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ANALYTICAL REPORT

PREPARED FOR

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

Generated 8/21/2023 11:10:23 AM

JOB DESCRIPTION

RED-HILL
RUSH Weekly Red Hill

JOB NUMBER

380-51410-1

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

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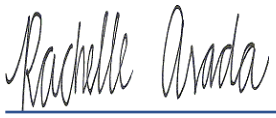
The test results in this report relate only to the samples as received by the laboratory and meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Eaton Analytical, LLC Project Manager.

Compliance Statement

1. Laboratory is accredited in accordance with TNI 2016 Standards and ISO/IEC 17025:2017.
2. Laboratory certifies that the test results meet all TNI 2016 and ISO/IEC 17025:2017 requirements unless noted under the individual analysis
3. Test results relate only to the sample(s) tested.
4. This report shall not be reproduced except in full, without the written approval of the laboratory.
5. Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below. (DW,Water matrices)

Authorization



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Authorized for release by
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Table of Contents

Definitions/Glossary

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

Job ID: 380-51410-1

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
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.
^3+	Reporting Limit Check Standard is outside acceptance limits, high biased
B	Analyte was found in the associated method blank.
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.

Glossary

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

Job ID: 380-51410-1

Laboratory: Eurofins Eaton Analytical Pomona

Narrative

Job Narrative
380-51410-1

Comments
EPA 537.1 and EPA 533 are two distinct methods for the analysis of PFAS in drinking water. The analyses are conducted on differing instrumentation, with calibrations, extraction solvents and sample preservatives being dissimilar among the two methods. Therefore it is probable and not unexpected to see the methods having slight variations in analytical results.

No additional comments.

Receipt
The samples were received on 6/15/2023 10:20 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 2.0º C, 3.3º C, 4.4º C and 5.0º C.

Receipt Exceptions
One or more containers for the following samples were received broken or leaking: One TB vial from site AIEA GULCH WELLS PUMP 2, and one TB vial from site AIEA WELLS PUMPS 1&2 (260) arrived broken.

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

LCMS
Method 533: Perfluorobutanoic acid (PFBA) was detected over 1/3 but under MRL. ND results are acceptable per method.
Perfluorobutanoic acid (PFBA) recovered high biased outside of method limits due to the same contamination.
Per method requirement, only one passing MRL is needed per 24 hours. Pls. refer to prep batch#46300, analytical batch#46604 for passing MRL that was extracted on the same day. Report all samples with ND results for PFBA.

Method 533: Multiple QC issues on preparation batch 380-46761: Method blank have detections greater than 1/3 MRL but less than MRL for analytes Perfluorobutanoic acid (PFBA) and Perfluoropentanoic acid (PFPeA). MRL check IDA recovery failed biased low. LCS/LCSD analyte and IDA recovery low. Samples MOANALUA WELLS (380-51410-1) and AIEA GULCH WELLS PUMP 2 (380-51410-2) are past holding time and not re-extracted. Affected samples also had biased low IDA and/or biased high IPS recovery. 533 data excluded due to this QC failure, 537.1 data was reported as there were no noted QC issues.

Method 537.1: LCS failed high for compound Perfluorononanoic acid (131%). Limits are 70-130%. Re-analyzed and got similar results. Analyzed LCSD and results are good. Per method, only one LCS is required. MOANALUA WELLS (380-51410-1), AIEA GULCH WELLS PUMP 2 (380-51410-2), AIEA WELLS PUMPS 1&2 (260) P2 (380-51410-3), HALAWA WELLS UNITS 1 & 2 P1 (380-51410-4), FB MOANALUA WELLS (380-51410-9), FB AIEA GULCH WELLS PUMP 2 (380-51410-10), FB AIEA WELLS PUMPS 1&2 (260) P2 (380-51410-11) and FB HALAWA WELLS UNITS 1 & 2 P1 (380-51410-12)

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

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

Detection Summary

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

Job ID: 380-51410-1

Client Sample ID: MOANALUA WELLS
PWSID Number: HI0000331

Lab Sample ID: 380-51410-1

No Detections.

Client Sample ID: AIEA GULCH WELLS PUMP 2
PWSID Number: HI0000331

Lab Sample ID: 380-51410-2

No Detections.

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2
PWSID Number: HI0000331

Lab Sample ID: 380-51410-3

No Detections.

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
PWSID Number: HI0000331

Lab Sample ID: 380-51410-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	2.7		2.0		ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	2.5		2.0		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.5		2.0		ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	2.2		2.0		ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	2.8		2.0		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.2		2.0		ng/L	1		537.1	Total/NA
Perfluorooctanoic acid (PFOA)	2.3		2.0		ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.3		2.0		ng/L	1		537.1	Total/NA

Client Sample ID: FB MOANALUA WELLS
Lab Sample ID: 380-51410-9

No Detections.

Client Sample ID: FB AIEA GULCH WELLS PUMP 2
Lab Sample ID: 380-51410-10

No Detections.

Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260) P2
Lab Sample ID: 380-51410-11

No Detections.

Client Sample ID: FB HALAWA WELLS UNITS 1 & 2 P1
Lab Sample ID: 380-51410-12

No Detections.

This Detection Summary does not include radiochemical test results.

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

Job ID: 380-51410-1

Client Sample ID: MOANALUA WELLS
Date Collected: 06/13/23 10:08
Date Received: 06/15/23 10:20

Lab Sample ID: 380-51410-1
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
1-Methylnaphthalene	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
2,4'-DDD	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
2,4'-DDE	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
2,4'-DDT	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
2,4-Dinitrotoluene	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
2,6-Dinitrotoluene	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
2-Methylnaphthalene	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
4,4'-DDD	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
4,4'-DDE	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
4,4'-DDT	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
Acenaphthene	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
Acenaphthylene	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
Acetochlor	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
Alachlor	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 17:54	1
alpha-BHC	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
alpha-Chlordane	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 17:54	1
Anthracene	<0.019		0.019		ug/L		06/18/23 14:51	06/19/23 17:54	1
Atrazine	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 17:54	1
Benz(a)anthracene	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 17:54	1
Benzo[a]pyrene	<0.019		0.019		ug/L		06/18/23 14:51	06/19/23 17:54	1
Benzo[b]fluoranthene	<0.019		0.019		ug/L		06/18/23 14:51	06/19/23 17:54	1
Benzo[g,h,i]perylene	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 17:54	1
Benzo[k]fluoranthene	<0.019		0.019		ug/L		06/18/23 14:51	06/19/23 17:54	1
beta-BHC	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58		ug/L		06/18/23 14:51	06/19/23 17:54	1
Bromacil	<0.097	^3+	0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
Butachlor	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 17:54	1
Butylbenzylphthalate	<0.49		0.49		ug/L		06/18/23 14:51	06/19/23 17:54	1
Chlorobenzilate	<0.097	*+ ^3+	0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
Chloroneb	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
Chlorothalonil (Draconil, Bravo)	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
Chlorpyrifos	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 17:54	1
Chrysene	<0.019		0.019		ug/L		06/18/23 14:51	06/19/23 17:54	1
delta-BHC	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
Di(2-ethylhexyl)adipate	<0.58		0.58		ug/L		06/18/23 14:51	06/19/23 17:54	1
Dibenz(a,h)anthracene	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 17:54	1
Diclorvos (DDVP)	<0.049	^3+	0.049		ug/L		06/18/23 14:51	06/19/23 17:54	1
Dieldrin	<0.19		0.19		ug/L		06/18/23 14:51	06/19/23 17:54	1
Diethylphthalate	<0.49		0.49		ug/L		06/18/23 14:51	06/19/23 17:54	1
Dimethylphthalate	<0.49		0.49		ug/L		06/18/23 14:51	06/19/23 17:54	1
Di-n-butyl phthalate	<0.97		0.97		ug/L		06/18/23 14:51	06/19/23 17:54	1
Di-n-octyl phthalate	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
Endosulfan I (Alpha)	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
Endosulfan II (Beta)	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
Endosulfan sulfate	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
Endrin	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
Endrin aldehyde	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
EPTC	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
Fluoranthene	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1

Client Sample ID: MOANALUA WELLS
Date Collected: 06/13/23 10:08
Date Received: 06/15/23 10:20

Lab Sample ID: 380-51410-1
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
Fluorene	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 17:54	1
gamma-Chlordane	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 17:54	1
Heptachlor	<0.039		0.039		ug/L		06/18/23 14:51	06/19/23 17:54	1
Heptachlor epoxide (isomer B)	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 17:54	1
Hexachlorobenzene	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 17:54	1
Hexachlorocyclopentadiene	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 17:54	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 17:54	1
Isophorone	<0.49		0.49		ug/L		06/18/23 14:51	06/19/23 17:54	1
Lindane	<0.039		0.039		ug/L		06/18/23 14:51	06/19/23 17:54	1
Malathion	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
Methoxychlor	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
Metolachlor	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 17:54	1
Molinate	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
Naphthalene	<0.29		0.29		ug/L		06/18/23 14:51	06/19/23 17:54	1
Parathion	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
Pendimethalin (Penoxaline)	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
Phenanthrene	<0.039		0.039		ug/L		06/18/23 14:51	06/19/23 17:54	1
Propachlor	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 17:54	1
Pyrene	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 17:54	1
Simazine	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 17:54	1
Terbacil	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
Terbuthylazine	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1
Thiobencarb	<0.19		0.19		ug/L		06/18/23 14:51	06/19/23 17:54	1
Total Permethrin (mixed isomers)	<0.19		0.19		ug/L		06/18/23 14:51	06/19/23 17:54	1
trans-Nonachlor	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 17:54	1
Trifluralin	<0.097		0.097		ug/L		06/18/23 14:51	06/19/23 17:54	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*			*N/A*	*06/18/23 14:51*	*06/19/23 17:54*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*105*		*70 - 130*	*06/18/23 14:51*	*06/19/23 17:54*	*1*
Perylene-d12	*99*		*70 - 130*	*06/18/23 14:51*	*06/19/23 17:54*	*1*
Triphenylphosphate	*98*		*70 - 130*	*06/18/23 14:51*	*06/19/23 17:54*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 17:32	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 17:32	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 17:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 17:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 17:32	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 17:32	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 17:32	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 17:32	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 17:32	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 17:32	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 17:32	1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-51410-1
Date Collected: 06/13/23 10:08
Matrix: Drinking Water
Date Received: 06/15/23 10:20
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 17:32	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 17:32	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 17:32	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 17:32	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 17:32	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 17:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 17:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*115*		*70 - 130*	*06/20/23 05:53*	*06/21/23 17:32*	*1*
13C2 PFHxA	*96*		*70 - 130*	*06/20/23 05:53*	*06/21/23 17:32*	*1*
13C2 PFDA	*106*		*70 - 130*	*06/20/23 05:53*	*06/21/23 17:32*	*1*
13C3-GenX	*86*		*70 - 130*	*06/20/23 05:53*	*06/21/23 17:32*	*1*

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-51410-2
Date Collected: 06/13/23 11:29
Matrix: Drinking Water
Date Received: 06/15/23 10:20
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
2,4'-DDD	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
2,4'-DDE	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
2,4'-DDT	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
2,4-Dinitrotoluene	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
2,6-Dinitrotoluene	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
2-Methylnaphthalene	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
4,4'-DDD	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
4,4'-DDE	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
4,4'-DDT	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
Acenaphthene	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
Acenaphthylene	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
Acetochlor	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
Alachlor	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 18:14	1
alpha-BHC	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
alpha-Chlordane	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 18:14	1
Anthracene	<0.020		0.020		ug/L		06/18/23 14:51	06/19/23 18:14	1
Atrazine	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 18:14	1
Benz(a)anthracene	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 18:14	1
Benzo[a]pyrene	<0.020		0.020		ug/L		06/18/23 14:51	06/19/23 18:14	1
Benzo[b]fluoranthene	<0.020		0.020		ug/L		06/18/23 14:51	06/19/23 18:14	1
Benzo[g,h,i]perylene	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 18:14	1
Benzo[k]fluoranthene	<0.020		0.020		ug/L		06/18/23 14:51	06/19/23 18:14	1
beta-BHC	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59		ug/L		06/18/23 14:51	06/19/23 18:14	1
Bromacil	<0.098	^3+	0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
Butachlor	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 18:14	1
Butylbenzylphthalate	<0.49		0.49		ug/L		06/18/23 14:51	06/19/23 18:14	1

Client Sample ID: AIEA GULCH WELLS PUMP 2
Date Collected: 06/13/23 11:29
Date Received: 06/15/23 10:20

Lab Sample ID: 380-51410-2
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
Chlorobenzilate	<0.098	*+ ^3+	0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
Chloroneb	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
Chlorothalonil (Draconil, Bravo)	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
Chlorpyrifos	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 18:14	1
Chrysene	<0.020		0.020		ug/L		06/18/23 14:51	06/19/23 18:14	1
delta-BHC	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
Di(2-ethylhexyl)adipate	<0.59		0.59		ug/L		06/18/23 14:51	06/19/23 18:14	1
Dibenz(a,h)anthracene	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 18:14	1
Diclorvos (DDVP)	<0.049	^3+	0.049		ug/L		06/18/23 14:51	06/19/23 18:14	1
Dieldrin	<0.20		0.20		ug/L		06/18/23 14:51	06/19/23 18:14	1
Diethylphthalate	<0.49		0.49		ug/L		06/18/23 14:51	06/19/23 18:14	1
Dimethylphthalate	<0.49		0.49		ug/L		06/18/23 14:51	06/19/23 18:14	1
Di-n-butyl phthalate	<0.98		0.98		ug/L		06/18/23 14:51	06/19/23 18:14	1
Di-n-octyl phthalate	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
Endosulfan I (Alpha)	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
Endosulfan II (Beta)	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
Endosulfan sulfate	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
Endrin	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
Endrin aldehyde	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
EPTC	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
Fluoranthene	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
Fluorene	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 18:14	1
gamma-Chlordane	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 18:14	1
Heptachlor	<0.039		0.039		ug/L		06/18/23 14:51	06/19/23 18:14	1
Heptachlor epoxide (isomer B)	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 18:14	1
Hexachlorobenzene	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 18:14	1
Hexachlorocyclopentadiene	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 18:14	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 18:14	1
Isophorone	<0.49		0.49		ug/L		06/18/23 14:51	06/19/23 18:14	1
Lindane	<0.039		0.039		ug/L		06/18/23 14:51	06/19/23 18:14	1
Malathion	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
Methoxychlor	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
Metolachlor	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 18:14	1
Molinate	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
Naphthalene	<0.29		0.29		ug/L		06/18/23 14:51	06/19/23 18:14	1
Parathion	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
Pendimethalin (Penoxaline)	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
Phenanthrene	<0.039		0.039		ug/L		06/18/23 14:51	06/19/23 18:14	1
Propachlor	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 18:14	1
Pyrene	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 18:14	1
Simazine	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 18:14	1
Terbacil	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
Terbuthylazine	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1
Thiobencarb	<0.20		0.20		ug/L		06/18/23 14:51	06/19/23 18:14	1
Total Permethrin (mixed isomers)	<0.20		0.20		ug/L		06/18/23 14:51	06/19/23 18:14	1
trans-Nonachlor	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 18:14	1
Trifluralin	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 18:14	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*			*N/A*	*06/18/23 14:51*	*06/19/23 18:14*	*1*

