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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 9/9/2023 1:12:15 PM

JOB DESCRIPTION

RED-HILL
RUSH Weekly Red Hill

JOB NUMBER

380-55683-1

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

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

Rachelle Arada

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

Table of Contents

Definitions/Glossary

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

Job ID: 380-55683-1

Qualifiers

GC/MS Semi VOA

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

GC/MS Semi VOA TICs

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

LCMS

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
^3-	Reporting Limit Check Standard is outside acceptance limits, low 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.

Glossary

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

Client: City & County of Honolulu
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Job ID: 380-55683-1

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Laboratory: Eurofins Eaton Analytical Pomona

Narrative

Job Narrative
380-55683-1

Comments
No additional comments.

Receipt
The samples were received on 7/20/2023 10:15 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.6º C and 2.7º C.

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

LCMS
Method 533: MRL check IDA 13C3 HFPO-DA recovery failed biased low in prep batch 380-50042. Method 533 only requires one LFB/LCS but with rotation. Prep batch 380-45148 have a passing LCS/LCSD. EPA Manual for DW requires only one MRL check per day. An MRL check with passing low level LFB requirement is in prep batch 380-49895, and reported on analytical batch 50612.

Method 537.1: The method reporting limit check (MRL) for preparation batch 380-48694 and analytical batch 380-48883 recovered outside control limits for the following analytes: Perfluorononanoic acid (PFNA). These analytes were biased high in the MRL and were not detected in the associated samples; therefore, the data have been reported.

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: 380-55683-1

Client Sample ID: AIEA GULCH WELLS PUMP 2 — Lab Sample ID: 380-55683-1

PWSID Number: HI0000331

No Detections.

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2 — Lab Sample ID: 380-55683-3

No Detections.

This Detection Summary does not include radiochemical test results.

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

Job ID: 380-55683-1

Client Sample ID: AIEA GULCH WELLS PUMP 2
Date Collected: 07/18/23 13:00
Date Received: 07/20/23 10:15

Lab Sample ID: 380-55683-1
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	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
2,4'-DDD	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
2,4'-DDE	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
2,4'-DDT	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
2,4-Dinitrotoluene	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
2,6-Dinitrotoluene	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
2-Methylnaphthalene	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
4,4'-DDD	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
4,4'-DDE	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
4,4'-DDT	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
Acenaphthene	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
Acenaphthylene	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
Acetochlor	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
Alachlor	<0.049		0.049		ug/L		07/25/23 16:50	07/26/23 20:29	1
alpha-BHC	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
alpha-Chlordane	<0.049		0.049		ug/L		07/25/23 16:50	07/26/23 20:29	1
Anthracene	<0.020		0.020		ug/L		07/25/23 16:50	07/26/23 20:29	1
Atrazine	<0.049		0.049		ug/L		07/25/23 16:50	07/26/23 20:29	1
Benz(a)anthracene	<0.049		0.049		ug/L		07/25/23 16:50	07/26/23 20:29	1
Benzo[a]pyrene	<0.020		0.020		ug/L		07/25/23 16:50	07/26/23 20:29	1
Benzo[b]fluoranthene	<0.020		0.020		ug/L		07/25/23 16:50	07/26/23 20:29	1
Benzo[g,h,i]perylene	<0.049		0.049		ug/L		07/25/23 16:50	07/26/23 20:29	1
Benzo[k]fluoranthene	<0.020		0.020		ug/L		07/25/23 16:50	07/26/23 20:29	1
beta-BHC	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59		ug/L		07/25/23 16:50	07/26/23 20:29	1
Bromacil	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
Butachlor	<0.049		0.049		ug/L		07/25/23 16:50	07/26/23 20:29	1
Butylbenzylphthalate	<0.49		0.49		ug/L		07/25/23 16:50	07/26/23 20:29	1
Chlorobenzilate	<0.099	^3+	0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
Chloroneb	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
Chlorothalonil (Draconil, Bravo)	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
Chlorpyrifos	<0.049		0.049		ug/L		07/25/23 16:50	07/26/23 20:29	1
Chrysene	<0.020		0.020		ug/L		07/25/23 16:50	07/26/23 20:29	1
delta-BHC	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
Di(2-ethylhexyl)adipate	<0.59		0.59		ug/L		07/25/23 16:50	07/26/23 20:29	1
Dibenz(a,h)anthracene	<0.049		0.049		ug/L		07/25/23 16:50	07/26/23 20:29	1
Diclorvos (DDVP)	<0.049	^3+ *+	0.049		ug/L		07/25/23 16:50	07/26/23 20:29	1
Dieldrin	<0.20		0.20		ug/L		07/25/23 16:50	07/26/23 20:29	1
Diethylphthalate	<0.49		0.49		ug/L		07/25/23 16:50	07/26/23 20:29	1
Dimethylphthalate	<0.49		0.49		ug/L		07/25/23 16:50	07/26/23 20:29	1
Di-n-butyl phthalate	<0.99		0.99		ug/L		07/25/23 16:50	07/26/23 20:29	1
Di-n-octyl phthalate	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
Endosulfan I (Alpha)	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
Endosulfan II (Beta)	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
Endosulfan sulfate	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
Endrin	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
Endrin aldehyde	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
EPTC	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
Fluoranthene	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1

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

Job ID: 380-55683-1

Client Sample ID: AIEA GULCH WELLS PUMP 2
Date Collected: 07/18/23 13:00
Date Received: 07/20/23 10:15

Lab Sample ID: 380-55683-1
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		07/25/23 16:50	07/26/23 20:29	1
gamma-Chlordane	<0.049		0.049		ug/L		07/25/23 16:50	07/26/23 20:29	1
Heptachlor	<0.039		0.039		ug/L		07/25/23 16:50	07/26/23 20:29	1
Heptachlor epoxide (isomer B)	<0.049		0.049		ug/L		07/25/23 16:50	07/26/23 20:29	1
Hexachlorobenzene	<0.049		0.049		ug/L		07/25/23 16:50	07/26/23 20:29	1
Hexachlorocyclopentadiene	<0.049		0.049		ug/L		07/25/23 16:50	07/26/23 20:29	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049		ug/L		07/25/23 16:50	07/26/23 20:29	1
Isophorone	<0.49		0.49		ug/L		07/25/23 16:50	07/26/23 20:29	1
Lindane	<0.039		0.039		ug/L		07/25/23 16:50	07/26/23 20:29	1
Malathion	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
Methoxychlor	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
Metolachlor	<0.049		0.049		ug/L		07/25/23 16:50	07/26/23 20:29	1
Molinate	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
Naphthalene	<0.30		0.30		ug/L		07/25/23 16:50	07/26/23 20:29	1
Parathion	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
Pendimethalin (Penoxaline)	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
Phenanthrene	<0.039		0.039		ug/L		07/25/23 16:50	07/26/23 20:29	1
Propachlor	<0.049		0.049		ug/L		07/25/23 16:50	07/26/23 20:29	1
Pyrene	<0.049		0.049		ug/L		07/25/23 16:50	07/26/23 20:29	1
Simazine	<0.049		0.049		ug/L		07/25/23 16:50	07/26/23 20:29	1
Terbacil	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
Terbuthylazine	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1
Thiobencarb	<0.20		0.20		ug/L		07/25/23 16:50	07/26/23 20:29	1
Total Permethrin (mixed isomers)	<0.20		0.20		ug/L		07/25/23 16:50	07/26/23 20:29	1
trans-Nonachlor	<0.049		0.049		ug/L		07/25/23 16:50	07/26/23 20:29	1
Trifluralin	<0.099		0.099		ug/L		07/25/23 16:50	07/26/23 20:29	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*			*N/A*	*07/25/23 16:50*	*07/26/23 20:29*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*94*		*70 - 130*	*07/25/23 16:50*	*07/26/23 20:29*	*1*
Perylene-d12	*92*		*70 - 130*	*07/25/23 16:50*	*07/26/23 20:29*	*1*
Triphenylphosphate	*99*		*70 - 130*	*07/25/23 16:50*	*07/26/23 20:29*	*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		08/02/23 16:10	08/07/23 19:38	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:38	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:38	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:38	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:38	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:38	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:38	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:38	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:38	1

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

Job ID: 380-55683-1

Client Sample ID: AIEA GULCH WELLS PUMP 2
Date Collected: 07/18/23 13:00
Date Received: 07/20/23 10:15

Lab Sample ID: 380-55683-1
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:38	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:38	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:38	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:38	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:38	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:38	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:38	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:38	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:38	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:38	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:38	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:38	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:38	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:38	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*78*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:38*	*1*
13C6 PFDA	*88*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:38*	*1*
13C5 PFHxA	*94*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:38*	*1*
13C4 PFHpA	*94*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:38*	*1*
13C8 PFOA	*94*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:38*	*1*
13C9 PFNA	*93*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:38*	*1*
13C7 PFUnA	*94*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:38*	*1*
13C2 PFDoA	*90*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:38*	*1*
13C4 PFBA	*97*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:38*	*1*
13C5 PFPeA	*122*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:38*	*1*
13C3 PFBS	*98*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:38*	*1*
13C3 PFHxS	*97*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:38*	*1*
13C8 PFOS	*95*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:38*	*1*
13C2-4:2-FTS	*118*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:38*	*1*
13C2-6:2-FTS	*120*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:38*	*1*
13C2-8:2-FTS	*104*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:38*	*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		07/25/23 09:17	07/26/23 21:24	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:24	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:24	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:24	1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-55683-1

