.5016	444	Oxalic acid, cyclohexyl pentyl ester	1000309-30-6	91

Concentration estimated using the response for Anthracene-d10

Sample ID: 104493

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
36.2937	5.4376	1111	Anthracene-D10-	1719-06-8	95
10.9623	2.0121	411	Oxalic acid, cyclohexyl pentyl ester	1000309-30-6	91
32.8893	0.6363	130	Benzoic acid, 2-ethylhexyl ester	5444-75-7	97
59.9973	0.5418	111	1,2-Dihydro-3,6-diphenyl-S-tetrazine	14478-73-0	81

Concentration estimated using the response for Anthracene-d10

Sample ID: 104494

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
36.2805	5.7675	1111	Anthracene-D10-	1719-06-8	92
10.9614	2.7884	537	Oxalic acid, cyclohexyl propyl ester	1000309-30-3	92
32.8815	0.7919	153	Benzoic acid, 2-ethylhexyl ester	5444-75-7	98

Concentration estimated using the response for Anthracene-d10

Sample ID: 104495

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
36.2886	5.6005	1111	Anthracene-D10-	1517-22-2	94
10.9603	2.0202	401	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	91
32.8835	0.6732	134	Benzoic acid, 2-ethylhexyl ester	5444-75-7	98

Concentration estimated using the response for Anthracene-d10

Sample ID: Lab Blank B1_40154

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
36.3070	5.5468	1111	Anthracene-D10-	1517-22-2	93
10.9674	2.1680	434	Oxalic acid, cyclohexyl propyl ester	1000309-30-3	93

Concentration estimated using the response for Anthracene-d10

CHAIN OF CUSTODY

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

Chain of Custody Record

eurofins | Environment Testing

4/14/2023

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-41474.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: Physis Environmental Laboratories		Accreditations Required (See note): State - Hawaii		Job #: 380-39968-1
Address: 1904 Wright Circle, ,	Due Date Requested: 3/23/2023			
City: Anaheim	TAT Requested (days):			
State, Zip: CA, 92806				
Phone:	PO #:			
Email:	WO #:			
Project Name: RED-HILL	Project #: 38001111			
Site: Honolulu BWS Sites	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (625 PAH Physis LL (EAL) + TICs)/ 625 PAH Physis LL (EAL) + TICs	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MOANALUA WELLS (331-223-TP202) (380-39968-1)	3/7/23	09:47 Hawaiian		Water			X	1	See Attached Instructions
AIEA WELLS PUMPS 1&2 (260) (331-203-TP400) (380-39968-2)	3/7/23	10:44 Hawaiian		Water			X	2	See Attached Instructions
HALAWA WELLS UNITS 1 & 2 (331-206-TP065) (380-39968-3)	3/7/23	10:19 Hawaiian		Water			X	2	See Attached Instructions
AIEA GULCH WELLS PUMP 2 (331-202-TP072) (380-39968-4)	3/7/23	11:09 Hawaiian		Water			X	2	See Attached Instructions

Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Eaton Analytical, LLC.

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	3/10/23 924	EEA	Angie Tor 12	3/10/23 924	Physis
2						
3						

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

Ver: 06/08/2021

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

Sample Receipt Summary

PHYSIS ENVIRONMENTAL LABORATORIES, INC.

Project Iteration ID: 1407003-382
Client Name: Eurofins Eaton Analytical
Project Name: PaloRojo Folder # Sub PO # Job # 380-39968-1 1000014
COC Page Number: 2 of 2
Bottle Label Color: Purple w/dot

Receiving Info

1. Initials Received By: MT
2. Date Received: 3/10/23
3. Time Received: 0924
4. Client Name: Eurofins
5. Courier Information: (Please circle)
   - (Client) • UPS • Area Fast • DRS
   - FedEx • GSO/GLS • Ontrac • PAMS
   - PHYSIS Driver:
     - i. Start Time:_____ iii. Total Mileage: _____
     - ii. End Time:_____ iv. Number of Pickups:_____
6. Container Information: (Please put the # of containers or circle none)
   - 1 Cooler • __ Styrofoam Cooler • ____ Boxes • None
   - ___ Carboy(s) • __Carboy Trash Can(s) • ____ Carboy Cap(s) • Other _____
7. What type of ice was used: (Please circle any that apply)
   - (Wet Ice) • Blue Ice • Dry Ice • Water • None
8. Randomly Selected Samples Temperature (°C): 6-10 Used I/R Thermometer # 1-2

Inspection Info

1. Initials Inspected By: RGH

Sample Integrity Upon Receipt:

1. COC(s) included and completely filled out..... (Yes) / No
2. All sample containers arrived intact..... (Yes) / No
3. All samples listed on COC(s) are present..... (Yes) / No
4. Information on containers consistent with information on COC(s)..... (Yes) / No
5. Correct containers and volume for all analyses indicated..... (Yes) / No
6. All samples received within method holding time..... (Yes) / No
7. Correct preservation used for all analyses indicated..... Yes / (No)
8. Name of sampler included on COC(s)..... Yes / (No)