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-51410-2

Date Collected: 06/13/23 11:29

Matrix: Drinking Water

Date Received: 06/15/23 10:20

PWSID Number: HI0000331

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*104*		*70 - 130*	*06/18/23 14:51*	*06/19/23 18:14*	*1*
Perylene-d12	*96*		*70 - 130*	*06/18/23 14:51*	*06/19/23 18:14*	*1*
Triphenylphosphate	*104*		*70 - 130*	*06/18/23 14:51*	*06/19/23 18:14*	*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)	<2.0		2.0	ng/L		06/20/23 05:53	06/21/23 17:51	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/20/23 05:53	06/21/23 17:51	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/20/23 05:53	06/21/23 17:51	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/20/23 05:53	06/21/23 17:51	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/20/23 05:53	06/21/23 17:51	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/20/23 05:53	06/21/23 17:51	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/20/23 05:53	06/21/23 17:51	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/20/23 05:53	06/21/23 17:51	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/20/23 05:53	06/21/23 17:51	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/20/23 05:53	06/21/23 17:51	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/20/23 05:53	06/21/23 17:51	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/20/23 05:53	06/21/23 17:51	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/20/23 05:53	06/21/23 17:51	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/20/23 05:53	06/21/23 17:51	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		06/20/23 05:53	06/21/23 17:51	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/20/23 05:53	06/21/23 17:51	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/20/23 05:53	06/21/23 17:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/20/23 05:53	06/21/23 17:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*113*		*70 - 130*	*06/20/23 05:53*	*06/21/23 17:51*	*1*
13C2 PFHxA	*97*		*70 - 130*	*06/20/23 05:53*	*06/21/23 17:51*	*1*
13C2 PFDA	*108*		*70 - 130*	*06/20/23 05:53*	*06/21/23 17:51*	*1*
13C3-GenX	*87*		*70 - 130*	*06/20/23 05:53*	*06/21/23 17:51*	*1*

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-51410-3

Date Collected: 06/13/23 11:03

Matrix: Drinking Water

Date Received: 06/15/23 10:20

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.098		0.098	ug/L		06/18/23 16:16	06/19/23 18:34	1
2,4'-DDD	<0.098		0.098	ug/L		06/18/23 16:16	06/19/23 18:34	1
2,4'-DDE	<0.098		0.098	ug/L		06/18/23 16:16	06/19/23 18:34	1
2,4'-DDT	<0.098		0.098	ug/L		06/18/23 16:16	06/19/23 18:34	1
2,4-Dinitrotoluene	<0.098		0.098	ug/L		06/18/23 16:16	06/19/23 18:34	1
2,6-Dinitrotoluene	<0.098		0.098	ug/L		06/18/23 16:16	06/19/23 18:34	1
2-Methylnaphthalene	<0.098		0.098	ug/L		06/18/23 16:16	06/19/23 18:34	1
4,4'-DDD	<0.098		0.098	ug/L		06/18/23 16:16	06/19/23 18:34	1
4,4'-DDE	<0.098		0.098	ug/L		06/18/23 16:16	06/19/23 18:34	1

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

Job ID: 380-51410-1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2
Date Collected: 06/13/23 11:03
Date Received: 06/15/23 10:20

Lab Sample ID: 380-51410-3
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
4,4'-DDT	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
Acenaphthene	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
Acenaphthylene	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
Acetochlor	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
Alachlor	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:34	1
alpha-BHC	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
alpha-Chlordane	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:34	1
Anthracene	<0.020		0.020		ug/L		06/18/23 16:16	06/19/23 18:34	1
Atrazine	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:34	1
Benz(a)anthracene	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:34	1
Benzo[a]pyrene	<0.020		0.020		ug/L		06/18/23 16:16	06/19/23 18:34	1
Benzo[b]fluoranthene	<0.020		0.020		ug/L		06/18/23 16:16	06/19/23 18:34	1
Benzo[g,h,i]perylene	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:34	1
Benzo[k]fluoranthene	<0.020		0.020		ug/L		06/18/23 16:16	06/19/23 18:34	1
beta-BHC	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59		ug/L		06/18/23 16:16	06/19/23 18:34	1
Bromacil	<0.098	^3+	0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
Butachlor	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:34	1
Butylbenzylphthalate	<0.49		0.49		ug/L		06/18/23 16:16	06/19/23 18:34	1
Chlorobenzilate	<0.098	*+ ^3+	0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
Chloroneb	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
Chlorothalonil (Draconil, Bravo)	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
Chlorpyrifos	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:34	1
Chrysene	<0.020		0.020		ug/L		06/18/23 16:16	06/19/23 18:34	1
delta-BHC	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
Di(2-ethylhexyl)adipate	<0.59		0.59		ug/L		06/18/23 16:16	06/19/23 18:34	1
Dibenz(a,h)anthracene	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:34	1
Diclorvos (DDVP)	<0.049	^3+	0.049		ug/L		06/18/23 16:16	06/19/23 18:34	1
Dieldrin	<0.20		0.20		ug/L		06/18/23 16:16	06/19/23 18:34	1
Diethylphthalate	<0.49		0.49		ug/L		06/18/23 16:16	06/19/23 18:34	1
Dimethylphthalate	<0.49		0.49		ug/L		06/18/23 16:16	06/19/23 18:34	1
Di-n-butyl phthalate	<0.98		0.98		ug/L		06/18/23 16:16	06/19/23 18:34	1
Di-n-octyl phthalate	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
Endosulfan I (Alpha)	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
Endosulfan II (Beta)	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
Endosulfan sulfate	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
Endrin	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
Endrin aldehyde	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
EPTC	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
Fluoranthene	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
Fluorene	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:34	1
gamma-Chlordane	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:34	1
Heptachlor	<0.039		0.039		ug/L		06/18/23 16:16	06/19/23 18:34	1
Heptachlor epoxide (isomer B)	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:34	1
Hexachlorobenzene	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:34	1
Hexachlorocyclopentadiene	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:34	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:34	1
Isophorone	<0.49		0.49		ug/L		06/18/23 16:16	06/19/23 18:34	1
Lindane	<0.039		0.039		ug/L		06/18/23 16:16	06/19/23 18:34	1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2
Date Collected: 06/13/23 11:03
Date Received: 06/15/23 10:20

Lab Sample ID: 380-51410-3
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
Malathion	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
Methoxychlor	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
Metolachlor	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:34	1
Molinate	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
Naphthalene	<0.29		0.29		ug/L		06/18/23 16:16	06/19/23 18:34	1
Parathion	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
Pendimethalin (Penoxaline)	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
Phenanthrene	<0.039		0.039		ug/L		06/18/23 16:16	06/19/23 18:34	1
Propachlor	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:34	1
Pyrene	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:34	1
Simazine	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:34	1
Terbacil	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
Terbuthylazine	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1
Thiobencarb	<0.20		0.20		ug/L		06/18/23 16:16	06/19/23 18:34	1
Total Permethrin (mixed isomers)	<0.20		0.20		ug/L		06/18/23 16:16	06/19/23 18:34	1
trans-Nonachlor	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:34	1
Trifluralin	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:34	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*			*N/A*	*06/18/23 16:16*	*06/19/23 18:34*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*102*		*70 - 130*	*06/18/23 16:16*	*06/19/23 18:34*	*1*
Perylene-d12	*98*		*70 - 130*	*06/18/23 16:16*	*06/19/23 18:34*	*1*
Triphenylphosphate	*101*		*70 - 130*	*06/18/23 16:16*	*06/19/23 18:34*	*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)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1
Perfluorobutanoic acid (PFBA)	<2.0	B ^3+	2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1

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

Job ID: 380-51410-1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2
Date Collected: 06/13/23 11:03
Date Received: 06/15/23 10:20

Lab Sample ID: 380-51410-3
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 00:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*58*		*50 - 200*	*07/05/23 13:00*	*07/09/23 00:56*	*1*
13C6 PFDA	*80*		*50 - 200*	*07/05/23 13:00*	*07/09/23 00:56*	*1*
13C5 PFHxA	*71*		*50 - 200*	*07/05/23 13:00*	*07/09/23 00:56*	*1*
13C4 PFHpA	*74*		*50 - 200*	*07/05/23 13:00*	*07/09/23 00:56*	*1*
13C8 PFOA	*78*		*50 - 200*	*07/05/23 13:00*	*07/09/23 00:56*	*1*
13C9 PFNA	*81*		*50 - 200*	*07/05/23 13:00*	*07/09/23 00:56*	*1*
13C7 PFUnA	*82*		*50 - 200*	*07/05/23 13:00*	*07/09/23 00:56*	*1*
13C2 PFDoA	*85*		*50 - 200*	*07/05/23 13:00*	*07/09/23 00:56*	*1*
13C4 PFBA	*71*		*50 - 200*	*07/05/23 13:00*	*07/09/23 00:56*	*1*
13C5 PFPeA	*67*		*50 - 200*	*07/05/23 13:00*	*07/09/23 00:56*	*1*
13C3 PFBS	*79*		*50 - 200*	*07/05/23 13:00*	*07/09/23 00:56*	*1*
13C3 PFHxS	*88*		*50 - 200*	*07/05/23 13:00*	*07/09/23 00:56*	*1*
13C8 PFOS	*92*		*50 - 200*	*07/05/23 13:00*	*07/09/23 00:56*	*1*
13C2-4:2-FTS	*95*		*50 - 200*	*07/05/23 13:00*	*07/09/23 00:56*	*1*
13C2-6:2-FTS	*100*		*50 - 200*	*07/05/23 13:00*	*07/09/23 00:56*	*1*
13C2-8:2-FTS	*98*		*50 - 200*	*07/05/23 13:00*	*07/09/23 00:56*	*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)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:00	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:00	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:00	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:00	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:00	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:00	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:00	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:00	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:00	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:00	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:00	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:00	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:00	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:00	1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-51410-3
Date Collected: 06/13/23 11:03
Matrix: Drinking Water
Date Received: 06/15/23 10:20
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)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:00	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:00	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*128*		*70 - 130*	*06/20/23 05:53*	*06/21/23 18:00*	*1*
13C2 PFHxA	*112*		*70 - 130*	*06/20/23 05:53*	*06/21/23 18:00*	*1*
13C2 PFDA	*121*		*70 - 130*	*06/20/23 05:53*	*06/21/23 18:00*	*1*
13C3-GenX	*103*		*70 - 130*	*06/20/23 05:53*	*06/21/23 18:00*	*1*

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-51410-4
Date Collected: 06/13/23 10:39
Matrix: Drinking Water
Date Received: 06/15/23 10:20
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
2,4'-DDD	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
2,4'-DDE	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
2,4'-DDT	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
2,4-Dinitrotoluene	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
2,6-Dinitrotoluene	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
2-Methylnaphthalene	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
4,4'-DDD	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
4,4'-DDE	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
4,4'-DDT	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
Acenaphthene	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
Acenaphthylene	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
Acetochlor	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
Alachlor	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:54	1
alpha-BHC	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
alpha-Chlordane	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:54	1
Anthracene	<0.020		0.020		ug/L		06/18/23 16:16	06/19/23 18:54	1
Atrazine	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:54	1
Benz(a)anthracene	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:54	1
Benzo[a]pyrene	<0.020		0.020		ug/L		06/18/23 16:16	06/19/23 18:54	1
Benzo[b]fluoranthene	<0.020		0.020		ug/L		06/18/23 16:16	06/19/23 18:54	1
Benzo[g,h,i]perylene	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:54	1
Benzo[k]fluoranthene	<0.020		0.020		ug/L		06/18/23 16:16	06/19/23 18:54	1
beta-BHC	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59		ug/L		06/18/23 16:16	06/19/23 18:54	1
Bromacil	<0.098		0.098		ug/L		06/18/23 16:16	06/21/23 09:09	1
Butachlor	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:54	1
Butylbenzylphthalate	<0.49		0.49		ug/L		06/18/23 16:16	06/19/23 18:54	1
Chlorobenzilate	<0.098	*+ ^3+	0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
Chloroneb	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
Chlorothalonil (Draconil, Bravo)	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1

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

Job ID: 380-51410-1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
Date Collected: 06/13/23 10:39
Date Received: 06/15/23 10:20

Lab Sample ID: 380-51410-4
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chlorpyrifos	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:54	1
Chrysene	<0.020		0.020		ug/L		06/18/23 16:16	06/19/23 18:54	1
delta-BHC	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
Di(2-ethylhexyl)adipate	<0.59		0.59		ug/L		06/18/23 16:16	06/19/23 18:54	1
Dibenz(a,h)anthracene	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:54	1
Diclorvos (DDVP)	<0.049	^3+	0.049		ug/L		06/18/23 16:16	06/19/23 18:54	1
Dieldrin	<0.20		0.20		ug/L		06/18/23 16:16	06/19/23 18:54	1
Diethylphthalate	<0.49		0.49		ug/L		06/18/23 16:16	06/19/23 18:54	1
Dimethylphthalate	<0.49		0.49		ug/L		06/18/23 16:16	06/19/23 18:54	1
Di-n-butyl phthalate	<0.98		0.98		ug/L		06/18/23 16:16	06/19/23 18:54	1
Di-n-octyl phthalate	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
Endosulfan I (Alpha)	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
Endosulfan II (Beta)	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
Endosulfan sulfate	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
Endrin	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
Endrin aldehyde	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
EPTC	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
Fluoranthene	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
Fluorene	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:54	1
gamma-Chlordane	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:54	1
Heptachlor	<0.039		0.039		ug/L		06/18/23 16:16	06/19/23 18:54	1
Heptachlor epoxide (isomer B)	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:54	1
Hexachlorobenzene	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:54	1
Hexachlorocyclopentadiene	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:54	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:54	1
Isophorone	<0.49		0.49		ug/L		06/18/23 16:16	06/19/23 18:54	1
Lindane	<0.039		0.039		ug/L		06/18/23 16:16	06/19/23 18:54	1
Malathion	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
Methoxychlor	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
Metolachlor	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:54	1
Molinate	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
Naphthalene	<0.29		0.29		ug/L		06/18/23 16:16	06/19/23 18:54	1
Parathion	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
Pendimethalin (Penoxaline)	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
Phenanthrene	<0.039		0.039		ug/L		06/18/23 16:16	06/19/23 18:54	1
Propachlor	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:54	1
Pyrene	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:54	1
Simazine	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:54	1
Terbacil	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
Terbuthylazine	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1
Thiobencarb	<0.20		0.20		ug/L		06/18/23 16:16	06/19/23 18:54	1
Total Permethrin (mixed isomers)	<0.20		0.20		ug/L		06/18/23 16:16	06/19/23 18:54	1
trans-Nonachlor	<0.049		0.049		ug/L		06/18/23 16:16	06/19/23 18:54	1
Trifluralin	<0.098		0.098		ug/L		06/18/23 16:16	06/19/23 18:54	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Decane, 5-methyl-	*0.49*	*T J N*	*ug/L*		*2.60*	*13151-35-4*	*06/18/23 16:16*	*06/21/23 09:09*	*1*
Phenol, 4-(1,1-dimethylpropyl)-	*0.50*	*T J N*	*ug/L*		*3.97*	*80-46-6*	*06/18/23 16:16*	*06/21/23 09:09*	*1*
Tetradecanoic acid	*0.97*	*T J N*	*ug/L*		*5.88*	*544-63-8*	*06/18/23 16:16*	*06/21/23 09:09*	*1*
9-Octadecenoic acid, (E)-	*0.92*	*T J N*	*ug/L*		*6.50*	*112-79-8*	*06/18/23 16:16*	*06/21/23 09:09*	*1*

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
Date Collected: 06/13/23 10:39
Date Received: 06/15/23 10:20