Date Collected: 07/18/23 13:00
Matrix: Drinking Water
Date Received: 07/20/23 10:15
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:24	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:24	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:24	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:24	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:24	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:24	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:24	1
Perfluorononanoic acid (PFNA)	<2.0	^3+	2.0		ng/L		07/25/23 09:17	07/26/23 21:24	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:24	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:24	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:24	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*127*		*70 - 130*	*07/25/23 09:17*	*07/26/23 21:24*	*1*
13C2 PFHxA	*117*		*70 - 130*	*07/25/23 09:17*	*07/26/23 21:24*	*1*
13C2 PFDA	*123*		*70 - 130*	*07/25/23 09:17*	*07/26/23 21:24*	*1*
13C3-GenX	*105*		*70 - 130*	*07/25/23 09:17*	*07/26/23 21:24*	*1*

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-55683-3

Date Collected: 07/18/23 13:00
Matrix: Water
Date Received: 07/20/23 10:15

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2
Date Collected: 07/18/23 13:00
Date Received: 07/20/23 10:15

Lab Sample ID: 380-55683-3
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-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		08/02/23 16:10	08/07/23 21:43	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*74*		*50 - 200*	*08/02/23 16:10*	*08/07/23 21:43*	*1*
13C6 PFDA	*87*		*50 - 200*	*08/02/23 16:10*	*08/07/23 21:43*	*1*
13C5 PFHxA	*86*		*50 - 200*	*08/02/23 16:10*	*08/07/23 21:43*	*1*
13C4 PFHpA	*85*		*50 - 200*	*08/02/23 16:10*	*08/07/23 21:43*	*1*
13C8 PFOA	*87*		*50 - 200*	*08/02/23 16:10*	*08/07/23 21:43*	*1*
13C9 PFNA	*91*		*50 - 200*	*08/02/23 16:10*	*08/07/23 21:43*	*1*
13C7 PFUnA	*92*		*50 - 200*	*08/02/23 16:10*	*08/07/23 21:43*	*1*
13C2 PFDoA	*86*		*50 - 200*	*08/02/23 16:10*	*08/07/23 21:43*	*1*
13C4 PFBA	*85*		*50 - 200*	*08/02/23 16:10*	*08/07/23 21:43*	*1*
13C5 PFPeA	*91*		*50 - 200*	*08/02/23 16:10*	*08/07/23 21:43*	*1*
13C3 PFBS	*100*		*50 - 200*	*08/02/23 16:10*	*08/07/23 21:43*	*1*
13C3 PFHxS	*96*		*50 - 200*	*08/02/23 16:10*	*08/07/23 21:43*	*1*
13C8 PFOS	*94*		*50 - 200*	*08/02/23 16:10*	*08/07/23 21:43*	*1*
13C2-4:2-FTS	*112*		*50 - 200*	*08/02/23 16:10*	*08/07/23 21:43*	*1*
13C2-6:2-FTS	*101*		*50 - 200*	*08/02/23 16:10*	*08/07/23 21:43*	*1*
13C2-8:2-FTS	*100*		*50 - 200*	*08/02/23 16:10*	*08/07/23 21:43*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:34	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:34	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:34	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:34	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:34	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:34	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:34	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:34	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:34	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:34	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:34	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:34	1
Perfluorononanoic acid (PFNA)	<2.0	^3+	2.0		ng/L		07/25/23 09:17	07/26/23 21:34	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:34	1

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

Job ID: 380-55683-1

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2
Date Collected: 07/18/23 13:00
Date Received: 07/20/23 10:15

Lab Sample ID: 380-55683-3
Matrix: Water

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		07/25/23 09:17	07/26/23 21:34	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:34	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		07/25/23 09:17	07/26/23 21:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*121*		*70 - 130*	*07/25/23 09:17*	*07/26/23 21:34*	*1*
13C2 PFHxA	*113*		*70 - 130*	*07/25/23 09:17*	*07/26/23 21:34*	*1*
13C2 PFDA	*124*		*70 - 130*	*07/25/23 09:17*	*07/26/23 21:34*	*1*
13C3-GenX	*102*		*70 - 130*	*07/25/23 09:17*	*07/26/23 21:34*	*1*

Action Limit Summary

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

Job ID: 380-55683-1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-55683-1

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	<0.020		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	<0.099		ug/L	2	0.099	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	<0.099		ug/L	40	0.099	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: 380-55683-1

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)
380-55683-1	AIEA GULCH WELLS PUMP 2	94	92	99

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)
380-55614-AI-1-A MS	Matrix Spike	97	91	103
380-55774-AK-3-A DU	Duplicate	96	90	101
LCS 380-48728/23-A	Lab Control Sample	95	93	104
LCSD 380-48728/24-A	Lab Control Sample Dup	98	94	104
MB 380-48728/21-A	Method Blank	100	88	98
MRL 380-48728/22-A	Lab Control Sample	99	90	98

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)
380-55683-1	AIEA GULCH WELLS PUMP 2	127	117	123	105

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS	PFHxA	PFDA	GenX
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
380-55683-3	FB: AIEA GULCH WELLS PUMI	121	113	124	102
380-55757-A-1-B MS	Matrix Spike	109	112	110	102
380-55757-A-1-C MSD	Matrix Spike Duplicate	102	108	110	102
LCS 380-48694/25-A	Lab Control Sample	98	112	108	101
LCSD 380-48694/26-A	Lab Control Sample Dup	117	117	117	102
MBL 380-48694/23-A	Method Blank	107	114	113	102
MRL 380-48694/24-A	Lab Control Sample	111	114	111	98

Surrogate Summary

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

Job ID: 380-55683-1

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: 380-55683-1

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

Matrix: Drinking Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		HFPODA	C6PFDA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	13C7PUA	PFDoA
Lab Sample ID	Client Sample ID	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)
380-55683-1	AIEA GULCH WELLS PUMP 2	78	88	94	94	94	93	94	90
380-55683-1 MS	AIEA GULCH WELLS PUMP 2	80	95	94	96	93	95	100	91

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	C3PFBS	C3PFHS	C8PFOS	42FTS	62FTS	82FTS
Lab Sample ID	Client Sample ID	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)
380-55683-1	AIEA GULCH WELLS PUMP 2	97	122	98	97	95	118	120	104
380-55683-1 MS	AIEA GULCH WELLS PUMP 2	95	113	93	94	94	107	108	104

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)							
		HFPODA	C6PFDA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	13C7PUA	PFDoA
Lab Sample ID	Client Sample ID	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)
380-55683-3	FB: AIEA GULCH WELLS PUMI	74	87	86	85	87	91	92	86
380-55685-O-1-B DU	Duplicate	85	90	92	95	92	92	93	87
LCS 380-50042/20-A	Lab Control Sample	78	90	81	79	81	88	97	94
LCSD 380-50042/21-A	Lab Control Sample Dup	74	87	80	79	80	86	96	92
MBL 380-50042/18-A	Method Blank	50	75	64	72	72	75	81	78
MRL 380-50042/19-A	Lab Control Sample	47 *5- ^3-	76	61	65	64	70	87	84

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	C3PFBS	C3PFHS	C8PFOS	42FTS	62FTS	82FTS
Lab Sample ID	Client Sample ID	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)
380-55683-3	FB: AIEA GULCH WELLS PUMI	85	91	100	96	94	112	101	100
380-55685-O-1-B DU	Duplicate	89	99	96	96	94	121	117	107
LCS 380-50042/20-A	Lab Control Sample	75	80	98	99	96	111	111	103
LCSD 380-50042/21-A	Lab Control Sample Dup	80	82	96	96	93	110	109	99
MBL 380-50042/18-A	Method Blank	60	66	91	90	87	104	105	95
MRL 380-50042/19-A	Lab Control Sample	58	69	97	95	90	119	112	98

Surrogate Legend

HFPODA = 13C3 HFPO-DA

Isotope Dilution Summary

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

Job ID: 380-55683-1

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 380-48728/21-A
Matrix: Water
Analysis Batch: 48954

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 48728

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
2,4'-DDD	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
2,4'-DDE	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
2,4'-DDT	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
2,4-Dinitrotoluene	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
2,6-Dinitrotoluene	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
2-Methylnaphthalene	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
4,4'-DDD	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
4,4'-DDE	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
4,4'-DDT	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
Acenaphthene	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
Acenaphthylene	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
Acetochlor	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
Alachlor	<0.050		0.050		ug/L		07/25/23 15:40	07/26/23 16:42	1
alpha-BHC	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
alpha-Chlordane	<0.050		0.050		ug/L		07/25/23 15:40	07/26/23 16:42	1
Anthracene	<0.020		0.020		ug/L		07/25/23 15:40	07/26/23 16:42	1
Atrazine	<0.050		0.050		ug/L		07/25/23 15:40	07/26/23 16:42	1
Benz(a)anthracene	<0.050		0.050		ug/L		07/25/23 15:40	07/26/23 16:42	1
Benzo[a]pyrene	<0.020		0.020		ug/L		07/25/23 15:40	07/26/23 16:42	1
Benzo[b]fluoranthene	<0.020		0.020		ug/L		07/25/23 15:40	07/26/23 16:42	1
Benzo[g,h,i]perylene	<0.050		0.050		ug/L		07/25/23 15:40	07/26/23 16:42	1
Benzo[k]fluoranthene	<0.020		0.020		ug/L		07/25/23 15:40	07/26/23 16:42	1
beta-BHC	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
Bis(2-ethylhexyl) phthalate	<0.60		0.60		ug/L		07/25/23 15:40	07/26/23 16:42	1
Bromacil	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
Butachlor	<0.050		0.050		ug/L		07/25/23 15:40	07/26/23 16:42	1
Butylbenzylphthalate	<0.50		0.50		ug/L		07/25/23 15:40	07/26/23 16:42	1
Chlorobenzilate	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
Chloroneb	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
Chlorothalonil (Draconil, Bravo)	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
Chlorpyrifos	<0.050		0.050		ug/L		07/25/23 15:40	07/26/23 16:42	1
Chrysene	<0.020		0.020		ug/L		07/25/23 15:40	07/26/23 16:42	1
delta-BHC	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
Di(2-ethylhexyl)adipate	<0.60		0.60		ug/L		07/25/23 15:40	07/26/23 16:42	1
Dibenz(a,h)anthracene	<0.050		0.050		ug/L		07/25/23 15:40	07/26/23 16:42	1
Diclorvos (DDVP)	<0.050		0.050		ug/L		07/25/23 15:40	07/26/23 16:42	1
Dieldrin	<0.20		0.20		ug/L		07/25/23 15:40	07/26/23 16:42	1
Diethylphthalate	<0.50		0.50		ug/L		07/25/23 15:40	07/26/23 16:42	1
Dimethylphthalate	<0.50		0.50		ug/L		07/25/23 15:40	07/26/23 16:42	1
Di-n-butyl phthalate	<0.99		0.99		ug/L		07/25/23 15:40	07/26/23 16:42	1
Di-n-octyl phthalate	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
Endosulfan I (Alpha)	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
Endosulfan II (Beta)	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
Endosulfan sulfate	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
Endrin	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
Endrin aldehyde	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
EPTC	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1