Notes:

see temp

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: 380-9774-2757.1
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	March 7, 2023	0947	G	Water			X	X	X	X	X	X	X		only 1-625 bottle shipped
AIEA GULCH WELLS PUMP 2				Water											#1- 7715 0998 9193
AIEA WELLS PUMPS 1&2 (260)				Water											(752A) 4.1°-4.0°
HALAWA WELLS UNITS 1&2				Water											#2- 7715 0998 9767
MOANALUA WELLS				Water											(752A) 3.2°-3.1°
AIEA GULCH WELLS PUMP 2				Water											#3- 7715 0999 0072
AIEA WELLS PUMPS 1&2 (260)				Water											(752A) 3.1°-3.0°
HALAWA WELLS UNITS 1&2				Water											#4- 7715 0998 9723
MOANALUA WELLS				Water											(752A) 2.2°-2.1°
AIEA GULCH WELLS PUMP 2				Water											#5- 7715 0998 9790
AIEA WELLS PUMPS 1&2 (260) P2	March 7, 2023	1044	G	Water			X	X	X	X	X	X	X		(752A) 2.0°-1.9°

380-39968 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: FED EX ↑ 1-5 ↑

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
BAILEY	3/8/2023 1400	HBWS	G. REITNER	03/09/2023 09:20	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: (752A) GEL-FROZEN ↑ 1-5 ↑

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: 380-9774-2757.2
Client Contact: Dr. Ron Fenstemacher	Phone: 808-748-5840	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin:	Page: Page 2 of 3
Company: City & County of Honolulu	PWSID:			Job #:
Address: 630 South Beretania Street Chemistry Lab	Due Date Requested:			
City: Honolulu	TAT Requested (days):			
State, Zip: HI, 96843	Compliance Project: Δ Yes Δ No			
Phone: 808-748-5091(Tel)	PO #: C20525101 exp 05312023			
Email: RFENSTEMACHER@hbws.org	WO #:			
Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill	Project #: 38001111			
Site: Hawaii	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCl, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	525.2_PREC - (MOD) 525plus Plus TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	537.1_DW_PREC - 537.1 Full List	533 - All Analytes	Total Number of containers	Special Instructions/Note:
			Preservation Code:				R	R	RA		RA	Y	N		
HALAWA WELLS UNITS 1&2 P1	march 7, 2023	1019	G	Water			X	X	X	X	X	X	X		#1 - 7715 0998 9193 (752A) 4.1° - 4.0°
MOANALUA WELLS				Water											
AIEA GULCH WELLS PUMP 2				Water											#2 - 7715 0998 9767 (752A) 3.2° - 3.1°
AIEA WELLS PUMPS 1&2 (260)				Water											
HALAWA WELLS UNITS 1&2				Water											#3 - 7715 0999 0072 (752A) 3.1° - 3.0°
TB MOANALUA WELLS	march 7, 2023	0947		Water							X				
TB AIEA GULCH WELLS PUMP2	march 7, 2023	1109		Water							X				#4 - 7715 0998 9723 (752A) 2.2° - 2.1°
TB AIEA WELLS PUMPS 1&2 (260) P2	march 7, 2023	1044		Water							X				
TB HALAWA WELLS UNITS 1&2 P1	march 7, 2023	1019		Water							X				#5 - 7715 0998 9790 (752A) 2.0° - 1.9°
MOANALUA WELLS				Water											
AIEA GULCH WELLS PUMP 2	march 7, 2023	1109	G	Water			X	X	X	X	X	X	X		

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment: FED EX ↑ 1-5↑

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
BAILEY	march 8, 2023 1400	HBWS	G. PEITNER	03/09/2023 09:20	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: (752A) GEL-FROZEN ↑ 1-5 ↑

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

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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

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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)
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			Preservation Code:				R	R	RA		RA	Y	N		
AIEA WELLS PUMPS 1&2 (260)				Water											#1 - 7715 0998 9193
HALAWA WELLS UNITS 1&2				Water											(752A) 4.1° - 4.0°
FB: MOANALUA WELLS	march 7, 2023	0947		Water								X	X		#2 - 7715 0998 9767
FB: AIEA GULCH WELLS PUMP 2	march 7, 2023	1109		Water								X	X		(752A) 3.2° - 3.1°
FB: AIEA WELLS PUMPS 1&2 (260) P2	march 7, 2023	1044		Water								X	X		#3 - 7715 0999 0072
FB: HALAWA WELLS UNITS 1&2 P1	march 7, 2023	1019		Water								X	X		(752A) 3.1° - 3.0°
															#4 - 7715 0998 9723
															(752A) 2.2° - 2.1°
															#5 - 7715 0998 9790
															(752A) 2.0° - 1.9°

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: FED EX ↑ I-5 ↑

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
BAILEY	March 8, 2023 1400	HBWS	G.PEITNER	03/09/2023 09:20	EETA
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: (752A) GEL-FROZEN ↑ I-5 ↑

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-39968-1

Login Number: 39968
List Number: 1
Creator: Ngo, Theodore

List Source: Eurofins Eaton Analytical Pomona

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