Lab Sample ID: 380-51410-4
Matrix: Drinking Water
PWSID Number: HI0000331

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

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Octadecanoic acid	0.71	T J N	ug/L		6.57	57-11-4	06/18/23 16:16	06/21/23 09:09	1
9-Octadecenamide, (Z)-	2.2	T J N	ug/L		7.60	301-02-0	06/18/23 16:16	06/21/23 09:09	1
13-Docosenamide, (Z)-	1.3	T J N	ug/L		10.28	112-84-5	06/18/23 16:16	06/21/23 09:09	1
Tentatively Identified Compound	None		ug/L			N/A	06/18/23 16:16	06/19/23 18:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	106		70 - 130	06/18/23 16:16	06/19/23 18:54	1
2-Nitro-m-xylene	114		70 - 130	06/18/23 16:16	06/21/23 09:09	1
Perylene-d12	88		70 - 130	06/18/23 16:16	06/19/23 18:54	1
Perylene-d12	94		70 - 130	06/18/23 16:16	06/21/23 09:09	1
Triphenylphosphate	97		70 - 130	06/18/23 16:16	06/19/23 18:54	1
Triphenylphosphate	112		70 - 130	06/18/23 16:16	06/21/23 09:09	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)	<2.0		2.0	ng/L		07/05/23 13:00	07/09/23 01:06	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		07/05/23 13:00	07/09/23 01:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		07/05/23 13:00	07/09/23 01:06	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		07/05/23 13:00	07/09/23 01:06	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		07/05/23 13:00	07/09/23 01:06	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		07/05/23 13:00	07/09/23 01:06	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		07/05/23 13:00	07/09/23 01:06	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		07/05/23 13:00	07/09/23 01:06	1
Perfluorohexanesulfonic acid (PFHxS)	**2.7**		2.0	ng/L		07/05/23 13:00	07/09/23 01:06	1
Perfluorohexanoic acid (PFHxA)	**2.5**		2.0	ng/L		07/05/23 13:00	07/09/23 01:06	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		07/05/23 13:00	07/09/23 01:06	1
Perfluorooctanesulfonic acid (PFOS)	**2.5**		2.0	ng/L		07/05/23 13:00	07/09/23 01:06	1
Perfluorooctanoic acid (PFOA)	**2.2**		2.0	ng/L		07/05/23 13:00	07/09/23 01:06	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		07/05/23 13:00	07/09/23 01:06	1
Perfluorobutanoic acid (PFBA)	<2.0	B ^3+	2.0	ng/L		07/05/23 13:00	07/09/23 01:06	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		07/05/23 13:00	07/09/23 01:06	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		07/05/23 13:00	07/09/23 01:06	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		07/05/23 13:00	07/09/23 01:06	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		07/05/23 13:00	07/09/23 01:06	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		07/05/23 13:00	07/09/23 01:06	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		07/05/23 13:00	07/09/23 01:06	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		07/05/23 13:00	07/09/23 01:06	1
Perfluoropentanoic acid (PFPeA)	**2.8**		2.0	ng/L		07/05/23 13:00	07/09/23 01:06	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		07/05/23 13:00	07/09/23 01:06	1

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

Job ID: 380-51410-1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
Date Collected: 06/13/23 10:39
Date Received: 06/15/23 10:20

Lab Sample ID: 380-51410-4
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
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*63*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:06*	*1*
13C6 PFDA	*88*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:06*	*1*
13C5 PFHxA	*79*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:06*	*1*
13C4 PFHpA	*81*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:06*	*1*
13C8 PFOA	*88*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:06*	*1*
13C9 PFNA	*87*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:06*	*1*
13C7 PFUnA	*86*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:06*	*1*
13C2 PFDoA	*92*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:06*	*1*
13C4 PFBA	*82*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:06*	*1*
13C5 PFPeA	*79*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:06*	*1*
13C3 PFBS	*88*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:06*	*1*
13C3 PFHxS	*85*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:06*	*1*
13C8 PFOS	*88*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:06*	*1*
13C2-4:2-FTS	*101*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:06*	*1*
13C2-6:2-FTS	*98*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:06*	*1*
13C2-8:2-FTS	*95*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:06*	*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)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:10	1
Perfluorooctanesulfonic acid (PFOS)	**2.2**		2.0		ng/L		06/20/23 05:53	06/21/23 18:10	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:10	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:10	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:10	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:10	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:10	1
Perfluorooctanoic acid (PFOA)	**2.3**		2.0		ng/L		06/20/23 05:53	06/21/23 18:10	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:10	1
Perfluorohexanesulfonic acid (PFHxS)	**2.3**		2.0		ng/L		06/20/23 05:53	06/21/23 18:10	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:10	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:10	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:10	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:10	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:10	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:10	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*118*		*70 - 130*	*06/20/23 05:53*	*06/21/23 18:10*	*1*
13C2 PFHxA	*101*		*70 - 130*	*06/20/23 05:53*	*06/21/23 18:10*	*1*

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-51410-4
Date Collected: 06/13/23 10:39
Matrix: Drinking Water
Date Received: 06/15/23 10:20
PWSID Number: HI0000331

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*115*		*70 - 130*	*06/20/23 05:53*	*06/21/23 18:10*	*1*
13C3-GenX	*91*		*70 - 130*	*06/20/23 05:53*	*06/21/23 18:10*	*1*

Client Sample ID: FB MOANALUA WELLS

Lab Sample ID: 380-51410-9
Date Collected: 06/13/23 10:08
Matrix: Water
Date Received: 06/15/23 10:20

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)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:19	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:19	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:19	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:19	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:19	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:19	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:19	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:19	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:19	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:19	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:19	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:19	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:19	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:19	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:19	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:19	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*123*		*70 - 130*	*06/20/23 05:53*	*06/21/23 18:19*	*1*
13C2 PFHxA	*108*		*70 - 130*	*06/20/23 05:53*	*06/21/23 18:19*	*1*
13C2 PFDA	*117*		*70 - 130*	*06/20/23 05:53*	*06/21/23 18:19*	*1*
13C3-GenX	*91*		*70 - 130*	*06/20/23 05:53*	*06/21/23 18:19*	*1*

Client Sample ID: FB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-51410-10
Date Collected: 06/13/23 11:29
Matrix: Water
Date Received: 06/15/23 10:20

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)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:29	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:29	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:29	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:29	1

Client Sample ID: FB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-51410-10

Date Collected: 06/13/23 11:29

Matrix: Water

Date Received: 06/15/23 10:20

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:29	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:29	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:29	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:29	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:29	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:29	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:29	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:29	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:29	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:29	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:29	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:29	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*121*		*70 - 130*	*06/20/23 05:53*	*06/21/23 18:29*	*1*
13C2 PFHxA	*109*		*70 - 130*	*06/20/23 05:53*	*06/21/23 18:29*	*1*
13C2 PFDA	*115*		*70 - 130*	*06/20/23 05:53*	*06/21/23 18:29*	*1*
13C3-GenX	*90*		*70 - 130*	*06/20/23 05:53*	*06/21/23 18:29*	*1*

Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-51410-11

Date Collected: 06/13/23 11:03

Matrix: Water

Date Received: 06/15/23 10:20

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)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1
Perfluorobutanoic acid (PFBA)	<2.0	B ^3+	2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1

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

Job ID: 380-51410-1

Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260) P2
Date Collected: 06/13/23 11:03
Date Received: 06/15/23 10:20

Lab Sample ID: 380-51410-11
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-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*76*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:47*	*1*
13C6 PFDA	*92*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:47*	*1*
13C5 PFHxA	*90*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:47*	*1*
13C4 PFHpA	*91*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:47*	*1*
13C8 PFOA	*95*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:47*	*1*
13C9 PFNA	*94*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:47*	*1*
13C7 PFUnA	*90*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:47*	*1*
13C2 PFDoA	*95*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:47*	*1*
13C4 PFBA	*91*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:47*	*1*
13C5 PFPeA	*92*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:47*	*1*
13C3 PFBS	*94*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:47*	*1*
13C3 PFHxS	*89*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:47*	*1*
13C8 PFOS	*93*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:47*	*1*
13C2-4:2-FTS	*95*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:47*	*1*
13C2-6:2-FTS	*99*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:47*	*1*
13C2-8:2-FTS	*98*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:47*	*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)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:39	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:39	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:39	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:39	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:39	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:39	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:39	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:39	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:39	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:39	1

Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-51410-11

Date Collected: 06/13/23 11:03

Matrix: Water

Date Received: 06/15/23 10:20

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:39	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:39	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:39	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:39	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*124*		*70 - 130*	*06/20/23 05:53*	*06/21/23 18:39*	*1*
13C2 PFHxA	*107*		*70 - 130*	*06/20/23 05:53*	*06/21/23 18:39*	*1*
13C2 PFDA	*115*		*70 - 130*	*06/20/23 05:53*	*06/21/23 18:39*	*1*
13C3-GenX	*86*		*70 - 130*	*06/20/23 05:53*	*06/21/23 18:39*	*1*

Client Sample ID: FB HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-51410-12

Date Collected: 06/13/23 10:39

Matrix: Water

Date Received: 06/15/23 10:20

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)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1
Perfluorobutanoic acid (PFBA)	<2.0	B ^3+	2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1

Client Sample ID: FB HALAWA WELLS UNITS 1 & 2 P1
Date Collected: 06/13/23 10:39
Date Received: 06/15/23 10:20

Lab Sample ID: 380-51410-12
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		07/05/23 13:00	07/09/23 01:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*82*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:56*	*1*
13C6 PFDA	*97*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:56*	*1*
13C5 PFHxA	*95*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:56*	*1*
13C4 PFHpA	*94*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:56*	*1*
13C8 PFOA	*97*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:56*	*1*
13C9 PFNA	*96*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:56*	*1*
13C7 PFUnA	*96*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:56*	*1*
13C2 PFDoA	*101*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:56*	*1*
13C4 PFBA	*94*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:56*	*1*
13C5 PFPeA	*89*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:56*	*1*
13C3 PFBS	*90*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:56*	*1*
13C3 PFHxS	*87*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:56*	*1*
13C8 PFOS	*92*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:56*	*1*
13C2-4:2-FTS	*91*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:56*	*1*
13C2-6:2-FTS	*99*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:56*	*1*
13C2-8:2-FTS	*97*		*50 - 200*	*07/05/23 13:00*	*07/09/23 01:56*	*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)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:58	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:58	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:58	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:58	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:58	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:58	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:58	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:58	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:58	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:58	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:58	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:58	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:58	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:58	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:58	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		06/20/23 05:53	06/21/23 18:58	1

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

Job ID: 380-51410-1

Client Sample ID: FB HALAWA WELLS UNITS 1 & 2 P1
Date Collected: 06/13/23 10:39
Date Received: 06/15/23 10:20

Lab Sample ID: 380-51410-12
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	116		70 - 130	06/20/23 05:53	06/21/23 18:58	1
13C2 PFHxA	107		70 - 130	06/20/23 05:53	06/21/23 18:58	1
13C2 PFDA	115		70 - 130	06/20/23 05:53	06/21/23 18:58	1
13C3-GenX	92		70 - 130	06/20/23 05:53	06/21/23 18:58	1

Action Limit Summary

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

Job ID: 380-51410-1

Client Sample ID: MOANALUA WELLS
Lab Sample ID: 380-51410-1

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	<0.049		ug/L	2	0.049	525.2	Total/NA
Atrazine	<0.049		ug/L	3	0.049	525.2	Total/NA
Benzo[a]pyrene	<0.019		ug/L	0.2	0.019	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.58		ug/L	6	0.58	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.58		ug/L	400	0.58	525.2	Total/NA
Endrin	<0.097		ug/L	2	0.097	525.2	Total/NA
Heptachlor	<0.039		ug/L	0.4	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.049		ug/L	0.2	0.049	525.2	Total/NA
Hexachlorobenzene	<0.049		ug/L	1	0.049	525.2	Total/NA
Hexachlorocyclopentadiene	<0.049		ug/L	50	0.049	525.2	Total/NA
Lindane	<0.039		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	<0.097		ug/L	40	0.097	525.2	Total/NA
Simazine	<0.049		ug/L	4	0.049	525.2	Total/NA

Client Sample ID: AIEA GULCH WELLS PUMP 2
Lab Sample ID: 380-51410-2

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	<0.049		ug/L	2	0.049	525.2	Total/NA
Atrazine	<0.049		ug/L	3	0.049	525.2	Total/NA
Benzo[a]pyrene	<0.020		ug/L	0.2	0.020	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.59		ug/L	6	0.59	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.59		ug/L	400	0.59	525.2	Total/NA
Endrin	<0.098		ug/L	2	0.098	525.2	Total/NA
Heptachlor	<0.039		ug/L	0.4	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.049		ug/L	0.2	0.049	525.2	Total/NA
Hexachlorobenzene	<0.049		ug/L	1	0.049	525.2	Total/NA
Hexachlorocyclopentadiene	<0.049		ug/L	50	0.049	525.2	Total/NA
Lindane	<0.039		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	<0.098		ug/L	40	0.098	525.2	Total/NA
Simazine	<0.049		ug/L	4	0.049	525.2	Total/NA

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2
Lab Sample ID: 380-51410-3

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	<0.049		ug/L	2	0.049	525.2	Total/NA
Atrazine	<0.049		ug/L	3	0.049	525.2	Total/NA

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2 (Continued)

Lab Sample ID: 380-51410-3

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
Benzo[a]pyrene	<0.020		ug/L	0.2	0.020	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.59		ug/L	6	0.59	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.59		ug/L	400	0.59	525.2	Total/NA
Endrin	<0.098		ug/L	2	0.098	525.2	Total/NA
Heptachlor	<0.039		ug/L	0.4	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.049		ug/L	0.2	0.049	525.2	Total/NA
Hexachlorobenzene	<0.049		ug/L	1	0.049	525.2	Total/NA
Hexachlorocyclopentadiene	<0.049		ug/L	50	0.049	525.2	Total/NA
Lindane	<0.039		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	<0.098		ug/L	40	0.098	525.2	Total/NA
Simazine	<0.049		ug/L	4	0.049	525.2	Total/NA

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-51410-4

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	<0.049		ug/L	2	0.049	525.2	Total/NA
Atrazine	<0.049		ug/L	3	0.049	525.2	Total/NA
Benzo[a]pyrene	<0.020		ug/L	0.2	0.020	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.59		ug/L	6	0.59	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.59		ug/L	400	0.59	525.2	Total/NA
Endrin	<0.098		ug/L	2	0.098	525.2	Total/NA
Heptachlor	<0.039		ug/L	0.4	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.049		ug/L	0.2	0.049	525.2	Total/NA
Hexachlorobenzene	<0.049		ug/L	1	0.049	525.2	Total/NA
Hexachlorocyclopentadiene	<0.049		ug/L	50	0.049	525.2	Total/NA
Lindane	<0.039		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	<0.098		ug/L	40	0.098	525.2	Total/NA
Simazine	<0.049		ug/L	4	0.049	525.2	Total/NA

Surrogate Summary

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

Job ID: 380-51410-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)		
		2NMX	PRY	TPP
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)
380-51410-1	MOANALUA WELLS	105	99	98
380-51410-2	AIEA GULCH WELLS PUMP 2	104	96	104
380-51410-3	AIEA WELLS PUMPS 1&2 (260) P2	102	98	101
380-51410-4	HALAWA WELLS UNITS 1 & 2 P1	106	88	97
380-51410-4	HALAWA WELLS UNITS 1 & 2 P1	114	94	112

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)		
		2NMX	PRY	TPP
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)
380-51396-Y-1-A DU	Duplicate	101	95	98
380-51393-AO-1-A MS	Matrix Spike	105	96	102
LCS 380-44527/23-A	Lab Control Sample	98	87	99
LCSD 380-44527/24-A	Lab Control Sample Dup	104	94	105
MB 380-44527/21-A	Method Blank	100	74	102
MRL 380-44527/22-A	Lab Control Sample	99	80	106
MRL 380-44527/22-A	Lab Control Sample	111	94	119

Surrogate Legend

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

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)
380-51410-1	MOANALUA WELLS	115	96	106	86
380-51410-2	AIEA GULCH WELLS PUMP 2	113	97	108	87
380-51410-3	AIEA WELLS PUMPS 1&2 (260) P2	128	112	121	103
380-51410-4	HALAWA WELLS UNITS 1 & 2 P1	118	101	115	91