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

Lab Sample ID: MB 380-48728/21-A
Matrix: Water
Analysis Batch: 48954

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 48728

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
Fluorene	<0.050		0.050		ug/L		07/25/23 15:40	07/26/23 16:42	1
gamma-Chlordane	<0.050		0.050		ug/L		07/25/23 15:40	07/26/23 16:42	1
Heptachlor	<0.040		0.040		ug/L		07/25/23 15:40	07/26/23 16:42	1
Heptachlor epoxide (isomer B)	<0.050		0.050		ug/L		07/25/23 15:40	07/26/23 16:42	1
Hexachlorobenzene	<0.050		0.050		ug/L		07/25/23 15:40	07/26/23 16:42	1
Hexachlorocyclopentadiene	<0.050		0.050		ug/L		07/25/23 15:40	07/26/23 16:42	1
Indeno[1,2,3-cd]pyrene	<0.050		0.050		ug/L		07/25/23 15:40	07/26/23 16:42	1
Isophorone	<0.50		0.50		ug/L		07/25/23 15:40	07/26/23 16:42	1
Lindane	<0.040		0.040		ug/L		07/25/23 15:40	07/26/23 16:42	1
Malathion	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
Methoxychlor	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
Metolachlor	<0.050		0.050		ug/L		07/25/23 15:40	07/26/23 16:42	1
Molinate	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
Naphthalene	<0.30		0.30		ug/L		07/25/23 15:40	07/26/23 16:42	1
Parathion	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
Pendimethalin (Penoxaline)	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
Phenanthrene	<0.040		0.040		ug/L		07/25/23 15:40	07/26/23 16:42	1
Propachlor	<0.050		0.050		ug/L		07/25/23 15:40	07/26/23 16:42	1
Pyrene	<0.050		0.050		ug/L		07/25/23 15:40	07/26/23 16:42	1
Simazine	<0.050		0.050		ug/L		07/25/23 15:40	07/26/23 16:42	1
Terbacil	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
Terbuthylazine	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1
Thiobencarb	<0.20		0.20		ug/L		07/25/23 15:40	07/26/23 16:42	1
Total Permethrin (mixed isomers)	<0.20		0.20		ug/L		07/25/23 15:40	07/26/23 16:42	1
trans-Nonachlor	<0.050		0.050		ug/L		07/25/23 15:40	07/26/23 16:42	1
Trifluralin	<0.099		0.099		ug/L		07/25/23 15:40	07/26/23 16:42	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Sulfurous acid, cyclohexylmethyl heptadecyl ester	*0.762*	*T J N*	*ug/L*		*2.35*	*1000309-22-5*	*07/25/23 15:40*	*07/26/23 16:42*	*1*
Decane	*2.65*	*T J N*	*ug/L*		*2.45*	*124-18-5*	*07/25/23 15:40*	*07/26/23 16:42*	*1*
Decane, 2-methyl-	*0.511*	*T J N*	*ug/L*		*2.63*	*6975-98-0*	*07/25/23 15:40*	*07/26/23 16:42*	*1*
2,4,7,9-Tetramethyl-5-decyn-4,7-diol	*0.525*	*T J N*	*ug/L*		*3.86*	*126-86-3*	*07/25/23 15:40*	*07/26/23 16:42*	*1*
Tridecanoic acid	*0.697*	*T J N*	*ug/L*		*5.84*	*638-53-9*	*07/25/23 15:40*	*07/26/23 16:42*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*100*		*70 - 130*	*07/25/23 15:40*	*07/26/23 16:42*	*1*
Perylene-d12	*88*		*70 - 130*	*07/25/23 15:40*	*07/26/23 16:42*	*1*
Triphenylphosphate	*98*		*70 - 130*	*07/25/23 15:40*	*07/26/23 16:42*	*1*

Lab Sample ID: LCS 380-48728/23-A
Matrix: Water
Analysis Batch: 48954

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48728

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	1.98	2.05		ug/L		104	70 - 130
2,4'-DDD	1.98	2.16		ug/L		109	70 - 130

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

Lab Sample ID: LCS 380-48728/23-A
Matrix: Water
Analysis Batch: 48954

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48728

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDE	1.98	2.04		ug/L		103	70 - 130
2,4'-DDT	1.98	2.17		ug/L		110	70 - 130
2,4-Dinitrotoluene	1.98	2.00		ug/L		101	70 - 130
2,6-Dinitrotoluene	1.98	2.00		ug/L		101	70 - 130
2-Methylnaphthalene	1.98	2.07		ug/L		105	70 - 130
4,4'-DDD	1.98	2.17		ug/L		110	70 - 130
4,4'-DDE	1.98	2.08		ug/L		105	70 - 130
4,4'-DDT	1.98	2.06		ug/L		104	70 - 130
Acenaphthene	1.98	2.05		ug/L		103	70 - 130
Acenaphthylene	1.98	1.93		ug/L		98	70 - 130
Acetochlor	1.98	2.51		ug/L		127	70 - 130
Alachlor	1.98	2.13		ug/L		108	70 - 130
alpha-BHC	1.98	2.10		ug/L		106	70 - 130
alpha-Chlordane	1.98	1.96		ug/L		99	70 - 130
Anthracene	1.98	2.01		ug/L		101	70 - 130
Atrazine	1.98	2.40		ug/L		121	70 - 130
Benz(a)anthracene	1.98	2.20		ug/L		111	70 - 130
Benzo[a]pyrene	1.98	1.97		ug/L		100	70 - 130
Benzo[b]fluoranthene	1.98	2.13		ug/L		107	70 - 130
Benzo[g,h,i]perylene	1.98	2.10		ug/L		106	70 - 130
Benzo[k]fluoranthene	1.98	2.22		ug/L		112	70 - 130
beta-BHC	1.98	2.16		ug/L		109	70 - 130
Bis(2-ethylhexyl) phthalate	1.98	1.98		ug/L		100	70 - 130
Bromacil	1.98	2.11		ug/L		106	70 - 130
Butachlor	1.98	2.39		ug/L		121	70 - 130
Butylbenzylphthalate	1.98	2.35		ug/L		119	70 - 130
Chlorobenzilate	1.98	2.50		ug/L		126	70 - 130
Chloroneb	1.98	2.05		ug/L		103	70 - 130
Chlorothalonil (Draconil, Bravo)	1.98	2.08		ug/L		105	70 - 130
Chlorpyrifos	1.98	2.22		ug/L		112	70 - 130
Chrysene	1.98	2.07		ug/L		104	70 - 130
delta-BHC	1.98	2.03		ug/L		103	70 - 130
Di(2-ethylhexyl)adipate	1.98	2.22		ug/L		112	70 - 130
Dibenz(a,h)anthracene	1.98	2.20		ug/L		111	70 - 130
Diclorvos (DDVP)	1.98	2.48		ug/L		125	70 - 130
Dieldrin	1.98	2.10		ug/L		106	70 - 130
Diethylphthalate	1.98	2.17		ug/L		109	70 - 130
Dimethylphthalate	1.98	2.16		ug/L		109	70 - 130
Di-n-butyl phthalate	3.96	4.24		ug/L		107	70 - 130
Di-n-octyl phthalate	1.98	1.99		ug/L		101	70 - 130
Endosulfan I (Alpha)	1.98	2.03		ug/L		102	70 - 130
Endosulfan II (Beta)	1.98	2.20		ug/L		111	70 - 130
Endosulfan sulfate	1.98	2.26		ug/L		114	70 - 130
Endrin	1.98	2.39		ug/L		121	70 - 130
Endrin aldehyde	1.98	1.98		ug/L		100	70 - 130
EPTC	1.98	2.08		ug/L		105	70 - 130
Fluoranthene	1.98	2.23		ug/L		113	70 - 130
Fluorene	1.98	2.16		ug/L		109	70 - 130
gamma-Chlordane	1.98	1.95		ug/L		99	70 - 130

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

Lab Sample ID: LCS 380-48728/23-A
Matrix: Water
Analysis Batch: 48954

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48728

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Heptachlor			1.98	2.14		ug/L		108	70 - 130		
Heptachlor epoxide (isomer B)			1.98	2.09		ug/L		105	70 - 130		
Hexachlorobenzene			1.98	1.92		ug/L		97	70 - 130		
Hexachlorocyclopentadiene			1.98	2.01		ug/L		101	70 - 130		
Indeno[1,2,3-cd]pyrene			1.98	2.22		ug/L		112	70 - 130		
Isophorone			1.98	2.06		ug/L		104	70 - 130		
Lindane			1.98	2.15		ug/L		109	70 - 130		
Malathion			1.98	2.26		ug/L		114	70 - 130		
Methoxychlor			1.98	2.15		ug/L		109	70 - 130		
Metolachlor			1.98	2.33		ug/L		117	70 - 130		
Molinate			1.98	2.27		ug/L		115	70 - 130		
Naphthalene			1.98	1.96		ug/L		99	70 - 130		
Parathion			1.98	2.38		ug/L		120	70 - 130		
Pendimethalin (Penoxaline)			1.98	2.14		ug/L		108	70 - 130		
Phenanthrene			1.98	2.05		ug/L		104	70 - 130		
Propachlor			1.98	2.31		ug/L		116	70 - 130		
Pyrene			1.98	2.25		ug/L		113	70 - 130		
Simazine			1.98	2.32		ug/L		117	70 - 130		
Terbacil			1.98	2.35		ug/L		119	70 - 130		
Terbuthylazine			1.98	2.27		ug/L		115	70 - 130		
Thiobencarb			1.98	2.38		ug/L		120	70 - 130		
trans-Nonachlor			1.98	1.97		ug/L		100	70 - 130		
Trifluralin			1.98	2.05		ug/L		103	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Nitro-m-xylene	*95*		*70 - 130*
Perylene-d12	*93*		*70 - 130*
Triphenylphosphate	*104*		*70 - 130*

Lab Sample ID: LCSD 380-48728/24-A
Matrix: Water
Analysis Batch: 48954

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 48728

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene			1.99	2.10		ug/L		106	70 - 130	2	20
2,4'-DDD			1.99	2.19		ug/L		110	70 - 130	1	20
2,4'-DDE			1.99	2.06		ug/L		104	70 - 130	1	20
2,4'-DDT			1.99	2.17		ug/L		109	70 - 130	0	20
2,4-Dinitrotoluene			1.99	2.07		ug/L		104	70 - 130	3	20
2,6-Dinitrotoluene			1.99	2.08		ug/L		105	70 - 130	4	20
2-Methylnaphthalene			1.99	2.13		ug/L		107	70 - 130	3	20
4,4'-DDD			1.99	2.20		ug/L		111	70 - 130	1	20
4,4'-DDE			1.99	2.08		ug/L		105	70 - 130	0	20
4,4'-DDT			1.99	2.08		ug/L		105	70 - 130	1	20
Acenaphthene			1.99	2.09		ug/L		105	70 - 130	2	20
Acenaphthylene			1.99	2.00		ug/L		101	70 - 130	4	20
Acetochlor			1.99	2.55		ug/L		128	70 - 130	1	20
Alachlor			1.99	2.18		ug/L		110	70 - 130	2	20

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

Lab Sample ID: LCSD 380-48728/24-A
Matrix: Water
Analysis Batch: 48954

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 48728

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
alpha-BHC	1.99	2.13		ug/L		107	70 - 130	1	20
alpha-Chlordane	1.99	2.00		ug/L		101	70 - 130	2	20
Anthracene	1.99	2.05		ug/L		103	70 - 130	2	20
Atrazine	1.99	2.43		ug/L		123	70 - 130	1	20
Benz(a)anthracene	1.99	2.25		ug/L		113	70 - 130	2	20
Benzo[a]pyrene	1.99	2.01		ug/L		101	70 - 130	2	20
Benzo[b]fluoranthene	1.99	2.15		ug/L		108	70 - 130	1	20
Benzo[g,h,i]perylene	1.99	2.14		ug/L		108	70 - 130	2	20
Benzo[k]fluoranthene	1.99	2.19		ug/L		110	70 - 130	1	20
beta-BHC	1.99	2.17		ug/L		109	70 - 130	0	20
Bis(2-ethylhexyl) phthalate	1.99	1.98		ug/L		100	70 - 130	0	20
Bromacil	1.99	2.22		ug/L		112	70 - 130	5	20
Butachlor	1.99	2.44		ug/L		123	70 - 130	2	20
Butylbenzylphthalate	1.99	2.37		ug/L		119	70 - 130	1	20
Chlorobenzilate	1.99	2.56		ug/L		129	70 - 130	3	20
Chloroneb	1.99	2.08		ug/L		105	70 - 130	1	20
Chlorothalonil (Draconil, Bravo)	1.99	2.10		ug/L		106	70 - 130	1	20
Chlorpyrifos	1.99	2.25		ug/L		113	70 - 130	1	20
Chrysene	1.99	2.13		ug/L		107	70 - 130	3	20
delta-BHC	1.99	2.07		ug/L		104	70 - 130	2	20
Di(2-ethylhexyl)adipate	1.99	2.18		ug/L		110	70 - 130	2	20
Dibenz(a,h)anthracene	1.99	2.26		ug/L		114	70 - 130	3	20
Diclorvos (DDVP)	1.99	2.61	*+	ug/L		131	70 - 130	5	20
Dieldrin	1.99	2.15		ug/L		108	70 - 130	2	20
Diethylphthalate	1.99	2.21		ug/L		112	70 - 130	2	20
Dimethylphthalate	1.99	2.22		ug/L		112	70 - 130	3	20
Di-n-butyl phthalate	3.97	4.31		ug/L		109	70 - 130	2	20
Di-n-octyl phthalate	1.99	1.97		ug/L		99	70 - 130	1	20
Endosulfan I (Alpha)	1.99	2.08		ug/L		105	70 - 130	2	20
Endosulfan II (Beta)	1.99	2.20		ug/L		111	70 - 130	0	20
Endosulfan sulfate	1.99	2.29		ug/L		116	70 - 130	1	20
Endrin	1.99	2.31		ug/L		117	70 - 130	3	20
Endrin aldehyde	1.99	2.04		ug/L		103	70 - 130	3	20
EPTC	1.99	2.18		ug/L		110	70 - 130	5	20
Fluoranthene	1.99	2.26		ug/L		114	70 - 130	1	20
Fluorene	1.99	2.19		ug/L		110	70 - 130	1	20
gamma-Chlordane	1.99	2.00		ug/L		101	70 - 130	3	20
Heptachlor	1.99	2.21		ug/L		111	70 - 130	3	20
Heptachlor epoxide (isomer B)	1.99	2.09		ug/L		105	70 - 130	0	20
Hexachlorobenzene	1.99	2.00		ug/L		101	70 - 130	4	20
Hexachlorocyclopentadiene	1.99	2.06		ug/L		104	70 - 130	3	20
Indeno[1,2,3-cd]pyrene	1.99	2.28		ug/L		115	70 - 130	2	20
Isophorone	1.99	2.19		ug/L		110	70 - 130	6	20
Lindane	1.99	2.19		ug/L		110	70 - 130	2	20
Malathion	1.99	2.30		ug/L		116	70 - 130	2	20
Methoxychlor	1.99	2.18		ug/L		110	70 - 130	1	20
Metolachlor	1.99	2.36		ug/L		119	70 - 130	2	20
Molinate	1.99	2.33		ug/L		117	70 - 130	2	20
Naphthalene	1.99	2.06		ug/L		104	70 - 130	5	20

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

Lab Sample ID: LCSD 380-48728/24-A
Matrix: Water
Analysis Batch: 48954

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 48728

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Parathion	1.99	2.41		ug/L		121	70 - 130	1	20
Pendimethalin (Penoxaline)	1.99	2.19		ug/L		110	70 - 130	2	20
Phenanthrene	1.99	2.09		ug/L		105	70 - 130	2	20
Propachlor	1.99	2.35		ug/L		118	70 - 130	2	20
Pyrene	1.99	2.27		ug/L		114	70 - 130	1	20
Simazine	1.99	2.40		ug/L		121	70 - 130	4	20
Terbacil	1.99	2.43		ug/L		122	70 - 130	3	20
Terbuthylazine	1.99	2.29		ug/L		116	70 - 130	1	20
Thiobencarb	1.99	2.38		ug/L		120	70 - 130	0	20
trans-Nonachlor	1.99	2.00		ug/L		101	70 - 130	2	20
Trifluralin	1.99	2.11		ug/L		107	70 - 130	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Nitro-m-xylene	*98*		*70 - 130*
Perylene-d12	*94*		*70 - 130*
Triphenylphosphate	*104*		*70 - 130*

Lab Sample ID: MRL 380-48728/22-A
Matrix: Water
Analysis Batch: 48954

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48728

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.0995	0.110		ug/L		111	50 - 150
2,4'-DDD	0.0995	0.121		ug/L		121	50 - 150
2,4'-DDE	0.0995	0.102		ug/L		103	50 - 150
2,4'-DDT	0.0995	0.0950	J	ug/L		96	50 - 150
2,4-Dinitrotoluene	0.0995	0.104		ug/L		105	50 - 150
2,6-Dinitrotoluene	0.0995	0.0925	J	ug/L		93	50 - 150
2-Methylnaphthalene	0.0995	0.109		ug/L		110	50 - 150
4,4'-DDD	0.0995	0.0935	J	ug/L		94	50 - 150
4,4'-DDE	0.0995	0.0918	J	ug/L		92	50 - 150
4,4'-DDT	0.0995	0.125		ug/L		125	50 - 150
Acenaphthene	0.0995	0.0986	J	ug/L		99	50 - 150
Acenaphthylene	0.0995	0.0866	J	ug/L		87	50 - 150
Acetochlor	0.0498	0.0494	J	ug/L		99	50 - 150
Alachlor	0.0498	0.0575		ug/L		116	50 - 150
alpha-BHC	0.0995	0.107		ug/L		107	50 - 150
alpha-Chlordane	0.0249	<0.029		ug/L		89	50 - 150
Anthracene	0.0199	<0.019		ug/L		88	50 - 150
Atrazine	0.0498	0.0555		ug/L		112	50 - 150
Benz(a)anthracene	0.0498	0.0468	J	ug/L		94	50 - 150
Benzo[a]pyrene	0.0199	0.0168	J	ug/L		84	50 - 150
Benzo[b]fluoranthene	0.0199	0.0202		ug/L		102	50 - 150
Benzo[g,h,i]perylene	0.0498	0.0480	J	ug/L		96	50 - 150
Benzo[k]fluoranthene	0.0199	0.0202		ug/L		102	50 - 150
beta-BHC	0.0995	0.115		ug/L		116	50 - 150
Bis(2-ethylhexyl) phthalate	0.597	0.597	J	ug/L		100	50 - 150
Bromacil	0.0995	0.131		ug/L		132	50 - 150