Surrogate Legend

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

Surrogate Summary

Client: City & County of Honolulu
Job ID: 380-51410-1
Project/Site: RED-HILL

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

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-51342-B-1-A MS	Matrix Spike	115	74	120	72
380-51342-C-1-A MSD	Matrix Spike Duplicate	110	72	116	71
380-51410-9	FB MOANALUA WELLS	123	108	117	91
380-51410-10	FB AIEA GULCH WELLS PUMP 2	121	109	115	90
380-51410-11	FB AIEA WELLS PUMPS 1&2 (260) P2	124	107	115	86
380-51410-12	FB HALAWA WELLS UNITS 1 & 2 P1	116	107	115	92
LCSD 380-44736/26-A	Lab Control Sample	105	99	107	85
MBL 380-44736/23-A	Method Blank	115	100	105	87
MRL 380-44736/24-A	Lab Control Sample	112	98	108	88

Surrogate Legend

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

Isotope Dilution Summary

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

Job ID: 380-51410-1

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)
380-51410-3	AIEA WELLS PUMPS 1&2 (260)	58	80	71	74	78	81	82	85
380-51410-4	HALAWA WELLS UNITS 1 & 2 P1	63	88	79	81	88	87	86	92

		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)
380-51410-3	AIEA WELLS PUMPS 1&2 (260)	71	67	79	88	92	95	100	98
380-51410-4	HALAWA WELLS UNITS 1 & 2 P1	82	79	88	85	88	101	98	95

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)
380-51408-E-1-A MS	Matrix Spike	47 *5-	76	62	61	68	71	79	85
380-51408-F-1-A MSD	Matrix Spike Duplicate	40 *5-	61	46 *5-	43 *5-	47 *5-	56	64	71
380-51410-11	FB AIEA WELLS PUMPS 1&2 (260) P2	76	92	90	91	95	94	90	95
380-51410-12	FB HALAWA WELLS UNITS 1 & 2 P1	82	97	95	94	97	96	96	101
LCS 380-46250/25-A	Lab Control Sample	71	87	86	87	89	88	87	91
LCSD 380-46250/26-A	Lab Control Sample Dup	79	87	91	89	91	87	82	88
MBL 380-46250/23-A	Method Blank	51	90	66	71	81	85	86	95
MRL 380-46250/24-A	Lab Control Sample	78	91	92	91	94	95	92	95

		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)
380-51408-E-1-A MS	Matrix Spike	65	63	88	87	87	92	98	92
380-51408-F-1-A MSD	Matrix Spike Duplicate	51	48 *5-	87	90	92	94	100	97
380-51410-11	FB AIEA WELLS PUMPS 1&2 (260) P2	91	92	94	89	93	95	99	98

Isotope Dilution Summary

Client: City & County of Honolulu
Job ID: 380-51410-1
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	PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-51410-12	FB HALAWA WELLS UNITS 1 &	94	89	90	87	92	91	99	97
LCS 380-46250/25-A	Lab Control Sample	78	77	86	89	92	96	105	94
LCSD 380-46250/26-A	Lab Control Sample Dup	89	87	84	81	84	90	95	88
MBL 380-46250/23-A	Method Blank	59	59	91	90	92	103	105	125
MRL 380-46250/24-A	Lab Control Sample	96	92	90	82	92	97	104	94

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 380-44527/21-A
Matrix: Water
Analysis Batch: 44619

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 44527

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
2,4'-DDD	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
2,4'-DDE	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
2,4'-DDT	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
2,4-Dinitrotoluene	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
2,6-Dinitrotoluene	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
2-Methylnaphthalene	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
4,4'-DDD	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
4,4'-DDE	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
4,4'-DDT	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
Acenaphthene	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
Acenaphthylene	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
Acetochlor	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
Alachlor	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 15:15	1
alpha-BHC	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
alpha-Chlordane	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 15:15	1
Anthracene	<0.020		0.020		ug/L		06/18/23 14:51	06/19/23 15:15	1
Atrazine	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 15:15	1
Benz(a)anthracene	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 15:15	1
Benzo[a]pyrene	<0.020		0.020		ug/L		06/18/23 14:51	06/19/23 15:15	1
Benzo[b]fluoranthene	<0.020		0.020		ug/L		06/18/23 14:51	06/19/23 15:15	1
Benzo[g,h,i]perylene	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 15:15	1
Benzo[k]fluoranthene	<0.020		0.020		ug/L		06/18/23 14:51	06/19/23 15:15	1
beta-BHC	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59		ug/L		06/18/23 14:51	06/19/23 15:15	1
Bromacil	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
Butachlor	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 15:15	1
Butylbenzylphthalate	<0.49		0.49		ug/L		06/18/23 14:51	06/19/23 15:15	1
Chlorobenzilate	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
Chloroneb	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
Chlorothalonil (Draconil, Bravo)	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
Chlorpyrifos	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 15:15	1
Chrysene	<0.020		0.020		ug/L		06/18/23 14:51	06/19/23 15:15	1
delta-BHC	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
Di(2-ethylhexyl)adipate	<0.59		0.59		ug/L		06/18/23 14:51	06/19/23 15:15	1
Dibenz(a,h)anthracene	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 15:15	1
Diclorvos (DDVP)	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 15:15	1
Dieldrin	<0.20		0.20		ug/L		06/18/23 14:51	06/19/23 15:15	1
Diethylphthalate	<0.49		0.49		ug/L		06/18/23 14:51	06/19/23 15:15	1
Dimethylphthalate	<0.49		0.49		ug/L		06/18/23 14:51	06/19/23 15:15	1
Di-n-butyl phthalate	<0.98		0.98		ug/L		06/18/23 14:51	06/19/23 15:15	1
Di-n-octyl phthalate	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
Endosulfan I (Alpha)	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
Endosulfan II (Beta)	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
Endosulfan sulfate	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
Endrin	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
Endrin aldehyde	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
EPTC	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1

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

Lab Sample ID: MB 380-44527/21-A
Matrix: Water
Analysis Batch: 44619

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 44527

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
Fluorene	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 15:15	1
gamma-Chlordane	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 15:15	1
Heptachlor	<0.039		0.039		ug/L		06/18/23 14:51	06/19/23 15:15	1
Heptachlor epoxide (isomer B)	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 15:15	1
Hexachlorobenzene	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 15:15	1
Hexachlorocyclopentadiene	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 15:15	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 15:15	1
Isophorone	<0.49		0.49		ug/L		06/18/23 14:51	06/19/23 15:15	1
Lindane	<0.039		0.039		ug/L		06/18/23 14:51	06/19/23 15:15	1
Malathion	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
Methoxychlor	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
Metolachlor	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 15:15	1
Molinate	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
Naphthalene	<0.30		0.30		ug/L		06/18/23 14:51	06/19/23 15:15	1
Parathion	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
Pendimethalin (Penoxaline)	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
Phenanthrene	<0.039		0.039		ug/L		06/18/23 14:51	06/19/23 15:15	1
Propachlor	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 15:15	1
Pyrene	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 15:15	1
Simazine	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 15:15	1
Terbacil	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
Terbuthylazine	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1
Thiobencarb	<0.20		0.20		ug/L		06/18/23 14:51	06/19/23 15:15	1
Total Permethrin (mixed isomers)	<0.20		0.20		ug/L		06/18/23 14:51	06/19/23 15:15	1
trans-Nonachlor	<0.049		0.049		ug/L		06/18/23 14:51	06/19/23 15:15	1
Trifluralin	<0.098		0.098		ug/L		06/18/23 14:51	06/19/23 15:15	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Decane	*1.84*	*T J N*	*ug/L*		*2.36*	*124-18-5*	*06/18/23 14:51*	*06/19/23 15:15*	*1*
Unknown	*1.44*	*T J*	*ug/L*		*5.80*	*N/A*	*06/18/23 14:51*	*06/19/23 15:15*	*1*
Oleic Acid	*0.709*	*T J N*	*ug/L*		*6.41*	*112-80-1*	*06/18/23 14:51*	*06/19/23 15:15*	*1*
Octadecanoic acid	*1.17*	*T J N*	*ug/L*		*6.48*	*57-11-4*	*06/18/23 14:51*	*06/19/23 15:15*	*1*
9-Octadecenamide, (Z)-	*1.52*	*T J N*	*ug/L*		*7.45*	*301-02-0*	*06/18/23 14:51*	*06/19/23 15:15*	*1*
13-Docosenamide, (Z)-	*0.672*	*T J N*	*ug/L*		*10.07*	*112-84-5*	*06/18/23 14:51*	*06/19/23 15:15*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*100*		*70 - 130*	*06/18/23 14:51*	*06/19/23 15:15*	*1*
Perylene-d12	*74*		*70 - 130*	*06/18/23 14:51*	*06/19/23 15:15*	*1*
Triphenylphosphate	*102*		*70 - 130*	*06/18/23 14:51*	*06/19/23 15:15*	*1*

Lab Sample ID: LCS 380-44527/23-A
Matrix: Water
Analysis Batch: 44619

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 44527

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1-Methylnaphthalene			1.97	1.98		ug/L		100	70 - 130		
2,4'-DDD			1.97	1.97		ug/L		100	70 - 130		

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

Lab Sample ID: LCS 380-44527/23-A
Matrix: Water
Analysis Batch: 44619

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 44527

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDE	1.97	1.92		ug/L		97	70 - 130
2,4'-DDT	1.97	2.09		ug/L		106	70 - 130
2,4-Dinitrotoluene	1.97	1.85		ug/L		94	70 - 130
2,6-Dinitrotoluene	1.97	1.87		ug/L		95	70 - 130
2-Methylnaphthalene	1.97	2.02		ug/L		102	70 - 130
4,4'-DDD	1.97	2.07		ug/L		105	70 - 130
4,4'-DDE	1.97	2.02		ug/L		102	70 - 130
4,4'-DDT	1.97	1.92		ug/L		97	70 - 130
Acenaphthene	1.97	1.83		ug/L		93	70 - 130
Acenaphthylene	1.97	1.87		ug/L		95	70 - 130
Acetochlor	1.97	2.05		ug/L		104	70 - 130
Alachlor	1.97	2.10		ug/L		106	70 - 130
alpha-BHC	1.97	1.86		ug/L		94	70 - 130
alpha-Chlordane	1.97	1.97		ug/L		100	70 - 130
Anthracene	1.97	1.76		ug/L		89	70 - 130
Atrazine	1.97	2.15		ug/L		109	70 - 130
Benz(a)anthracene	1.97	1.86		ug/L		94	70 - 130
Benzo[a]pyrene	1.97	1.94		ug/L		99	70 - 130
Benzo[b]fluoranthene	1.97	2.16		ug/L		109	70 - 130
Benzo[g,h,i]perylene	1.97	1.83		ug/L		93	70 - 130
Benzo[k]fluoranthene	1.97	2.20		ug/L		112	70 - 130
beta-BHC	1.97	1.88		ug/L		95	70 - 130
Bis(2-ethylhexyl) phthalate	1.97	2.26		ug/L		114	70 - 130
Bromacil	1.97	2.10		ug/L		106	70 - 130
Butachlor	1.97	2.19		ug/L		111	70 - 130
Butylbenzylphthalate	1.97	2.17		ug/L		110	70 - 130
Chlorobenzilate	1.97	2.41		ug/L		122	70 - 130
Chloroneb	1.97	1.97		ug/L		100	70 - 130
Chlorothalonil (Draconil, Bravo)	1.97	2.03		ug/L		103	70 - 130
Chlorpyrifos	1.97	2.12		ug/L		107	70 - 130
Chrysene	1.97	2.04		ug/L		104	70 - 130
delta-BHC	1.97	1.85		ug/L		94	70 - 130
Di(2-ethylhexyl)adipate	1.97	2.30		ug/L		116	70 - 130
Dibenz(a,h)anthracene	1.97	1.86		ug/L		94	70 - 130
Diclorvos (DDVP)	1.97	2.18		ug/L		110	70 - 130
Dieldrin	1.97	1.93		ug/L		98	70 - 130
Diethylphthalate	1.97	2.19		ug/L		111	70 - 130
Dimethylphthalate	1.97	2.03		ug/L		103	70 - 130
Di-n-butyl phthalate	3.94	4.12		ug/L		105	70 - 130
Di-n-octyl phthalate	1.97	1.87		ug/L		95	70 - 130
Endosulfan I (Alpha)	1.97	1.90		ug/L		96	70 - 130
Endosulfan II (Beta)	1.97	2.04		ug/L		104	70 - 130
Endosulfan sulfate	1.97	1.89		ug/L		96	70 - 130
Endrin	1.97	2.13		ug/L		108	70 - 130
Endrin aldehyde	1.97	1.92		ug/L		97	70 - 130
EPTC	1.97	2.09		ug/L		106	70 - 130
Fluoranthene	1.97	2.05		ug/L		104	70 - 130
Fluorene	1.97	2.06		ug/L		105	70 - 130
gamma-Chlordane	1.97	2.00		ug/L		102	70 - 130

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

Lab Sample ID: LCS 380-44527/23-A
Matrix: Water
Analysis Batch: 44619

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 44527

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Heptachlor			1.97	1.91		ug/L		97	70 - 130		
Heptachlor epoxide (isomer B)			1.97	1.97		ug/L		100	70 - 130		
Hexachlorobenzene			1.97	1.89		ug/L		96	70 - 130		
Hexachlorocyclopentadiene			1.97	1.96		ug/L		100	70 - 130		
Indeno[1,2,3-cd]pyrene			1.97	1.86		ug/L		94	70 - 130		
Isophorone			1.97	2.06		ug/L		105	70 - 130		
Lindane			1.97	1.89		ug/L		96	70 - 130		
Malathion			1.97	2.24		ug/L		113	70 - 130		
Methoxychlor			1.97	2.08		ug/L		105	70 - 130		
Metolachlor			1.97	2.27		ug/L		115	70 - 130		
Molinate			1.97	2.14		ug/L		109	70 - 130		
Naphthalene			1.97	1.84		ug/L		93	70 - 130		
Parathion			1.97	2.04		ug/L		103	70 - 130		
Pendimethalin (Penoxaline)			1.97	1.95		ug/L		99	70 - 130		
Phenanthrene			1.97	1.79		ug/L		91	70 - 130		
Propachlor			1.97	2.18		ug/L		110	70 - 130		
Pyrene			1.97	2.06		ug/L		105	70 - 130		
Simazine			1.97	2.17		ug/L		110	70 - 130		
Terbacil			1.97	2.27		ug/L		115	70 - 130		
Terbuthylazine			1.97	2.13		ug/L		108	70 - 130		
Thiobencarb			1.97	2.17		ug/L		110	70 - 130		
trans-Nonachlor			1.97	1.99		ug/L		101	70 - 130		
Trifluralin			1.97	1.89		ug/L		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Nitro-m-xylene	*98*		*70 - 130*
Perylene-d12	*87*		*70 - 130*
Triphenylphosphate	*99*		*70 - 130*

Lab Sample ID: LCSD 380-44527/24-A
Matrix: Water
Analysis Batch: 44619

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 44527

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene			1.97	2.08		ug/L		105	70 - 130	5	20
2,4'-DDD			1.97	2.10		ug/L		107	70 - 130	7	20
2,4'-DDE			1.97	2.06		ug/L		104	70 - 130	7	20
2,4'-DDT			1.97	2.26		ug/L		115	70 - 130	8	20
2,4-Dinitrotoluene			1.97	1.85		ug/L		94	70 - 130	0	20
2,6-Dinitrotoluene			1.97	1.90		ug/L		96	70 - 130	1	20
2-Methylnaphthalene			1.97	2.14		ug/L		108	70 - 130	6	20
4,4'-DDD			1.97	2.16		ug/L		109	70 - 130	4	20
4,4'-DDE			1.97	2.16		ug/L		109	70 - 130	7	20
4,4'-DDT			1.97	2.01		ug/L		102	70 - 130	5	20
Acenaphthene			1.97	1.86		ug/L		94	70 - 130	1	20
Acenaphthylene			1.97	1.97		ug/L		100	70 - 130	5	20
Acetochlor			1.97	2.10		ug/L		106	70 - 130	2	20
Alachlor			1.97	2.14		ug/L		109	70 - 130	2	20