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

Lab Sample ID: MRL 380-48728/22-A
Matrix: Water
Analysis Batch: 48954

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48728

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Butachlor	0.0498	0.0542		ug/L		109	50 - 150
Butylbenzylphthalate	0.149	0.147	J	ug/L		99	50 - 150
Chlorobenzilate	0.0995	0.169	^3+	ug/L		170	50 - 150
Chloroneb	0.0995	0.101		ug/L		102	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0995	0.128		ug/L		128	50 - 150
Chlorpyrifos	0.0498	0.0557		ug/L		112	50 - 150
Chrysene	0.0199	0.0199	J	ug/L		100	50 - 150
delta-BHC	0.0995	0.119		ug/L		119	50 - 150
Di(2-ethylhexyl)adipate	0.299	0.326	J	ug/L		109	50 - 150
Dibenz(a,h)anthracene	0.0498	0.0415	J	ug/L		83	50 - 150
Diclorvos (DDVP)	0.0498	0.0916	^3+	ug/L		184	50 - 150
Dieldrin	0.0995	0.108	J	ug/L		109	50 - 150
Diethylphthalate	0.149	0.170	J	ug/L		114	50 - 150
Dimethylphthalate	0.299	0.306	J	ug/L		102	50 - 150
Di-n-butyl phthalate	0.299	0.337	J	ug/L		113	49 - 243
Di-n-octyl phthalate	0.0995	0.0798	J	ug/L		80	50 - 150
Endosulfan I (Alpha)	0.0995	0.0896	J	ug/L		90	50 - 150
Endosulfan II (Beta)	0.0995	0.126		ug/L		127	50 - 150
Endosulfan sulfate	0.0995	0.0958	J	ug/L		96	50 - 150
Endrin	0.0995	0.115		ug/L		116	50 - 150
Endrin aldehyde	0.0995	<0.084		ug/L		81	50 - 150
EPTC	0.0995	0.100		ug/L		101	50 - 150
Fluoranthene	0.0498	0.0554	J	ug/L		111	50 - 150
Fluorene	0.0498	0.0514		ug/L		103	50 - 150
gamma-Chlordane	0.0249	0.0236	J	ug/L		95	50 - 150
Heptachlor	0.0398	0.0412		ug/L		103	50 - 150
Heptachlor epoxide (isomer B)	0.0498	0.0478	J	ug/L		96	50 - 150
Hexachlorobenzene	0.0498	0.0462	J	ug/L		93	50 - 150
Hexachlorocyclopentadiene	0.0498	0.0389	J	ug/L		78	50 - 150
Indeno[1,2,3-cd]pyrene	0.0498	0.0462	J	ug/L		93	50 - 150
Isophorone	0.0995	0.108	J	ug/L		108	50 - 150
Lindane	0.0398	0.0452		ug/L		114	50 - 150
Malathion	0.0995	0.132		ug/L		133	50 - 150
Methoxychlor	0.0995	0.120		ug/L		120	50 - 150
Metolachlor	0.0498	0.0578		ug/L		116	50 - 150
Molinate	0.0995	0.109		ug/L		110	50 - 150
Naphthalene	0.0995	0.112	J	ug/L		112	50 - 150
Parathion	0.0995	0.130		ug/L		131	50 - 150
Pendimethalin (Penoxaline)	0.0995	0.126		ug/L		126	50 - 150
Phenanthrene	0.0199	0.0226	J	ug/L		113	50 - 150
Propachlor	0.0498	0.0496	J	ug/L		100	50 - 150
Pyrene	0.0498	0.0542		ug/L		109	50 - 150
Simazine	0.0498	0.0522		ug/L		105	50 - 150
Terbacil	0.0995	0.111		ug/L		111	50 - 150
Terbuthylazine	0.0995	0.103		ug/L		104	50 - 150
Thiobencarb	0.0995	0.117	J	ug/L		118	50 - 150
trans-Nonachlor	0.0249	<0.026		ug/L		93	50 - 150
Trifluralin	0.0995	0.108		ug/L		109	50 - 150

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

Lab Sample ID: MRL 380-48728/22-A
Matrix: Water
Analysis Batch: 48954

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48728

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	99		70 - 130
Perylene-d12	90		70 - 130
Triphenylphosphate	98		70 - 130

Lab Sample ID: 380-55614-AI-1-A MS
Matrix: Water
Analysis Batch: 48954

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 48728

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	<0.098		1.98	2.06		ug/L		104	70 - 130
2,4'-DDD	<0.098		1.98	2.14		ug/L		108	70 - 130
2,4'-DDE	<0.098		1.98	2.05		ug/L		103	70 - 130
2,4'-DDT	<0.098		1.98	2.18		ug/L		110	70 - 130
2,4-Dinitrotoluene	<0.098		1.98	2.16		ug/L		109	70 - 130
2,6-Dinitrotoluene	<0.098		1.98	2.16		ug/L		109	70 - 130
2-Methylnaphthalene	<0.098		1.98	2.09		ug/L		105	70 - 130
4,4'-DDD	<0.098		1.98	2.18		ug/L		110	70 - 130
4,4'-DDE	<0.098		1.98	2.06		ug/L		104	70 - 130
4,4'-DDT	<0.098		1.98	2.06		ug/L		104	70 - 130
Acenaphthene	<0.098		1.98	2.04		ug/L		103	70 - 130
Acenaphthylene	<0.098		1.98	2.09		ug/L		105	70 - 130
Acetochlor	<0.098		1.98	2.49		ug/L		125	70 - 130
Alachlor	<0.049		1.98	2.12		ug/L		107	70 - 130
alpha-BHC	<0.098		1.98	2.18		ug/L		110	70 - 130
alpha-Chlordane	<0.049		1.98	1.95		ug/L		98	70 - 130
Anthracene	<0.020		1.98	2.07		ug/L		104	70 - 130
Atrazine	<0.049		1.98	2.30		ug/L		116	70 - 130
Benz(a)anthracene	<0.049		1.98	2.21		ug/L		111	70 - 130
Benzo[a]pyrene	<0.020		1.98	2.10		ug/L		106	70 - 130
Benzo[b]fluoranthene	<0.020		1.98	2.19		ug/L		110	70 - 130
Benzo[g,h,i]perylene	<0.049		1.98	2.02		ug/L		102	70 - 130
Benzo[k]fluoranthene	<0.020		1.98	2.19		ug/L		111	70 - 130
beta-BHC	<0.098		1.98	2.19		ug/L		110	70 - 130
Bis(2-ethylhexyl) phthalate	<0.59		1.98	2.02		ug/L		102	70 - 130
Bromacil	<0.098		1.98	2.22		ug/L		112	70 - 130
Butachlor	<0.049		1.98	2.33		ug/L		117	70 - 130
Butylbenzylphthalate	<0.49		1.98	2.34		ug/L		118	70 - 130
Chlorobenzilate	<0.098	^3+	1.98	2.56		ug/L		129	70 - 130
Chloroneb	<0.098		1.98	2.09		ug/L		105	70 - 130
Chlorothalonil (Draconil, Bravo)	<0.098		1.98	2.08		ug/L		105	70 - 130
Chlorpyrifos	<0.049		1.98	2.21		ug/L		112	70 - 130
Chrysene	<0.020		1.98	2.13		ug/L		108	70 - 130
delta-BHC	<0.098		1.98	2.07		ug/L		104	70 - 130
Di(2-ethylhexyl)adipate	<0.59		1.98	2.19		ug/L		110	70 - 130
Dibenz(a,h)anthracene	<0.049		1.98	2.16		ug/L		109	70 - 130
Diclorvos (DDVP)	<0.049	^3+ *+ F1	1.98	2.63	F1	ug/L		132	70 - 130
Dieldrin	<0.20		1.98	2.07		ug/L		104	70 - 130
Diethylphthalate	<0.49		1.98	2.27		ug/L		114	70 - 130

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

Lab Sample ID: 380-55614-AI-1-A MS
Matrix: Water
Analysis Batch: 48954

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 48728

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dimethylphthalate	<0.49		1.98	2.23		ug/L		113	70 - 130
Di-n-butyl phthalate	<0.98		3.97	4.41		ug/L		111	70 - 130
Di-n-octyl phthalate	<0.098		1.98	2.00		ug/L		101	70 - 130
Endosulfan I (Alpha)	<0.098		1.98	2.05		ug/L		103	70 - 130
Endosulfan II (Beta)	<0.098		1.98	2.08		ug/L		105	70 - 130
Endosulfan sulfate	<0.098		1.98	2.11		ug/L		106	70 - 130
Endrin	<0.098		1.98	2.06		ug/L		104	70 - 130
Endrin aldehyde	<0.098		1.98	1.59		ug/L		80	70 - 130
EPTC	<0.098		1.98	2.15		ug/L		108	70 - 130
Fluoranthene	<0.098		1.98	2.26		ug/L		114	70 - 130
Fluorene	<0.049		1.98	2.18		ug/L		110	70 - 130
gamma-Chlordane	<0.049		1.98	1.94		ug/L		98	70 - 130
Heptachlor	<0.039		1.98	2.13		ug/L		107	70 - 130
Heptachlor epoxide (isomer B)	<0.049		1.98	2.07		ug/L		104	70 - 130
Hexachlorobenzene	<0.049		1.98	1.98		ug/L		100	70 - 130
Hexachlorocyclopentadiene	<0.049		1.98	2.03		ug/L		102	70 - 130
Indeno[1,2,3-cd]pyrene	<0.049		1.98	2.19		ug/L		110	70 - 130
Isophorone	<0.49		1.98	2.15		ug/L		108	70 - 130
Lindane	<0.039		1.98	2.20		ug/L		111	70 - 130
Malathion	<0.098		1.98	2.28		ug/L		115	70 - 130
Methoxychlor	<0.098		1.98	2.25		ug/L		113	70 - 130
Metolachlor	<0.049		1.98	2.34		ug/L		118	70 - 130
Molinate	<0.098		1.98	2.37		ug/L		120	70 - 130
Naphthalene	<0.30		1.98	2.01		ug/L		101	70 - 130
Parathion	<0.098		1.98	2.43		ug/L		123	70 - 130
Pendimethalin (Penoxaline)	<0.098		1.98	2.22		ug/L		112	70 - 130
Phenanthrene	<0.039		1.98	2.07		ug/L		104	70 - 130
Propachlor	<0.049		1.98	2.42		ug/L		122	70 - 130
Pyrene	<0.049		1.98	2.28		ug/L		115	70 - 130
Simazine	<0.049		1.98	2.30		ug/L		116	70 - 130
Terbacil	<0.098		1.98	2.21		ug/L		112	70 - 130
Terbuthylazine	<0.098		1.98	2.19		ug/L		110	70 - 130
Thiobencarb	<0.20		1.98	2.39		ug/L		121	70 - 130
trans-Nonachlor	<0.049		1.98	1.94		ug/L		98	70 - 130
Trifluralin	<0.098		1.98	2.14		ug/L		108	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Nitro-m-xylene	*97*		*70 - 130*
Perylene-d12	*91*		*70 - 130*
Triphenylphosphate	*103*		*70 - 130*

Lab Sample ID: 380-55774-AK-3-A DU
Matrix: Water
Analysis Batch: 48954

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 48728

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
1-Methylnaphthalene	<0.099		<0.098		ug/L		NC	20
2,4'-DDD	<0.099		<0.098		ug/L		NC	20

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

Lab Sample ID: 380-55774-AK-3-A DU
Matrix: Water
Analysis Batch: 48954

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 48728

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
2,4'-DDE	<0.099			<0.098		ug/L				NC	20
2,4'-DDT	<0.099			<0.098		ug/L				NC	20
2,4-Dinitrotoluene	<0.099			<0.098		ug/L				NC	20
2,6-Dinitrotoluene	<0.099			<0.098		ug/L				NC	20
2-Methylnaphthalene	<0.099			<0.098		ug/L				NC	20
4,4'-DDD	<0.099			<0.098		ug/L				NC	20
4,4'-DDE	<0.099			<0.098		ug/L				NC	20
4,4'-DDT	<0.099			<0.098		ug/L				NC	20
Acenaphthene	<0.099			<0.098		ug/L				NC	20
Acenaphthylene	<0.099			<0.098		ug/L				NC	20
Acetochlor	<0.099			<0.098		ug/L				NC	20
Alachlor	<0.049			<0.049		ug/L				NC	20
alpha-BHC	<0.099			<0.098		ug/L				NC	20
alpha-Chlordane	<0.049			<0.049		ug/L				NC	20
Anthracene	<0.020			<0.020		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			<0.020		ug/L				NC	20
Benzo[b]fluoranthene	<0.020			<0.020		ug/L				NC	20
Benzo[g,h,i]perylene	<0.049			<0.049		ug/L				NC	20
Benzo[k]fluoranthene	<0.020			<0.020		ug/L				NC	20
beta-BHC	<0.099			<0.098		ug/L				NC	20
Bis(2-ethylhexyl) phthalate	<0.59			<0.59		ug/L				NC	20
Bromacil	<0.099			<0.098		ug/L				NC	20
Butachlor	<0.049			<0.049		ug/L				NC	20
Butylbenzylphthalate	<0.49			<0.49		ug/L				NC	20
Chlorobenzilate	<0.099	^3+		<0.098		ug/L				NC	20
Chloroneb	<0.099			<0.098		ug/L				NC	20
Chlorothalonil (Draconil, Bravo)	<0.099			<0.098		ug/L				NC	20
Chlorpyrifos	<0.049			<0.049		ug/L				NC	20
Chrysene	<0.020			<0.020		ug/L				NC	20
delta-BHC	<0.099			<0.098		ug/L				NC	20
Di(2-ethylhexyl)adipate	<0.59			<0.59		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			<0.20		ug/L				NC	20
Diethylphthalate	<0.49			<0.49		ug/L				NC	20
Dimethylphthalate	<0.49			<0.49		ug/L				NC	20
Di-n-butyl phthalate	<0.99			<0.98		ug/L				NC	20
Di-n-octyl phthalate	<0.099			<0.098		ug/L				NC	20
Endosulfan I (Alpha)	<0.099			<0.098		ug/L				NC	20
Endosulfan II (Beta)	<0.099			<0.098		ug/L				NC	20
Endosulfan sulfate	<0.099			<0.098		ug/L				NC	20
Endrin	<0.099			<0.098		ug/L				NC	20
Endrin aldehyde	<0.099			<0.098		ug/L				NC	20
EPTC	<0.099			<0.098		ug/L				NC	20
Fluoranthene	<0.099			<0.098		ug/L				NC	20
Fluorene	<0.049			<0.049		ug/L				NC	20
gamma-Chlordane	<0.049			<0.049		ug/L				NC	20

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

Lab Sample ID: 380-55774-AK-3-A DU
Matrix: Water
Analysis Batch: 48954

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 48728

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
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	<0.099			<0.098		ug/L				NC	20
Methoxychlor	<0.099			<0.098		ug/L				NC	20
Metolachlor	<0.049			<0.049		ug/L				NC	20
Molinate	<0.099			<0.098		ug/L				NC	20
Naphthalene	<0.30			<0.29		ug/L				NC	20
Parathion	<0.099			<0.098		ug/L				NC	20
Pendimethalin (Penoxaline)	<0.099			<0.098		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	<0.099			<0.098		ug/L				NC	20
Terbuthylazine	<0.099			<0.098		ug/L				NC	20
Thiobencarb	<0.20			<0.20		ug/L				NC	20
Total Permethrin (mixed isomers)	<0.20			<0.20		ug/L				NC	20
trans-Nonachlor	<0.049			<0.049		ug/L				NC	20
Trifluralin	<0.099			<0.098		ug/L				NC	20

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
2-Nitro-m-xylene	*96*		*70 - 130*
Perylene-d12	*90*		*70 - 130*
Triphenylphosphate	*101*		*70 - 130*

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

Lab Sample ID: MBL 380-50042/18-A
Matrix: Water
Analysis Batch: 50643

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 50042

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		08/02/23 16:10	08/07/23 19:00	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		08/02/23 16:10	08/07/23 19:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		08/02/23 16:10	08/07/23 19:00	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0		ng/L		08/02/23 16:10	08/07/23 19:00	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		08/02/23 16:10	08/07/23 19:00	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		08/02/23 16:10	08/07/23 19:00	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		08/02/23 16:10	08/07/23 19:00	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		08/02/23 16:10	08/07/23 19:00	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		08/02/23 16:10	08/07/23 19:00	1

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

Lab Sample ID: MBL 380-50042/18-A
Matrix: Water
Analysis Batch: 50643

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 50042

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		08/02/23 16:10	08/07/23 19:00	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		08/02/23 16:10	08/07/23 19:00	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		08/02/23 16:10	08/07/23 19:00	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		08/02/23 16:10	08/07/23 19:00	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		08/02/23 16:10	08/07/23 19:00	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0		ng/L		08/02/23 16:10	08/07/23 19:00	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0		ng/L		08/02/23 16:10	08/07/23 19:00	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0		ng/L		08/02/23 16:10	08/07/23 19:00	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.542	J	2.0		ng/L		08/02/23 16:10	08/07/23 19:00	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0		ng/L		08/02/23 16:10	08/07/23 19:00	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0		ng/L		08/02/23 16:10	08/07/23 19:00	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0		ng/L		08/02/23 16:10	08/07/23 19:00	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0		ng/L		08/02/23 16:10	08/07/23 19:00	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0		ng/L		08/02/23 16:10	08/07/23 19:00	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0		ng/L		08/02/23 16:10	08/07/23 19:00	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0		ng/L		08/02/23 16:10	08/07/23 19:00	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*50*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:00*	*1*
13C6 PFDA	*75*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:00*	*1*
13C5 PFHxA	*64*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:00*	*1*
13C4 PFHpA	*72*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:00*	*1*
13C8 PFOA	*72*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:00*	*1*
13C9 PFNA	*75*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:00*	*1*
13C7 PFUnA	*81*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:00*	*1*
13C2 PFDoA	*78*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:00*	*1*
13C4 PFBA	*60*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:00*	*1*
13C5 PFPeA	*66*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:00*	*1*
13C3 PFBS	*91*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:00*	*1*
13C3 PFHxS	*90*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:00*	*1*
13C8 PFOS	*87*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:00*	*1*
13C2-4:2-FTS	*104*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:00*	*1*
13C2-6:2-FTS	*105*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:00*	*1*
13C2-8:2-FTS	*95*		*50 - 200*	*08/02/23 16:10*	*08/07/23 19:00*	*1*

Lab Sample ID: LCS 380-50042/20-A
Matrix: Water
Analysis Batch: 50643

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 50042

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	113		ng/L		94	70 - 130

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

Lab Sample ID: LCS 380-50042/20-A
Matrix: Water
Analysis Batch: 50643

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 50042

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	119		ng/L		100	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	113		ng/L		94	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	108		ng/L		90	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	114		ng/L		95	70 - 130
Perfluorodecanoic acid (PFDA)	120	118		ng/L		98	70 - 130
Perfluorododecanoic acid (PFDoA)	120	109		ng/L		91	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	121		ng/L		101	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	117		ng/L		98	70 - 130
Perfluorohexanoic acid (PFHxA)	120	116		ng/L		97	70 - 130
Perfluorononanoic acid (PFNA)	120	116		ng/L		97	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	117		ng/L		98	70 - 130
Perfluorooctanoic acid (PFOA)	120	117		ng/L		97	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	112		ng/L		94	70 - 130
Perfluorobutanoic acid (PFBA)	120	117		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	115		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	121		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	118		ng/L		99	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	101		ng/L		84	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	120	112		ng/L		93	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	127		ng/L		106	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	119		ng/L		99	70 - 130
Perfluoropentanoic acid (PFPeA)	120	126		ng/L		105	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	121		ng/L		101	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	120	121		ng/L		101	70 - 130