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

Lab Sample ID: LCSD 380-44527/24-A
Matrix: Water
Analysis Batch: 44619

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 44527

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
alpha-BHC	1.97	1.94		ug/L		98	70 - 130	4	20
alpha-Chlordane	1.97	2.15		ug/L		109	70 - 130	9	20
Anthracene	1.97	1.81		ug/L		92	70 - 130	3	20
Atrazine	1.97	2.27		ug/L		115	70 - 130	5	20
Benz(a)anthracene	1.97	2.02		ug/L		103	70 - 130	8	20
Benzo[a]pyrene	1.97	2.08		ug/L		105	70 - 130	7	20
Benzo[b]fluoranthene	1.97	2.13		ug/L		108	70 - 130	1	20
Benzo[g,h,i]perylene	1.97	1.85		ug/L		94	70 - 130	1	20
Benzo[k]fluoranthene	1.97	2.23		ug/L		113	70 - 130	1	20
beta-BHC	1.97	1.99		ug/L		101	70 - 130	6	20
Bis(2-ethylhexyl) phthalate	1.97	2.18		ug/L		111	70 - 130	3	20
Bromacil	1.97	2.23		ug/L		113	70 - 130	6	20
Butachlor	1.97	2.34		ug/L		119	70 - 130	7	20
Butylbenzylphthalate	1.97	2.30		ug/L		116	70 - 130	6	20
Chlorobenzilate	1.97	2.61	*+	ug/L		132	70 - 130	8	20
Chloroneb	1.97	1.98		ug/L		101	70 - 130	1	20
Chlorothalonil (Draconil, Bravo)	1.97	2.00		ug/L		102	70 - 130	1	20
Chlorpyrifos	1.97	2.17		ug/L		110	70 - 130	3	20
Chrysene	1.97	2.06		ug/L		104	70 - 130	1	20
delta-BHC	1.97	1.88		ug/L		95	70 - 130	2	20
Di(2-ethylhexyl)adipate	1.97	2.40		ug/L		121	70 - 130	4	20
Dibenz(a,h)anthracene	1.97	1.95		ug/L		99	70 - 130	5	20
Diclorvos (DDVP)	1.97	2.45		ug/L		124	70 - 130	12	20
Dieldrin	1.97	2.11		ug/L		107	70 - 130	9	20
Diethylphthalate	1.97	2.20		ug/L		111	70 - 130	1	20
Dimethylphthalate	1.97	2.16		ug/L		110	70 - 130	6	20
Di-n-butyl phthalate	3.95	4.22		ug/L		107	70 - 130	2	20
Di-n-octyl phthalate	1.97	1.86		ug/L		94	70 - 130	1	20
Endosulfan I (Alpha)	1.97	2.00		ug/L		102	70 - 130	5	20
Endosulfan II (Beta)	1.97	2.16		ug/L		109	70 - 130	6	20
Endosulfan sulfate	1.97	2.02		ug/L		102	70 - 130	7	20
Endrin	1.97	2.27		ug/L		115	70 - 130	6	20
Endrin aldehyde	1.97	1.99		ug/L		101	70 - 130	3	20
EPTC	1.97	2.17		ug/L		110	70 - 130	4	20
Fluoranthene	1.97	2.18		ug/L		110	70 - 130	6	20
Fluorene	1.97	2.10		ug/L		106	70 - 130	2	20
gamma-Chlordane	1.97	2.15		ug/L		109	70 - 130	7	20
Heptachlor	1.97	1.90		ug/L		96	70 - 130	1	20
Heptachlor epoxide (isomer B)	1.97	2.16		ug/L		109	70 - 130	9	20
Hexachlorobenzene	1.97	1.96		ug/L		99	70 - 130	3	20
Hexachlorocyclopentadiene	1.97	2.00		ug/L		101	70 - 130	2	20
Indeno[1,2,3-cd]pyrene	1.97	1.97		ug/L		100	70 - 130	6	20
Isophorone	1.97	2.21		ug/L		112	70 - 130	7	20
Lindane	1.97	1.94		ug/L		98	70 - 130	2	20
Malathion	1.97	2.32		ug/L		117	70 - 130	4	20
Methoxychlor	1.97	2.08		ug/L		105	70 - 130	0	20
Metolachlor	1.97	2.32		ug/L		118	70 - 130	2	20
Molinate	1.97	2.21		ug/L		112	70 - 130	3	20
Naphthalene	1.97	1.95		ug/L		99	70 - 130	6	20

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

Lab Sample ID: LCSD 380-44527/24-A
Matrix: Water
Analysis Batch: 44619

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 44527

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Parathion			1.97	2.08		ug/L		105	70 - 130	2	20
Pendimethalin (Penoxaline)			1.97	2.11		ug/L		107	70 - 130	8	20
Phenanthrene			1.97	1.85		ug/L		93	70 - 130	3	20
Propachlor			1.97	2.23		ug/L		113	70 - 130	2	20
Pyrene			1.97	2.23		ug/L		113	70 - 130	8	20
Simazine			1.97	2.34		ug/L		118	70 - 130	7	20
Terbacil			1.97	2.30		ug/L		117	70 - 130	2	20
Terbuthylazine			1.97	2.22		ug/L		113	70 - 130	4	20
Thiobencarb			1.97	2.18		ug/L		111	70 - 130	1	20
trans-Nonachlor			1.97	2.17		ug/L		110	70 - 130	8	20
Trifluralin			1.97	1.99		ug/L		101	70 - 130	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Nitro-m-xylene	*104*		*70 - 130*
Perylene-d12	*94*		*70 - 130*
Triphenylphosphate	*105*		*70 - 130*

Lab Sample ID: MRL 380-44527/22-A
Matrix: Water
Analysis Batch: 44742

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 44527

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
1-Methylnaphthalene			0.0985	0.117		ug/L		118	50 - 150		
2,4'-DDD			0.0985	0.116		ug/L		117	50 - 150		
2,4'-DDE			0.0985	0.100		ug/L		102	50 - 150		
2,4'-DDT			0.0985	0.0962	J	ug/L		98	50 - 150		
2,4-Dinitrotoluene			0.0985	0.101		ug/L		103	50 - 150		
2,6-Dinitrotoluene			0.0985	0.0984		ug/L		100	50 - 150		
2-Methylnaphthalene			0.0985	0.110		ug/L		112	50 - 150		
4,4'-DDD			0.0985	0.104		ug/L		106	50 - 150		
4,4'-DDE			0.0985	0.0926	J	ug/L		94	50 - 150		
4,4'-DDT			0.0985	0.121		ug/L		123	50 - 150		
Acenaphthene			0.0985	0.0934	J	ug/L		95	50 - 150		
Acenaphthylene			0.0985	0.0847	J	ug/L		86	50 - 150		
Acetochlor			0.0492	0.0501	J	ug/L		102	50 - 150		
Alachlor			0.0492	0.0508		ug/L		103	50 - 150		
alpha-BHC			0.0985	0.0994		ug/L		101	50 - 150		
alpha-Chlordane			0.0246	<0.029		ug/L		97	50 - 150		
Anthracene			0.0197	<0.019		ug/L		91	50 - 150		
Atrazine			0.0492	0.0543		ug/L		110	50 - 150		
Benz(a)anthracene			0.0492	0.0462	J	ug/L		94	50 - 150		
Benzo[a]pyrene			0.0197	0.0160	J	ug/L		81	50 - 150		
Benzo[b]fluoranthene			0.0197	0.0190	J	ug/L		97	50 - 150		
Benzo[g,h,i]perylene			0.0492	0.0340	J	ug/L		69	50 - 150		
Benzo[k]fluoranthene			0.0197	0.0190	J	ug/L		96	50 - 150		
beta-BHC			0.0985	0.0982		ug/L		100	50 - 150		
Bis(2-ethylhexyl) phthalate			0.591	0.756		ug/L		128	50 - 150		
Bromacil			0.0985	0.166	^3+	ug/L		169	50 - 150		

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

Lab Sample ID: MRL 380-44527/22-A
Matrix: Water
Analysis Batch: 44742

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 44527

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Butachlor	0.0492	0.0580		ug/L		118	50 - 150
Butylbenzylphthalate	0.148	0.193	J	ug/L		131	50 - 150
Chlorobenzilate	0.0985	0.213	^3+	ug/L		216	50 - 150
Chloroneb	0.0985	0.111		ug/L		113	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0985	0.110		ug/L		111	50 - 150
Chlorpyrifos	0.0492	0.0494		ug/L		100	50 - 150
Chrysene	0.0197	0.0209		ug/L		106	50 - 150
delta-BHC	0.0985	0.0987		ug/L		100	50 - 150
Di(2-ethylhexyl)adipate	0.295	0.396	J	ug/L		134	50 - 150
Dibenz(a,h)anthracene	0.0492	0.0357	J	ug/L		72	50 - 150
Diclorvos (DDVP)	0.0492	0.0943	^3+	ug/L		191	50 - 150
Dieldrin	0.0985	0.0999	J	ug/L		101	50 - 150
Diethylphthalate	0.148	0.187	J	ug/L		126	50 - 150
Dimethylphthalate	0.295	0.328	J	ug/L		111	50 - 150
Di-n-butyl phthalate	0.295	0.380	J	ug/L		129	49 - 243
Di-n-octyl phthalate	0.0985	0.114		ug/L		116	50 - 150
Endosulfan I (Alpha)	0.0985	0.114		ug/L		116	50 - 150
Endosulfan II (Beta)	0.0985	0.137		ug/L		139	50 - 150
Endosulfan sulfate	0.0985	0.0914	J	ug/L		93	50 - 150
Endrin	0.0985	0.142		ug/L		144	50 - 150
Endrin aldehyde	0.0985	0.126		ug/L		128	50 - 150
EPTC	0.0985	0.107		ug/L		108	50 - 150
Fluoranthene	0.0492	0.0516	J	ug/L		105	50 - 150
Fluorene	0.0492	0.0510		ug/L		104	50 - 150
gamma-Chlordane	0.0246	0.0270	J	ug/L		110	50 - 150
Heptachlor	0.0394	0.0420		ug/L		107	50 - 150
Heptachlor epoxide (isomer B)	0.0492	0.0513		ug/L		104	50 - 150
Hexachlorobenzene	0.0492	0.0481	J	ug/L		98	50 - 150
Hexachlorocyclopentadiene	0.0492	0.0424	J	ug/L		86	50 - 150
Indeno[1,2,3-cd]pyrene	0.0492	0.0349	J	ug/L		71	50 - 150
Isophorone	0.0985	0.119	J	ug/L		121	50 - 150
Lindane	0.0394	0.0374	J	ug/L		95	50 - 150
Malathion	0.0985	0.114		ug/L		116	50 - 150
Methoxychlor	0.0985	0.100		ug/L		102	50 - 150
Metolachlor	0.0492	0.0559		ug/L		114	50 - 150
Molinate	0.0985	0.109		ug/L		111	50 - 150
Naphthalene	0.0985	0.107	J	ug/L		109	50 - 150
Parathion	0.0985	0.116		ug/L		118	50 - 150
Pendimethalin (Penoxaline)	0.0985	0.119		ug/L		121	50 - 150
Phenanthrene	0.0197	0.0228	J	ug/L		116	50 - 150
Propachlor	0.0492	0.0543		ug/L		110	50 - 150
Pyrene	0.0492	0.0513		ug/L		104	50 - 150
Simazine	0.0492	0.0558		ug/L		113	50 - 150
Terbacil	0.0985	0.125		ug/L		127	50 - 150
Terbuthylazine	0.0985	0.104		ug/L		105	50 - 150
Thiobencarb	0.0985	0.115	J	ug/L		116	50 - 150
trans-Nonachlor	0.0246	<0.026		ug/L		92	50 - 150
Trifluralin	0.0985	0.109		ug/L		111	50 - 150

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

Lab Sample ID: MRL 380-44527/22-A
Matrix: Water
Analysis Batch: 44742

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 44527

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
2-Nitro-m-xylene	*99*		*70 - 130*
Perylene-d12	*80*		*70 - 130*
Triphenylphosphate	*106*		*70 - 130*

Lab Sample ID: MRL 380-44527/22-A
Matrix: Water
Analysis Batch: 44853

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 44527

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Bromacil			0.0985	0.139		ug/L		141	50 - 150		

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
2-Nitro-m-xylene	*111*		*70 - 130*
Perylene-d12	*94*		*70 - 130*
Triphenylphosphate	*119*		*70 - 130*

Lab Sample ID: 380-51393-AO-1-A MS
Matrix: Water
Analysis Batch: 44619

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 44527

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
1-Methylnaphthalene	<0.097		1.95	2.10		ug/L		108	70 - 130		
2,4'-DDD	<0.097		1.95	1.95		ug/L		100	70 - 130		
2,4'-DDE	<0.097		1.95	1.86		ug/L		96	70 - 130		
2,4'-DDT	<0.097		1.95	2.01		ug/L		103	70 - 130		
2,4-Dinitrotoluene	<0.097		1.95	1.84		ug/L		95	70 - 130		
2,6-Dinitrotoluene	<0.097		1.95	1.85		ug/L		95	70 - 130		
2-Methylnaphthalene	<0.097		1.95	2.14		ug/L		110	70 - 130		
4,4'-DDD	<0.097		1.95	2.08		ug/L		107	70 - 130		
4,4'-DDE	<0.097		1.95	1.96		ug/L		101	70 - 130		
4,4'-DDT	<0.097		1.95	1.89		ug/L		97	70 - 130		
Acenaphthene	<0.097		1.95	1.84		ug/L		95	70 - 130		
Acenaphthylene	<0.097		1.95	1.96		ug/L		101	70 - 130		
Acetochlor	<0.097		1.95	2.08		ug/L		107	70 - 130		
Alachlor	<0.049		1.95	2.09		ug/L		107	70 - 130		
alpha-BHC	<0.097		1.95	1.88		ug/L		97	70 - 130		
alpha-Chlordane	<0.049		1.95	1.92		ug/L		99	70 - 130		
Anthracene	<0.019		1.95	1.66		ug/L		85	70 - 130		
Atrazine	<0.049		1.95	2.22		ug/L		114	70 - 130		
Benz(a)anthracene	<0.049		1.95	1.89		ug/L		97	70 - 130		
Benzo[a]pyrene	<0.019		1.95	1.93		ug/L		99	70 - 130		
Benzo[b]fluoranthene	<0.019		1.95	2.09		ug/L		107	70 - 130		
Benzo[g,h,i]perylene	<0.049		1.95	1.84		ug/L		95	70 - 130		
Benzo[k]fluoranthene	<0.019		1.95	2.14		ug/L		110	70 - 130		
beta-BHC	<0.097		1.95	1.93		ug/L		99	70 - 130		
Bis(2-ethylhexyl) phthalate	<0.58		1.95	2.05		ug/L		105	70 - 130		
Bromacil	<0.097	^3+	1.95	2.10		ug/L		108	70 - 130		
Butachlor	<0.049		1.95	2.18		ug/L		112	70 - 130		