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*78*		*50 - 200*
13C6 PFDA	*90*		*50 - 200*
13C5 PFHxA	*81*		*50 - 200*
13C4 PFHpA	*79*		*50 - 200*
13C8 PFOA	*81*		*50 - 200*
13C9 PFNA	*88*		*50 - 200*
13C7 PFUnA	*97*		*50 - 200*
13C2 PFDoA	*94*		*50 - 200*
13C4 PFBA	*75*		*50 - 200*

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

Lab Sample ID: LCS 380-50042/20-A
Matrix: Water
Analysis Batch: 50643

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 50042

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C5 PFPeA	*80*		*50 - 200*
13C3 PFBS	*98*		*50 - 200*
13C3 PFHxS	*99*		*50 - 200*
13C8 PFOS	*96*		*50 - 200*
13C2-4:2-FTS	*111*		*50 - 200*
13C2-6:2-FTS	*111*		*50 - 200*
13C2-8:2-FTS	*103*		*50 - 200*

Lab Sample ID: LCSD 380-50042/21-A
Matrix: Water
Analysis Batch: 50643

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 50042

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			120	116		ng/L		97	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			120	124		ng/L		103	70 - 130	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			120	113		ng/L		94	70 - 130	0	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			120	109		ng/L		91	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)			120	116		ng/L		97	70 - 130	2	30
Perfluorodecanoic acid (PFDA)			120	116		ng/L		97	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)			120	113		ng/L		94	70 - 130	3	30
Perfluoroheptanoic acid (PFHpA)			120	118		ng/L		98	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)			120	115		ng/L		96	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)			120	117		ng/L		97	70 - 130	1	30
Perfluorononanoic acid (PFNA)			120	113		ng/L		94	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)			120	120		ng/L		100	70 - 130	3	30
Perfluorooctanoic acid (PFOA)			120	115		ng/L		96	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)			120	110		ng/L		92	70 - 130	2	30
Perfluorobutanoic acid (PFBA)			120	113		ng/L		94	70 - 130	4	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)			120	123		ng/L		102	70 - 130	6	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			120	119		ng/L		99	70 - 130	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			120	115		ng/L		96	70 - 130	3	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			120	112		ng/L		93	70 - 130	11	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			120	111		ng/L		92	70 - 130	1	30
Perfluoro-3-methoxypropanoic acid (PFMPA)			120	120		ng/L		99	70 - 130	6	30
Perfluoro-4-methoxybutanoic acid (PFMBA)			120	115		ng/L		96	70 - 130	4	30

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

Lab Sample ID: LCSD 380-50042/21-A
Matrix: Water
Analysis Batch: 50643

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 50042

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanoic acid (PFPeA)			120	122		ng/L		101	70 - 130	3	30
Perfluoroheptanesulfonic acid (PFHpS)			120	121		ng/L		100	70 - 130	0	30
Perfluoropentanesulfonic acid (PFPeS)			120	122		ng/L		101	70 - 130	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*74*		*50 - 200*
13C6 PFDA	*87*		*50 - 200*
13C5 PFHxA	*80*		*50 - 200*
13C4 PFHpA	*79*		*50 - 200*
13C8 PFOA	*80*		*50 - 200*
13C9 PFNA	*86*		*50 - 200*
13C7 PFUnA	*96*		*50 - 200*
13C2 PFDoA	*92*		*50 - 200*
13C4 PFBA	*80*		*50 - 200*
13C5 PFPeA	*82*		*50 - 200*
13C3 PFBS	*96*		*50 - 200*
13C3 PFHxS	*96*		*50 - 200*
13C8 PFOS	*93*		*50 - 200*
13C2-4:2-FTS	*110*		*50 - 200*
13C2-6:2-FTS	*109*		*50 - 200*
13C2-8:2-FTS	*99*		*50 - 200*

Lab Sample ID: MRL 380-50042/19-A
Matrix: Water
Analysis Batch: 50643

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 50042

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.00	1.93	J	ng/L		96	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			2.00	2.11	J	ng/L		105	50 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.00	1.50	J	ng/L		75	50 - 150		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			2.00	1.91	J *5-	ng/L		95	50 - 150		
Perfluorobutanesulfonic acid (PFBS)			2.00	2.00	J	ng/L		100	50 - 150		
Perfluorodecanoic acid (PFDA)			2.00	1.89	J	ng/L		94	50 - 150		
Perfluorododecanoic acid (PFDoA)			2.00	1.76	J	ng/L		88	50 - 150		
Perfluoroheptanoic acid (PFHpA)			2.00	1.89	J	ng/L		94	50 - 150		
Perfluorohexanesulfonic acid (PFHxS)			2.00	1.94	J	ng/L		97	50 - 150		
Perfluorohexanoic acid (PFHxA)			2.00	1.79	J	ng/L		89	50 - 150		
Perfluorononanoic acid (PFNA)			2.00	1.96	J	ng/L		98	50 - 150		
Perfluorooctanesulfonic acid (PFOS)			2.00	2.01	J	ng/L		100	50 - 150		
Perfluorooctanoic acid (PFOA)			2.00	1.95	J	ng/L		97	50 - 150		

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

Lab Sample ID: MRL 380-50042/19-A
Matrix: Water
Analysis Batch: 50643

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 50042

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.00	1.79	J	ng/L		89	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.25	J	ng/L		112	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	1.99	J	ng/L		99	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	1.88	J	ng/L		94	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.52	J	ng/L		126	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	1.40	J	ng/L		70	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.00	1.79	J	ng/L		89	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.11	J	ng/L		105	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	1.69	J	ng/L		84	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.28	J	ng/L		114	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.03	J	ng/L		101	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	1.91	J	ng/L		95	50 - 150

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*47*	**5- ^3-*	*50 - 200*
13C6 PFDA	*76*		*50 - 200*
13C5 PFHxA	*61*		*50 - 200*
13C4 PFHpA	*65*		*50 - 200*
13C8 PFOA	*64*		*50 - 200*
13C9 PFNA	*70*		*50 - 200*
13C7 PFUnA	*87*		*50 - 200*
13C2 PFDoA	*84*		*50 - 200*
13C4 PFBA	*58*		*50 - 200*
13C5 PFPeA	*69*		*50 - 200*
13C3 PFBS	*97*		*50 - 200*
13C3 PFHxS	*95*		*50 - 200*
13C8 PFOS	*90*		*50 - 200*
13C2-4:2-FTS	*119*		*50 - 200*
13C2-6:2-FTS	*112*		*50 - 200*
13C2-8:2-FTS	*98*		*50 - 200*

Lab Sample ID: 380-55683-1 MS
Matrix: Drinking Water
Analysis Batch: 50643

Client Sample ID: AIEA GULCH WELLS PUMP 2
Prep Type: Total/NA
Prep Batch: 50042

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		60.1	60.7		ng/L		101	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.1	63.5		ng/L		106	70 - 130

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

Lab Sample ID: 380-55683-1 MS
Matrix: Drinking Water
Analysis Batch: 50643

Client Sample ID: AIEA GULCH WELLS PUMP 2
Prep Type: Total/NA
Prep Batch: 50042

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.1	60.6		ng/L		101	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.1	66.0		ng/L		110	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.1	64.3		ng/L		107	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.1	56.5		ng/L		94	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.1	59.1		ng/L		98	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.1	58.5		ng/L		97	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.1	59.4		ng/L		98	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.1	60.8		ng/L		101	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.1	60.0		ng/L		100	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.1	58.5		ng/L		97	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.1	60.2		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.1	54.1		ng/L		90	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.1	59.1		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.1	56.7		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.1	62.6		ng/L		104	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.1	59.0		ng/L		98	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.1	55.2		ng/L		92	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.1	62.0		ng/L		103	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.1	74.2		ng/L		123	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.1	64.0		ng/L		107	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.1	63.6		ng/L		105	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.1	61.0		ng/L		102	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.1	62.8		ng/L		105	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C3 HFPO-DA	*80*		*50 - 200*
13C6 PFDA	*95*		*50 - 200*
13C5 PFHxA	*94*		*50 - 200*
13C4 PFHpA	*96*		*50 - 200*
13C8 PFOA	*93*		*50 - 200*
13C9 PFNA	*95*		*50 - 200*
13C7 PFUnA	*100*		*50 - 200*
13C2 PFDoA	*91*		*50 - 200*
13C4 PFBA	*95*		*50 200*
13C5 PFPeA	*113*		*50 - 200*
13C3 PFBS	*93*		*50 - 200*
13C3 PFHxS	*94*		*50 - 200*

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

Lab Sample ID: 380-55683-1 MS
Matrix: Drinking Water
Analysis Batch: 50643

Client Sample ID: AIEA GULCH WELLS PUMP 2
Prep Type: Total/NA
Prep Batch: 50042

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C8 PFOS	94		50 - 200
13C2-4:2-FTS	107		50 - 200
13C2-6:2-FTS	108		50 - 200
13C2-8:2-FTS	104		50 - 200