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

Lab Sample ID: 380-51393-AO-1-A MS
Matrix: Water
Analysis Batch: 44619

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 44527

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Butylbenzylphthalate	<0.49		1.95	2.22		ug/L		114	70 - 130
Chlorobenzilate	<0.097	*+ ^3+	1.95	2.45		ug/L		126	70 - 130
Chloroneb	<0.097		1.95	1.92		ug/L		98	70 - 130
Chlorothalonil (Draconil, Bravo)	<0.097		1.95	2.03		ug/L		104	70 - 130
Chlorpyrifos	<0.049		1.95	2.04		ug/L		105	70 - 130
Chrysene	<0.019		1.95	2.02		ug/L		104	70 - 130
delta-BHC	<0.097		1.95	1.83		ug/L		94	70 - 130
Di(2-ethylhexyl)adipate	<0.58		1.95	2.25		ug/L		115	70 - 130
Dibenz(a,h)anthracene	<0.049		1.95	1.96		ug/L		101	70 - 130
Diclorvos (DDVP)	<0.049	^3+	1.95	2.32		ug/L		119	70 - 130
Dieldrin	<0.19		1.95	1.87		ug/L		96	70 - 130
Diethylphthalate	<0.49		1.95	2.17		ug/L		112	70 - 130
Dimethylphthalate	<0.49		1.95	2.10		ug/L		108	70 - 130
Di-n-butyl phthalate	<0.97		3.90	4.18		ug/L		107	70 - 130
Di-n-octyl phthalate	<0.097		1.95	1.70		ug/L		87	70 - 130
Endosulfan I (Alpha)	<0.097		1.95	1.87		ug/L		96	70 - 130
Endosulfan II (Beta)	<0.097		1.95	2.06		ug/L		106	70 - 130
Endosulfan sulfate	<0.097		1.95	1.91		ug/L		98	70 - 130
Endrin	<0.097		1.95	2.17		ug/L		111	70 - 130
Endrin aldehyde	<0.097		1.95	1.80		ug/L		92	70 - 130
EPTC	<0.097		1.95	2.20		ug/L		113	70 - 130
Fluoranthene	<0.097		1.95	1.98		ug/L		102	70 - 130
Fluorene	<0.049		1.95	2.04		ug/L		105	70 - 130
gamma-Chlordane	<0.049		1.95	1.93		ug/L		99	70 - 130
Heptachlor	<0.039		1.95	1.81		ug/L		93	70 - 130
Heptachlor epoxide (isomer B)	<0.049		1.95	1.97		ug/L		101	70 - 130
Hexachlorobenzene	<0.049		1.95	1.90		ug/L		98	70 - 130
Hexachlorocyclopentadiene	<0.049		1.95	1.98		ug/L		102	70 - 130
Indeno[1,2,3-cd]pyrene	<0.049		1.95	1.96		ug/L		101	70 - 130
Isophorone	<0.49		1.95	2.18		ug/L		112	70 - 130
Lindane	<0.039		1.95	1.88		ug/L		97	70 - 130
Malathion	<0.097		1.95	2.25		ug/L		116	70 - 130
Methoxychlor	<0.097		1.95	2.05		ug/L		105	70 - 130
Metolachlor	<0.049		1.95	2.24		ug/L		115	70 - 130
Molinate	<0.097		1.95	2.17		ug/L		111	70 - 130
Naphthalene	<0.29		1.95	1.92		ug/L		97	70 - 130
Parathion	<0.097		1.95	2.03		ug/L		104	70 - 130
Pendimethalin (Penoxaline)	<0.097		1.95	2.01		ug/L		103	70 - 130
Phenanthrene	<0.039		1.95	1.82		ug/L		94	70 - 130
Propachlor	<0.049		1.95	2.18		ug/L		112	70 - 130
Pyrene	<0.049		1.95	2.00		ug/L		103	70 - 130
Simazine	<0.049		1.95	2.26		ug/L		116	70 - 130
Terbacil	<0.097		1.95	2.23		ug/L		114	70 - 130
Terbuthylazine	<0.097		1.95	2.18		ug/L		112	70 - 130
Thiobencarb	<0.19		1.95	2.11		ug/L		108	70 - 130
trans-Nonachlor	<0.049		1.95	1.91		ug/L		98	70 - 130
Trifluralin	<0.097		1.95	1.98		ug/L		102	70 - 130

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

Lab Sample ID: 380-51393-AO-1-A MS
Matrix: Water
Analysis Batch: 44619

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 44527

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Nitro-m-xylene	*105*		*70 - 130*
Perylene-d12	*96*		*70 - 130*
Triphenylphosphate	*102*		*70 - 130*

Lab Sample ID: 380-51396-Y-1-A DU
Matrix: Water
Analysis Batch: 44619

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 44527

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
1-Methylnaphthalene	<0.098			<0.097		ug/L				NC	20
2,4'-DDD	<0.098			<0.097		ug/L				NC	20
2,4'-DDE	<0.098			<0.097		ug/L				NC	20
2,4'-DDT	<0.098			<0.097		ug/L				NC	20
2,4-Dinitrotoluene	<0.098			<0.097		ug/L				NC	20
2,6-Dinitrotoluene	<0.098			<0.097		ug/L				NC	20
2-Methylnaphthalene	<0.098			<0.097		ug/L				NC	20
4,4'-DDD	<0.098			<0.097		ug/L				NC	20
4,4'-DDE	<0.098			<0.097		ug/L				NC	20
4,4'-DDT	<0.098			<0.097		ug/L				NC	20
Acenaphthene	<0.098			<0.097		ug/L				NC	20
Acenaphthylene	<0.098			<0.097		ug/L				NC	20
Acetochlor	<0.098			<0.097		ug/L				NC	20
Alachlor	<0.049			<0.049		ug/L				NC	20
alpha-BHC	<0.098			<0.097		ug/L				NC	20
alpha-Chlordane	<0.049			<0.049		ug/L				NC	20
Anthracene	<0.020			<0.019		ug/L				NC	20
Atrazine	<0.049			<0.049		ug/L				NC	20
Benz(a)anthracene	<0.049			<0.049		ug/L				NC	20
Benzo[a]pyrene	<0.020			<0.019		ug/L				NC	20
Benzo[b]fluoranthene	<0.020			<0.019		ug/L				NC	20
Benzo[g,h,i]perylene	<0.049			<0.049		ug/L				NC	20
Benzo[k]fluoranthene	<0.020			<0.019		ug/L				NC	20
beta-BHC	<0.098			<0.097		ug/L				NC	20
Bis(2-ethylhexyl) phthalate	<0.59			<0.58		ug/L				NC	20
Bromacil	<0.098	^3+		<0.097		ug/L				NC	20
Butachlor	<0.049			<0.049		ug/L				NC	20
Butylbenzylphthalate	<0.49			<0.49		ug/L				NC	20
Chlorobenzilate	<0.098	*+ ^3+		<0.097	*+	ug/L				NC	20
Chloroneb	<0.098			<0.097		ug/L				NC	20
Chlorothalonil (Draconil, Bravo)	<0.098			<0.097		ug/L				NC	20
Chlorpyrifos	<0.049			<0.049		ug/L				NC	20
Chrysene	<0.020			<0.019		ug/L				NC	20
delta-BHC	<0.098			<0.097		ug/L				NC	20
Di(2-ethylhexyl)adipate	<0.59			<0.58		ug/L				NC	20
Dibenz(a,h)anthracene	<0.049			<0.049		ug/L				NC	20
Diclorvos (DDVP)	<0.049	^3+		<0.049		ug/L				NC	20
Dieldrin	<0.20			<0.19		ug/L				NC	20
Diethylphthalate	<0.49			<0.49		ug/L				NC	20

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

Lab Sample ID: 380-51396-Y-1-A DU
Matrix: Water
Analysis Batch: 44619

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 44527

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Dimethylphthalate	<0.49			<0.49		ug/L				NC	20
Di-n-butyl phthalate	<0.98			<0.97		ug/L				NC	20
Di-n-octyl phthalate	<0.098			<0.097		ug/L				NC	20
Endosulfan I (Alpha)	<0.098			<0.097		ug/L				NC	20
Endosulfan II (Beta)	<0.098			<0.097		ug/L				NC	20
Endosulfan sulfate	<0.098			<0.097		ug/L				NC	20
Endrin	<0.098			<0.097		ug/L				NC	20
Endrin aldehyde	<0.098			<0.097		ug/L				NC	20
EPTC	<0.098			<0.097		ug/L				NC	20
Fluoranthene	<0.098			<0.097		ug/L				NC	20
Fluorene	<0.049			<0.049		ug/L				NC	20
gamma-Chlordane	<0.049			<0.049		ug/L				NC	20
Heptachlor	<0.039			<0.039		ug/L				NC	20
Heptachlor epoxide (isomer B)	<0.049			<0.049		ug/L				NC	20
Hexachlorobenzene	<0.049			<0.049		ug/L				NC	20
Hexachlorocyclopentadiene	<0.049			<0.049		ug/L				NC	20
Indeno[1,2,3-cd]pyrene	<0.049			<0.049		ug/L				NC	20
Isophorone	<0.49			<0.49		ug/L				NC	20
Lindane	<0.039			<0.039		ug/L				NC	20
Malathion	<0.098			<0.097		ug/L				NC	20
Methoxychlor	<0.098			<0.097		ug/L				NC	20
Metolachlor	<0.049			<0.049		ug/L				NC	20
Molinate	<0.098			<0.097		ug/L				NC	20
Naphthalene	<0.29			<0.29		ug/L				NC	20
Parathion	<0.098			<0.097		ug/L				NC	20
Pendimethalin (Penoxaline)	<0.098			<0.097		ug/L				NC	20
Phenanthrene	<0.039			<0.039		ug/L				NC	20
Propachlor	<0.049			<0.049		ug/L				NC	20
Pyrene	<0.049			<0.049		ug/L				NC	20
Simazine	<0.049			<0.049		ug/L				NC	20
Terbacil	<0.098			<0.097		ug/L				NC	20
Terbuthylazine	<0.098			<0.097		ug/L				NC	20
Thiobencarb	<0.20			<0.19		ug/L				NC	20
Total Permethrin (mixed isomers)	<0.20			<0.19		ug/L				NC	20
trans-Nonachlor	<0.049			<0.049		ug/L				NC	20
Trifluralin	<0.098			<0.097		ug/L				NC	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
2-Nitro-m-xylene	*101*		*70 - 130*
Perylene-d12	*95*		*70 - 130*
Triphenylphosphate	*98*		*70 - 130*

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

Lab Sample ID: MBL 380-46250/23-A
Matrix: Water
Analysis Batch: 46611

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 46250

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1
Perfluorobutanoic acid (PFBA)	1.08	J B	2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0		ng/L		07/05/23 13:00	07/08/23 22:41	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*51*		*50 - 200*	*07/05/23 13:00*	*07/08/23 22:41*	*1*
13C6 PFDA	*90*		*50 - 200*	*07/05/23 13:00*	*07/08/23 22:41*	*1*
13C5 PFHxA	*66*		*50 - 200*	*07/05/23 13:00*	*07/08/23 22:41*	*1*
13C4 PFHpA	*71*		*50 - 200*	*07/05/23 13:00*	*07/08/23 22:41*	*1*
13C8 PFOA	*81*		*50 - 200*	*07/05/23 13:00*	*07/08/23 22:41*	*1*
13C9 PFNA	*85*		*50 - 200*	*07/05/23 13:00*	*07/08/23 22:41*	*1*
13C7 PFUnA	*86*		*50 - 200*	*07/05/23 13:00*	*07/08/23 22:41*	*1*
13C2 PFDoA	*95*		*50 - 200*	*07/05/23 13:00*	*07/08/23 22:41*	*1*
13C4 PFBA	*59*		*50 - 200*	*07/05/23 13:00*	*07/08/23 22:41*	*1*
13C5 PFPeA	*59*		*50 - 200*	*07/05/23 13:00*	*07/08/23 22:41*	*1*
13C3 PFBS	*91*		*50 - 200*	*07/05/23 13:00*	*07/08/23 22:41*	*1*
13C3 PFHxS	*90*		*50 - 200*	*07/05/23 13:00*	*07/08/23 22:41*	*1*

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

Lab Sample ID: MBL 380-46250/23-A
Matrix: Water
Analysis Batch: 46611

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 46250

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	92		50 - 200	07/05/23 13:00	07/08/23 22:41	1
13C2-4:2-FTS	103		50 - 200	07/05/23 13:00	07/08/23 22:41	1
13C2-6:2-FTS	105		50 - 200	07/05/23 13:00	07/08/23 22:41	1
13C2-8:2-FTS	125		50 - 200	07/05/23 13:00	07/08/23 22:41	1

Lab Sample ID: LCS 380-46250/25-A
Matrix: Water
Analysis Batch: 46611

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 46250

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	56.6	62.8		ng/L		111	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	56.6	61.5		ng/L		109	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	56.6	59.0		ng/L		104	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	56.6	66.3		ng/L		117	70 - 130
Perfluorobutanesulfonic acid (PFBS)	56.6	67.0		ng/L		118	70 - 130
Perfluorodecanoic acid (PFDA)	56.6	67.6		ng/L		119	70 - 130
Perfluorododecanoic acid (PFDoA)	56.6	65.3		ng/L		115	70 - 130
Perfluoroheptanoic acid (PFHpA)	56.6	62.8		ng/L		111	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	56.6	65.9		ng/L		116	70 - 130
Perfluorohexanoic acid (PFHxA)	56.6	65.5		ng/L		116	70 - 130
Perfluorononanoic acid (PFNA)	56.6	65.9		ng/L		116	70 - 130
Perfluorooctanesulfonic acid (PFOS)	56.6	63.0		ng/L		111	70 - 130
Perfluorooctanoic acid (PFOA)	56.6	62.3		ng/L		110	70 - 130
Perfluoroundecanoic acid (PFUnA)	56.6	68.6		ng/L		121	70 - 130
Perfluorobutanoic acid (PFBA)	56.6	64.1		ng/L		113	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	56.6	68.7		ng/L		121	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	56.6	66.8		ng/L		118	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	56.6	63.5		ng/L		112	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	56.6	51.5		ng/L		91	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	56.6	65.9		ng/L		116	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	56.6	56.2		ng/L		99	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	56.6	64.1		ng/L		113	70 - 130
Perfluoropentanoic acid (PFPeA)	56.6	65.5		ng/L		116	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	56.6	65.8		ng/L		116	70 - 130

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

Lab Sample ID: LCS 380-46250/25-A
Matrix: Water
Analysis Batch: 46611

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 46250

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoropentanesulfonic acid (PFPeS)			56.6	65.5		ng/L		116	70 - 130		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*71*		*50 - 200*
13C6 PFDA	*87*		*50 - 200*
13C5 PFHxA	*86*		*50 - 200*
13C4 PFHpA	*87*		*50 - 200*
13C8 PFOA	*89*		*50 - 200*
13C9 PFNA	*88*		*50 - 200*
13C7 PFUnA	*87*		*50 - 200*
13C2 PFDoA	*91*		*50 - 200*
13C4 PFBA	*78*		*50 - 200*
13C5 PFPeA	*77*		*50 - 200*
13C3 PFBS	*86*		*50 - 200*
13C3 PFHxS	*89*		*50 - 200*
13C8 PFOS	*92*		*50 - 200*
13C2-4:2-FTS	*96*		*50 - 200*
13C2-6:2-FTS	*105*		*50 - 200*
13C2-8:2-FTS	*94*		*50 - 200*

Lab Sample ID: LCSD 380-46250/26-A
Matrix: Water
Analysis Batch: 46611

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 46250

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			56.7	62.8		ng/L		111	70 - 130	0	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			56.7	60.4		ng/L		106	70 - 130	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			56.7	60.5		ng/L		107	70 - 130	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			56.7	71.9		ng/L		127	70 - 130	8	30
Perfluorobutanesulfonic acid (PFBS)			56.7	60.5		ng/L		107	70 - 130	10	30
Perfluorodecanoic acid (PFDA)			56.7	64.3		ng/L		113	70 - 130	5	30
Perfluorododecanoic acid (PFDoA)			56.7	64.4		ng/L		114	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)			56.7	62.3		ng/L		110	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)			56.7	63.6		ng/L		112	70 - 130	4	30
Perfluorohexanoic acid (PFHxA)			56.7	61.5		ng/L		108	70 - 130	6	30
Perfluorononanoic acid (PFNA)			56.7	64.2		ng/L		113	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)			56.7	62.1		ng/L		110	70 - 130	1	30
Perfluorooctanoic acid (PFOA)			56.7	60.2		ng/L		106	70 - 130	3	30
Perfluoroundecanoic acid (PFUnA)			56.7	66.8		ng/L		118	70 - 130	3	30
Perfluorobutanoic acid (PFBA)			56.7	61.4		ng/L		108	70 - 130	4	30

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

Lab Sample ID: LCSD 380-46250/26-A
Matrix: Water
Analysis Batch: 46611

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 46250

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)			56.7	68.0		ng/L		120	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			56.7	63.2		ng/L		111	70 - 130	6	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			56.7	64.6		ng/L		114	70 - 130	2	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			56.7	52.2		ng/L		92	70 - 130	1	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			56.7	60.0		ng/L		106	70 - 130	9	30
Perfluoro-3-methoxypropanoic acid (PFMPA)			56.7	52.8		ng/L		93	70 - 130	6	30
Perfluoro-4-methoxybutanoic acid (PFMBA)			56.7	59.9		ng/L		106	70 - 130	7	30
Perfluoropentanoic acid (PFPeA)			56.7	61.0		ng/L		108	70 - 130	7	30
Perfluoroheptanesulfonic acid (PFHpS)			56.7	63.0		ng/L		111	70 - 130	4	30
Perfluoropentanesulfonic acid (PFPeS)			56.7	61.6		ng/L		109	70 - 130	6	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*79*		*50 - 200*
13C6 PFDA	*87*		*50 - 200*
13C5 PFHxA	*91*		*50 - 200*
13C4 PFHpA	*89*		*50 - 200*
13C8 PFOA	*91*		*50 - 200*
13C9 PFNA	*87*		*50 - 200*
13C7 PFUnA	*82*		*50 - 200*
13C2 PFDoA	*88*		*50 - 200*
13C4 PFBA	*89*		*50 - 200*
13C5 PFPeA	*87*		*50 - 200*
13C3 PFBS	*84*		*50 - 200*
13C3 PFHxS	*81*		*50 - 200*
13C8 PFOS	*84*		*50 - 200*
13C2-4:2-FTS	*90*		*50 - 200*
13C2-6:2-FTS	*95*		*50 - 200*
13C2-8:2-FTS	*88*		*50 - 200*

Lab Sample ID: MRL 380-46250/24-A
Matrix: Water
Analysis Batch: 46611

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 46250

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.00	1.96	J	ng/L		98	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			2.00	1.98	J	ng/L		99	50 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.00	2.24	J	ng/L		112	50 - 150		

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

Lab Sample ID: MRL 380-46250/24-A
Matrix: Water
Analysis Batch: 46611

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 46250

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.02	J	ng/L		101	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.05	J	ng/L		102	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.33	J	ng/L		117	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.11	J	ng/L		105	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.25	J	ng/L		112	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.24	J	ng/L		112	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.23	J	ng/L		111	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.23	J	ng/L		111	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.16	J	ng/L		108	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.23	J	ng/L		111	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.13	J	ng/L		107	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	3.09	J ^3+	ng/L		154	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.33	J	ng/L		117	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.16	J	ng/L		108	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.33	J	ng/L		116	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.02	J	ng/L		101	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.00	2.01	J	ng/L		100	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	1.97	J	ng/L		98	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	2.53	J	ng/L		126	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.43	J	ng/L		121	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.20	J	ng/L		110	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	2.21	J	ng/L		110	50 - 150

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*78*		*50 - 200*
13C6 PFDA	*91*		*50 - 200*
13C5 PFHxA	*92*		*50 - 200*
13C4 PFHpA	*91*		*50 - 200*
13C8 PFOA	*94*		*50 - 200*
13C9 PFNA	*95*		*50 - 200*
13C7 PFUnA	*92*		*50 - 200*
13C2 PFDoA	*95*		*50 - 200*
13C4 PFBA	*96*		*50 - 200*
13C5 PFPeA	*92*		*50 - 200*
13C3 PFBS	*90*		*50 - 200*
13C3 PFHxS	*82*		*50 - 200*
13C8 PFOS	*92*		*50 - 200*

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

Lab Sample ID: MRL 380-46250/24-A
Matrix: Water
Analysis Batch: 46611

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 46250

Isotope Dilution	MRL %Recovery	MRL Qualifier	Limits
13C2-4:2-FTS	97		50 - 200
13C2-6:2-FTS	104		50 - 200
13C2-8:2-FTS	94		50 - 200

Lab Sample ID: 380-51408-E-1-A MS
Matrix: Water
Analysis Batch: 46611

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 46250

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)	<2.0		56.7	65.6		ng/L		116	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		56.7	64.0		ng/L		113	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		56.7	58.1		ng/L		103	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		56.7	66.6	*5-	ng/L		117	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		56.7	62.9		ng/L		108	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		56.7	68.7		ng/L		121	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		56.7	64.6		ng/L		114	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		56.7	62.9		ng/L		109	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	2.4		56.7	65.2		ng/L		111	70 - 130
Perfluorohexanoic acid (PFHxA)	2.4		56.7	63.0		ng/L		107	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		56.7	66.3		ng/L		117	70 - 130
Perfluorooctanesulfonic acid (PFOS)	2.7		56.7	68.7		ng/L		116	70 - 130
Perfluorooctanoic acid (PFOA)	2.3		56.7	63.8		ng/L		108	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		56.7	66.8		ng/L		118	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0	B ^3+	56.7	63.8		ng/L		110	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		56.7	69.1		ng/L		122	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		56.7	65.1		ng/L		115	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		56.7	62.7		ng/L		111	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		56.7	50.3		ng/L		89	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		56.7	61.8		ng/L		109	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		56.7	53.4		ng/L		94	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		56.7	59.4		ng/L		105	70 - 130
Perfluoropentanoic acid (PFPeA)	2.1		56.7	64.2		ng/L		109	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		56.7	65.7		ng/L		116	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		56.7	64.3		ng/L		113	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	76		50 - 200
13C5 PFHxA	62		50 - 200
13C4 PFHpA	61		50 - 200
13C8 PFOA	68		50 - 200
13C9 PFNA	71		50 - 200
13C7 PFUnA	79		50 - 200
13C2 PFDoA	85		50 - 200
13C4 PFBA	65		50 - 200
13C5 PFPeA	63		50 - 200
13C3 PFBS	88		50 - 200
13C3 PFHxS	87		50 - 200
13C8 PFOS	87		50 - 200
13C2-4:2-FTS	92		50 - 200
13C2-6:2-FTS	98		50 - 200
13C2-8:2-FTS	92		50 - 200

Lab Sample ID: 380-51408-F-1-A MSD
Matrix: Water
Analysis Batch: 46611

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 46250

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)	<2.0		56.7	61.7		ng/L		109	70 - 130	6	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		56.7	63.1		ng/L		111	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		56.7	58.4	*5-	ng/L		103	70 - 130	0	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		56.7	65.4	*5-	ng/L		115	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		56.7	67.6		ng/L		117	70 - 130	7	30
Perfluorodecanoic acid (PFDA)	<2.0		56.7	67.6		ng/L		119	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	<2.0		56.7	69.1		ng/L		122	70 - 130	7	30
Perfluoroheptanoic acid (PFHpA)	<2.0		56.7	70.0	*5-	ng/L		121	70 - 130	11	30
Perfluorohexanesulfonic acid (PFHxS)	2.4		56.7	67.4		ng/L		115	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)	2.4		56.7	65.4	*5-	ng/L		111	70 - 130	4	30
Perfluorononanoic acid (PFNA)	<2.0		56.7	65.2		ng/L		115	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	2.7		56.7	66.2		ng/L		112	70 - 130	4	30
Perfluorooctanoic acid (PFOA)	2.3		56.7	65.8	*5-	ng/L		112	70 - 130	3	30
Perfluoroundecanoic acid (PFUnA)	<2.0		56.7	70.5		ng/L		124	70 - 130	5	30
Perfluorobutanoic acid (PFBA)	<2.0	B ^3+	56.7	65.4		ng/L		113	70 - 130	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		56.7	67.6		ng/L		119	70 - 130	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		56.7	68.9		ng/L		122	70 - 130	6	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		56.7	67.8		ng/L		120	70 - 130	8	30

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

Lab Sample ID: 380-51408-F-1-A MSD
Matrix: Water
Analysis Batch: 46611

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 46250

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)	<2.0		56.7	53.4	*5-	ng/L		94	70 - 130	6	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		56.7	64.1		ng/L		113	70 - 130	4	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		56.7	52.1		ng/L		92	70 - 130	2	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		56.7	63.3	*5-	ng/L		112	70 - 130	6	30
Perfluoropentanoic acid (PFPeA)	2.1		56.7	69.7	*5-	ng/L		119	70 - 130	8	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		56.7	66.3		ng/L		117	70 - 130	1	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		56.7	64.0		ng/L		112	70 - 130	0	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C3 HFPO-DA	*40*	*5-*	*50 - 200*
13C6 PFDA	*61*		*50 - 200*
13C5 PFHxA	*46*	*5-*	*50 - 200*
13C4 PFHpA	*43*	*5-*	*50 - 200*
13C8 PFOA	*47*	*5-*	*50 - 200*
13C9 PFNA	*56*		*50 - 200*
13C7 PFUnA	*64*		*50 - 200*
13C2 PFDoA	*71*		*50 - 200*
13C4 PFBA	*51*		*50 - 200*
13C5 PFPeA	*48*	*5-*	*50 - 200*
13C3 PFBS	*87*		*50 - 200*
13C3 PFHxS	*90*		*50 - 200*
13C8 PFOS	*92*		*50 - 200*
13C2-4:2-FTS	*94*		*50 - 200*
13C2-6:2-FTS	*100*		*50 - 200*
13C2-8:2-FTS	*97*		*50 - 200*

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

Lab Sample ID: MBL 380-44736/23-A
Matrix: Water
Analysis Batch: 44893

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 44736

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0		ng/L		06/20/23 05:53	06/21/23 15:08	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		06/20/23 05:53	06/21/23 15:08	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		06/20/23 05:53	06/21/23 15:08	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0		ng/L		06/20/23 05:53	06/21/23 15:08	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0		ng/L		06/20/23 05:53	06/21/23 15:08	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		06/20/23 05:53	06/21/23 15:08	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		06/20/23 05:53	06/21/23 15:08	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		06/20/23 05:53	06/21/23 15:08	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		06/20/23 05:53	06/21/23 15:08	1

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

Lab Sample ID: MBL 380-44736/23-A
Matrix: Water
Analysis Batch: 44893

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 44736

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		06/20/23 05:53	06/21/23 15:08	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		06/20/23 05:53	06/21/23 15:08	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		06/20/23 05:53	06/21/23 15:08	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		06/20/23 05:53	06/21/23 15:08	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0		ng/L		06/20/23 05:53	06/21/23 15:08	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0		ng/L		06/20/23 05:53	06/21/23 15:08	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		06/20/23 05:53	06/21/23 15:08	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0		ng/L		06/20/23 05:53	06/21/23 15:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		06/20/23 05:53	06/21/23 15:08	1

Surrogate	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*115*		*70 - 130*	*06/20/23 05:53*	*06/21/23 15:08*	*1*
13C2 PFHxA	*100*		*70 - 130*	*06/20/23 05:53*	*06/21/23 15:08*	*1*
13C2 PFDA	*105*		*70 - 130*	*06/20/23 05:53*	*06/21/23 15:08*	*1*
13C3-GenX	*87*		*70 - 130*	*06/20/23 05:53*	*06/21/23 15:08*	*1*

Lab Sample ID: LCSD 380-44736/26-A
Matrix: Water
Analysis Batch: 44893

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 44736

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	25.1	20.6		ng/L		82	70 - 130
Perfluorooctanesulfonic acid (PFOS)	23.2	25.8		ng/L		111	70 - 130
Perfluoroundecanoic acid (PFUnA)	25.1	28.2		ng/L		113	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.1	26.6		ng/L		106	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.1	28.2		ng/L		113	70 - 130
Perfluorohexanoic acid (PFHxA)	25.1	25.9		ng/L		103	70 - 130
Perfluorododecanoic acid (PFDoA)	25.1	29.8		ng/L		119	70 - 130
Perfluorooctanoic acid (PFOA)	25.1	28.2		ng/L		113	70 - 130
Perfluorodecanoic acid (PFDA)	25.1	28.2		ng/L		113	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	22.9	23.7		ng/L		104	70 - 130
Perfluorobutanesulfonic acid (PFBS)	22.2	24.1		ng/L		109	70 - 130
Perfluoroheptanoic acid (PFHpA)	25.1	26.7		ng/L		107	70 - 130
Perfluorononanoic acid (PFNA)	25.1	32.2		ng/L		128	70 - 130
Perfluorotetradecanoic acid (PFTA)	25.1	30.2		ng/L		120	70 - 130
Perfluorotridecanoic acid (PFTrDA)	25.1	30.7		ng/L		122	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	23.4	27.7		ng/L		118	70 - 130

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

Lab Sample ID: LCSD 380-44736/26-A
Matrix: Water
Analysis Batch: 44893

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 44736

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	23.7	23.5		ng/L		99	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	23.7	25.4		ng/L		107	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
d5-NEtFOSAA	*105*		*70 - 130*
13C2 PFHxA	*99*		*70 - 130*
13C2 PFDA	*107*		*70 - 130*
13C3-GenX	*85*		*70 - 130*

Lab Sample ID: MRL 380-44736/24-A
Matrix: Water
Analysis Batch: 44893

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 44736

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	1.70	J	ng/L		85	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.86	2.07	J	ng/L		111	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.17	J	ng/L		108	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.32	J	ng/L		116	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.51	J	ng/L		125	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.03	J	ng/L		101	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.29	J	ng/L		114	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.49	J	ng/L		124	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.35	J	ng/L		117	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.83	1.97	J	ng/L		108	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.77	1.93	J	ng/L		109	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.12	J	ng/L		106	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.57	J	ng/L		128	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.41	J	ng/L		120	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.36	J	ng/L		118	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.87	2.02	J	ng/L		108	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.89	1.75	J	ng/L		93	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	1.95	J	ng/L		103	50 - 150

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

Lab Sample ID: MRL 380-44736/24-A
Matrix: Water
Analysis Batch: 44893

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 44736

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	112		70 - 130
13C2 PFHxA	98		70 - 130
13C2 PFDA	108		70 - 130
13C3-GenX	88		70 - 130

Lab Sample ID: 380-51342-B-1-A MS
Matrix: Water
Analysis Batch: 44893

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 44736

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0	F1	25.1	16.8	F1	ng/L		67	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		23.2	24.5		ng/L		102	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	27.7		ng/L		110	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	25.2		ng/L		100	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	28.3		ng/L		113	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		25.1	19.5		ng/L		75	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	29.8		ng/L		119	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		25.1	29.4		ng/L		113	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		25.1	30.2		ng/L		120	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		22.9	22.6		ng/L		97	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0	F1	22.2	14.8	F1	ng/L		63	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	25.7		ng/L		96	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		25.1	33.1		ng/L		129	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	31.2		ng/L		124	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	31.6		ng/L		126	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		23.5	24.7		ng/L		105	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		23.7	23.3		ng/L		98	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		23.7	24.1		ng/L		101	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
d5-NEtFOSAA	115		70 - 130
13C2 PFHxA	74		70 - 130
13C2 PFDA	120		70 - 130
13C3-GenX	72		70 - 130

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

Lab Sample ID: 380-51342-C-1-A MSD
Matrix: Water
Analysis Batch: 44893

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 44736

Surrogate	MSD %Recovery	MSD Qualifier	Limits
d5-NEtFOSAA	110		70 - 130
13C2 PFHxA	72		70 - 130
13C2 PFDA	116		70 - 130
13C3-GenX	71		70 - 130

GC/MS Semi VOA

Prep Batch: 44527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-51410-1	MOANALUA WELLS	Total/NA	Drinking Water	525.2	
380-51410-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	525.2	
380-51410-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	525.2	
380-51410-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	525.2	
MB 380-44527/21-A	Method Blank	Total/NA	Water	525.2	
LCS 380-44527/23-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-44527/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-44527/22-A	Lab Control Sample	Total/NA	Water	525.2	
380-51393-AO-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-51396-Y-1-A DU	Duplicate	Total/NA	Water	525.2	

Analysis Batch: 44619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-51410-1	MOANALUA WELLS	Total/NA	Drinking Water	525.2	44527
380-51410-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	525.2	44527
380-51410-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	525.2	44527
380-51410-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	525.2	44527
MB 380-44527/21-A	Method Blank	Total/NA	Water	525.2	44527
LCS 380-44527/23-A	Lab Control Sample	Total/NA	Water	525.2	44527
LCSD 380-44527/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	44527
380-51393-AO-1-A MS	Matrix Spike	Total/NA	Water	525.2	44527
380-51396-Y-1-A DU	Duplicate	Total/NA	Water	525.2	44527

Analysis Batch: 44742

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MRL 380-44527/22-A	Lab Control Sample	Total/NA	Water	525.2	44527

Analysis Batch: 44853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-51410-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	525.2	44527
MRL 380-44527/22-A	Lab Control Sample	Total/NA	Water	525.2	44527

LCMS

Prep Batch: 44736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-51410-1	MOANALUA WELLS	Total/NA	Drinking Water	537.1 DW	
380-51410-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	537.1 DW	
380-51410-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	537.1 DW	
380-51410-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	537.1 DW	
380-51410-9	FB MOANALUA WELLS	Total/NA	Water	537.1 DW	
380-51410-10	FB AIEA GULCH WELLS PUMP 2	Total/NA	Water	537.1 DW	
380-51410-11	FB AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	537.1 DW	
380-51410-12	FB HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	537.1 DW	
MBL 380-44736/23-A	Method Blank	Total/NA	Water	537.1 DW	
LCSD 380-44736/26-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-44736/24-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-51342-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-51342-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

LCMS

Analysis Batch: 44893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-51410-1	MOANALUA WELLS	Total/NA	Drinking Water	537.1	44736
380-51410-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	537.1	44736
380-51410-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	537.1	44736
380-51410-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	537.1	44736
380-51410-9	FB MOANALUA WELLS	Total/NA	Water	537.1	44736
380-51410-10	FB AIEA GULCH WELLS PUMP 2	Total/NA	Water	537.1	44736
380-51410-11	FB AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	537.1	44736
380-51410-12	FB HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	537.1	44736
MBL 380-44736/23-A	Method Blank	Total/NA	Water	537.1	44736
LCSD 380-44736/26-A	Lab Control Sample	Total/NA	Water	537.1	44736
MRL 380-44736/24-A	Lab Control Sample	Total/NA	Water	537.1	44736
380-51342-B-1-A MS	Matrix Spike	Total/NA	Water	537.1	44736
380-51342-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	44736

Prep Batch: 46250

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-51410-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	533	
380-51410-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	533	
380-51410-11	FB AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	533	
380-51410-12	FB HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	533	
MBL 380-46250/23-A	Method Blank	Total/NA	Water	533	
LCS 380-46250/25-A	Lab Control Sample	Total/NA	Water	533	
LCSD 380-46250/26-A	Lab Control Sample Dup	Total/NA	Water	533	
MRL 380-46250/24-A	Lab Control Sample	Total/NA	Water	533	
380-51408-E-1-A MS	Matrix Spike	Total/NA	Water	533	
380-51408-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 46611

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-51410-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	533	46250
380-51410-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	533	46250
380-51410-11	FB AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	533	46250
380-51410-12	FB HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	533	46250
MBL 380-46250/23-A	Method Blank	Total/NA	Water	533	46250
LCS 380-46250/25-A	Lab Control Sample	Total/NA	Water	533	46250
LCSD 380-46250/26-A	Lab Control Sample Dup	Total/NA	Water	533	46250
MRL 380-46250/24-A	Lab Control Sample	Total/NA	Water	533	46250
380-51408-E-1-A MS	Matrix Spike	Total/NA	Water	533	46250
380-51408-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	46250

Lab Chronicle

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

Job ID: 380-51410-1

Client Sample ID: MOANALUA WELLS
Date Collected: 06/13/23 10:08
Date Received: 06/15/23 10:20

Lab Sample ID: 380-51410-1
Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			44527	N8NE	EA POM	06/18/23 14:51
Total/NA	Analysis	525.2		1	44619	Q8LA	EA POM	06/19/23 17:54
Total/NA	Prep	537.1 DW			44736	US1B	EA POM	06/20/23 05:53
Total/NA	Analysis	537.1		1	44893	UKDT	EA POM	06/21/23 17:32

Client Sample ID: AIEA GULCH WELLS PUMP 2
Date Collected: 06/13/23 11:29
Date Received: 06/15/23 10:20

Lab Sample ID: 380-51410-2
Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			44527	N8NE	EA POM	06/18/23 14:51
Total/NA	Analysis	525.2		1	44619	Q8LA	EA POM	06/19/23 18:14
Total/NA	Prep	537.1 DW			44736	US1B	EA POM	06/20/23 05:53
Total/NA	Analysis	537.1		1	44893	UKDT	EA POM	06/21/23 17:51

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2
Date Collected: 06/13/23 11:03
Date Received: 06/15/23 10:20

Lab Sample ID: 380-51410-3
Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			44527	N8NE	EA POM	06/18/23 16:16
Total/NA	Analysis	525.2		1	44619	Q8LA	EA POM	06/19/23 18:34
Total/NA	Prep	533			46250	AUY6	EA POM	07/05/23 13:00
Total/NA	Analysis	533		1	46611	UKYM	EA POM	07/09/23 00:56
Total/NA	Prep	537.1 DW			44736	US1B	EA POM	06/20/23 05:53
Total/NA	Analysis	537.1		1	44893	UKDT	EA POM	06/21/23 18:00

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
Date Collected: 06/13/23 10:39
Date Received: 06/15/23 10:20

Lab Sample ID: 380-51410-4
Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			44527	N8NE	EA POM	06/18/23 16:16
Total/NA	Analysis	525.2		1	44619	Q8LA	EA POM	06/19/23 18:54
Total/NA	Prep	525.2			44527	N8NE	EA POM	06/18/23 16:16
Total/NA	Analysis	525.2		1	44853	Q8LA	EA POM	06/21/23 09:09
Total/NA	Prep	533			46250	AUY6	EA POM	07/05/23 13:00
Total/NA	Analysis	533		1	46611	UKYM	EA POM	07/09/23 01:06
Total/NA	Prep	537.1 DW			44736	US1B	EA POM	06/20/23 05:53
Total/NA	Analysis	537.1		1	44893	UKDT	EA POM	06/21/23 18:10

Lab Chronicle

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

Job ID: 380-51410-1

Client Sample ID: FB MOANALUA WELLS
Lab Sample ID: 380-51410-9
Date Collected: 06/13/23 10:08
Matrix: Water
Date Received: 06/15/23 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537.1 DW			44736	US1B	EA POM	06/20/23 05:53
Total/NA	Analysis	537.1		1	44893	UKDT	EA POM	06/21/23 18:19

Client Sample ID: FB AIEA GULCH WELLS PUMP 2
Lab Sample ID: 380-51410-10
Date Collected: 06/13/23 11:29
Matrix: Water
Date Received: 06/15/23 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537.1 DW			44736	US1B	EA POM	06/20/23 05:53
Total/NA	Analysis	537.1		1	44893	UKDT	EA POM	06/21/23 18:29

Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260) P2
Lab Sample ID: 380-51410-11
Date Collected: 06/13/23 11:03
Matrix: Water
Date Received: 06/15/23 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			46250	AUY6	EA POM	07/05/23 13:00
Total/NA	Analysis	533		1	46611	UKYM	EA POM	07/09/23 01:47
Total/NA	Prep	537.1 DW			44736	US1B	EA POM	06/20/23 05:53
Total/NA	Analysis	537.1		1	44893	UKDT	EA POM	06/21/23 18:39

Client Sample ID: FB HALAWA WELLS UNITS 1 & 2 P1
Lab Sample ID: 380-51410-12
Date Collected: 06/13/23 10:39
Matrix: Water
Date Received: 06/15/23 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			46250	AUY6	EA POM	07/05/23 13:00
Total/NA	Analysis	533		1	46611	UKYM	EA POM	07/09/23 01:56
Total/NA	Prep	537.1 DW			44736	US1B	EA POM	06/20/23 05:53
Total/NA	Analysis	537.1		1	44893	UKDT	EA POM	06/21/23 18:58

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

Accreditation/Certification Summary

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

Job ID: 380-51410-1

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	01-31-24

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	1-Methylnaphthalene
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	2-Methylnaphthalene
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	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	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	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
525.2	525.2	Drinking Water	Isophorone

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	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)
533	533	Water	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)

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	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: 380-51410-1

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

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

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

Sample Summary

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

Job ID: 380-51410-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-51410-1	MOANALUA WELLS	Drinking Water	06/13/23 10:08	06/15/23 10:20	HI0000331
380-51410-2	AIEA GULCH WELLS PUMP 2	Drinking Water	06/13/23 11:29	06/15/23 10:20	HI0000331
380-51410-3	AIEA WELLS PUMPS 1&2 (260) P2	Drinking Water	06/13/23 11:03	06/15/23 10:20	HI0000331
380-51410-4	HALAWA WELLS UNITS 1 & 2 P1	Drinking Water	06/13/23 10:39	06/15/23 10:20	HI0000331
380-51410-9	FB MOANALUA WELLS	Water	06/13/23 10:08	06/15/23 10:20	
380-51410-10	FB AIEA GULCH WELLS PUMP 2	Water	06/13/23 11:29	06/15/23 10:20	
380-51410-11	FB AIEA WELLS PUMPS 1&2 (260) P2	Water	06/13/23 11:03	06/15/23 10:20	
380-51410-12	FB HALAWA WELLS UNITS 1 & 2 P1	Water	06/13/23 10:39	06/15/23 10:20	

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: BAILEY	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-27941-2757.2
Client Contact: Dr. Ron Fenstermacher	Phone: 808-748-5840	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin:	Page: Page 1 of 2
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 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:	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 (Purgable) LL (EAL)	SUBCONTRACT - 8915 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	13-Jun-2023	1008	G	Water			2		2	2	4				
AIEA GULCH WELLS PUMP2	13-Jun-2023	1129	G	Water			2		2	2	4				
AIEA WELLS PUMPS 1&2 (260) P2	13-Jun-2023	1103	G	Water			2		2	2	4				
HALAWA WELLS UNITS 1&2 P1	13-Jun-2023	1039	G	Water			2		2	2	4				
TB MOANALUA WELLS	13-Jun-2023	1008		Water							2				
TB AIEA GULCH WELLS PUMP2	13-Jun-2023	1129		Water							2				
TB AIEA WELLS PUMPS 1&2 (260)	13-Jun-2023	1103		Water							2				
TB HALAWA WELLS UNITS 1&2	13-Jun-2023	1039		Water							2				

380-51410 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: 7724 5029 4481/4584/4580/3424

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
BAILEY	14 JUNE 2023 1400	HBWS	4VD1	6/15/23 10:20	EA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 750A 2.1 4.5 3.4 5.1 -0.1 = 2.0 4.4 3.3 5.0 GE2

Ver: 01/16/2019

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: BAILEY	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-27941-2757.2
Client Contact: Dr. Ron Fenstermacher	Phone: 808-748-5840	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin:	Page: Page 2 of 2
Company: City & County of Honolulu	PWSID:	Analysis Requested		Job #:
Address: 630 South Beretania Street; Chemistry Lab	Due Date Requested:			
City: Honolulu	TAT Requested (days):			
State, Zip: HI, 96843	Compliance Project: 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:	SSOW#:			

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 (Purgable) LL (EAL)	SUBCONTRACT - 8915 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	13-Jun-2023	1008	G	Water								3	3		
AIEA GULCH WELLS PUMP2	13-Jun-2023	1129	G	Water								3	3		
AIEA WELLS PUMPS 1&2 (260) P2	13-Jun-2023	1103	G	Water								3	3		
HALAWA WELLS UNITS 1&2 P1	13-Jun-2023	1039	G	Water								3	3		
FB MOANALUA WELLS	13-Jun-2023	1008		Water								1	1		
FB AIEA GULCH WELLS PUMP2	13-Jun-2023	1129		Water								1	1		
FB AIEA WELLS PUMPS 1&2 (260) P2	13-Jun-2023	1103		Water								1	1		
FB HALAWA WELLS UNITS 1&2 P1	13-Jun-2023	1039		Water								1	1		

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

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

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

Special Instructions/QC Requirements:

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

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
BAILEY	14JUN2023 1400	HBWS	[signature]	6/15/23 10:20	[illegible]
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: 20/4.4/3.3/5.0 GF

Bottle Order Information

Bottle Order: RUSH RE
Bottle Order #: 2757
Request From Client: 3/2/2023
Date Order Posted: 7/20/2022 11:12:54AM
Order Status: Ready To Process
Prepared By: Davis Haley
Deliver By Date: ***5/31/2023 11:59:00PM***
Lab Project Number: 38001111
PWSID:

Information

helle Do

Sent Via:
Tracking #:

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
4	2	8	Amber Glass 1 liter - Sodium Thiosulfate	Sodium Thiosulfate	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	Water	Normal	625 PAH	
4	4	16	Voa Vial 40ml - SodiumThio w/HCl-dropper	Sodium Thiosulfate	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Water	Normal		
4	2	8	Amber Glass 1 L - NaThiosulfate 8mL HCL	Sodium Thiosulfate/Hydrochloric Acid	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	Water	Normal		
4	2	8	Amber Glass 1 Liter- Sodium Sulfite/HCl	Sodium Sulfite w/HCl	525.2_PREC - (MOD) 525plus Plus TICs	Water	Normal		
4	2	8	VOA Vial 40mL - NaThiosulfate/HCL	Sodium Thiosulfate/Hydrochloric Acid	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Water	Trip Blank	1 VIAL BROKEN AT LAB WILL I&2 in [illegible] AT LAB QUICH 2	
5	3	15	Plastic 250ml - Trizma	Trizma	537.1_DW_PREC - 537.1 Full List	Water	Normal		
5	3	15	Plastic 250ml – Ammonium Acetate	Ammonium Acetate	533 - All Analytes	Water	Normal		
5	1	5	Plastic 250ml - Reagent Water	None		Water	Field Blank		
5	1	5	Plastic 250ml – Ammonium Acetate	Ammonium Acetate		Water	Field Blank		
5	1	5	Plastic 250ml - Reagent Water	None		Water	Field Blank		
5	1	5	Plastic 250ml - Trizma	Trizma		Water	Field Blank		

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-51410-1

Login Number: 51410
List Number: 1
Creator: Elyas, Matthew

List Source: Eurofins Eaton Analytical Pomona

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	Refer to Job Narrative for details.
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	