Lab Sample ID: 380-55685-O-1-B DU
Matrix: Water
Analysis Batch: 50643

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 50042

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0			<2.0		ng/L				NC	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0			<2.0		ng/L				NC	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0			<2.0		ng/L				NC	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0			<2.0		ng/L				NC	30
Perfluorobutanesulfonic acid (PFBS)	<2.0			<2.0		ng/L				NC	30
Perfluorodecanoic acid (PFDA)	<2.0			<2.0		ng/L				NC	30
Perfluorododecanoic acid (PFDoA)	<2.0			<2.0		ng/L				NC	30
Perfluoroheptanoic acid (PFHpA)	<2.0			<2.0		ng/L				NC	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0			<2.0		ng/L				NC	30
Perfluorohexanoic acid (PFHxA)	<2.0			<2.0		ng/L				NC	30
Perfluorononanoic acid (PFNA)	<2.0			<2.0		ng/L				NC	30
Perfluorooctanesulfonic acid (PFOS)	<2.0			<2.0		ng/L				NC	30
Perfluorooctanoic acid (PFOA)	<2.0			<2.0		ng/L				NC	30
Perfluoroundecanoic acid (PFUnA)	<2.0			<2.0		ng/L				NC	30
Perfluorobutanoic acid (PFBA)	<2.0			<2.0		ng/L				NC	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0			<2.0		ng/L				NC	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0			<2.0		ng/L				NC	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0			<2.0		ng/L				NC	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0			<2.0		ng/L				NC	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0			<2.0		ng/L				NC	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0			<2.0		ng/L				NC	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0			<2.0		ng/L				NC	30
Perfluoropentanoic acid (PFPeA)	<2.0			<2.0		ng/L				NC	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0			<2.0		ng/L				NC	30

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

Lab Sample ID: 380-55685-O-1-B DU
Matrix: Water
Analysis Batch: 50643

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 50042

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Perfluoropentanesulfonic acid (PFPeS)	<2.0			<2.0		ng/L				NC	30

Isotope Dilution	*DU %Recovery*	*DU Qualifier*	*Limits*
13C3 HFPO-DA	*85*		*50 - 200*
13C6 PFDA	*90*		*50 - 200*
13C5 PFHxA	*92*		*50 - 200*
13C4 PFHpA	*95*		*50 - 200*
13C8 PFOA	*92*		*50 - 200*
13C9 PFNA	*92*		*50 - 200*
13C7 PFUnA	*93*		*50 - 200*
13C2 PFDoA	*87*		*50 - 200*
13C4 PFBA	*89*		*50 - 200*
13C5 PFPeA	*99*		*50 - 200*
13C3 PFBS	*96*		*50 - 200*
13C3 PFHxS	*96*		*50 - 200*
13C8 PFOS	*94*		*50 - 200*
13C2-4:2-FTS	*121*		*50 - 200*
13C2-6:2-FTS	*117*		*50 - 200*
13C2-8:2-FTS	*107*		*50 - 200*

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

Lab Sample ID: MBL 380-48694/23-A
Matrix: Water
Analysis Batch: 48883

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 48694

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		07/25/23 09:17	07/26/23 19:58	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		07/25/23 09:17	07/26/23 19:58	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		07/25/23 09:17	07/26/23 19:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0		ng/L		07/25/23 09:17	07/26/23 19:58	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0		ng/L		07/25/23 09:17	07/26/23 19:58	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		07/25/23 09:17	07/26/23 19:58	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		07/25/23 09:17	07/26/23 19:58	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		07/25/23 09:17	07/26/23 19:58	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		07/25/23 09:17	07/26/23 19:58	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		07/25/23 09:17	07/26/23 19:58	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		07/25/23 09:17	07/26/23 19:58	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		07/25/23 09:17	07/26/23 19:58	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		07/25/23 09:17	07/26/23 19:58	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0		ng/L		07/25/23 09:17	07/26/23 19:58	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0		ng/L		07/25/23 09:17	07/26/23 19:58	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		07/25/23 09:17	07/26/23 19:58	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0		ng/L		07/25/23 09:17	07/26/23 19:58	1

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

Lab Sample ID: MBL 380-48694/23-A
Matrix: Water
Analysis Batch: 48883

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 48694

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		07/25/23 09:17	07/26/23 19:58	1

Surrogate	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*107*		*70 - 130*	*07/25/23 09:17*	*07/26/23 19:58*	*1*
13C2 PFHxA	*114*		*70 - 130*	*07/25/23 09:17*	*07/26/23 19:58*	*1*
13C2 PFDA	*113*		*70 - 130*	*07/25/23 09:17*	*07/26/23 19:58*	*1*
13C3-GenX	*102*		*70 - 130*	*07/25/23 09:17*	*07/26/23 19:58*	*1*

Lab Sample ID: LCS 380-48694/25-A
Matrix: Water
Analysis Batch: 48883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48694

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			25.1	19.8		ng/L		79	70 - 130		
Perfluorooctanesulfonic acid (PFOS)			23.2	22.4		ng/L		96	70 - 130		
Perfluoroundecanoic acid (PFUnA)			25.1	24.2		ng/L		96	70 - 130		
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			25.1	23.1		ng/L		92	70 - 130		
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			25.1	23.5		ng/L		94	70 - 130		
Perfluorohexanoic acid (PFHxA)			25.1	26.3		ng/L		105	70 - 130		
Perfluorododecanoic acid (PFDoA)			25.1	23.0		ng/L		92	70 - 130		
Perfluorooctanoic acid (PFOA)			25.1	27.2		ng/L		108	70 - 130		
Perfluorodecanoic acid (PFDA)			25.1	25.2		ng/L		100	70 - 130		
Perfluorohexanesulfonic acid (PFHxS)			22.9	22.4		ng/L		98	70 - 130		
Perfluorobutanesulfonic acid (PFBS)			22.2	21.2		ng/L		95	70 - 130		
Perfluoroheptanoic acid (PFHpA)			25.1	26.8		ng/L		107	70 - 130		
Perfluorononanoic acid (PFNA)			25.1	28.8		ng/L		115	70 - 130		
Perfluorotetradecanoic acid (PFTA)			25.1	21.7		ng/L		86	70 - 130		
Perfluorotridecanoic acid (PFTrDA)			25.1	22.0		ng/L		88	70 - 130		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			23.5	22.1		ng/L		94	70 - 130		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			23.7	20.1		ng/L		85	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			23.7	25.3		ng/L		107	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
d5-NEtFOSAA	*98*		*70 - 130*
13C2 PFHxA	*112*		*70 - 130*
13C2 PFDA	*108*		*70 - 130*

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

Lab Sample ID: LCS 380-48694/25-A
Matrix: Water
Analysis Batch: 48883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48694

Surrogate	LCS %Recovery	LCS Qualifier	Limits
13C3-GenX	101		70 - 130

Lab Sample ID: LCSD 380-48694/26-A
Matrix: Water
Analysis Batch: 48883

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 48694

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			25.1	21.7		ng/L		86	70 - 130	9	30
Perfluorooctanesulfonic acid (PFOS)			23.2	23.0		ng/L		99	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)			25.1	24.6		ng/L		98	70 - 130	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			25.1	26.0		ng/L		104	70 - 130	12	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			25.1	25.7		ng/L		102	70 - 130	9	30
Perfluorohexanoic acid (PFHxA)			25.1	25.0		ng/L		100	70 - 130	5	30
Perfluorododecanoic acid (PFDoA)			25.1	23.6		ng/L		94	70 - 130	3	30
Perfluorooctanoic acid (PFOA)			25.1	26.4		ng/L		105	70 - 130	3	30
Perfluorodecanoic acid (PFDA)			25.1	26.0		ng/L		103	70 - 130	3	30
Perfluorohexanesulfonic acid (PFHxS)			22.9	22.6		ng/L		99	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)			22.2	20.6		ng/L		93	70 - 130	3	30
Perfluoroheptanoic acid (PFHpA)			25 1	25 8		ng/L		103	70 - 130	4	30
Perfluorononanoic acid (PFNA)			25.1	28.8		ng/L		115	70 - 130	0	30
Perfluorotetradecanoic acid (PFTA)			25.1	21.8		ng/L		87	70 - 130	0	30
Perfluorotridecanoic acid (PFTrDA)			25.1	22.4		ng/L		89	70 - 130	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			23.5	23.4		ng/L		99	70 - 130	6	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			23.7	21.2		ng/L		89	70 - 130	5	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			23.7	25.2		ng/L		106	70 - 130	0	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
d5-NEtFOSAA	117		70 - 130
13C2 PFHxA	117		70 - 130
13C2 PFDA	117		70 - 130
13C3-GenX	102		70 - 130

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

Lab Sample ID: MRL 380-48694/24-A
Matrix: Water
Analysis Batch: 48883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48694

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	1.91	J	ng/L		95	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.86	2.31	J	ng/L		124	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.57	J	ng/L		128	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.01	2.68	J	ng/L		134	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.01	2.83	J	ng/L		141	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.68	J	ng/L		133	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.53	J	ng/L		126	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	3.00	J	ng/L		149	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.79	J	ng/L		139	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.83	2.45	J	ng/L		134	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.78	2.12	J	ng/L		119	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.99	J	ng/L		149	50 - 150
Perfluorononanoic acid (PFNA)	2.01	3.20	J ^3+	ng/L		159	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.01	2.37	J	ng/L		118	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.01	2.38	J	ng/L		119	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.88	2.33	J	ng/L		124	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.90	2.07	J	ng/L		109	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.90	2.69	J	ng/L		142	50 - 150

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
d5-NEtFOSAA	*111*		*70 - 130*
13C2 PFHxA	*114*		*70 - 130*
13C2 PFDA	*111*		*70 - 130*
13C3-GenX	*98*		*70 - 130*

Lab Sample ID: 380-55757-A-1-B MS
Matrix: Water
Analysis Batch: 48883

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 48694

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		25.1	22.3		ng/L		89	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		23.2	24.9		ng/L		104	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	23.9		ng/L		95	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	24.8		ng/L		99	70 - 130

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

Lab Sample ID: 380-55757-A-1-B MS
Matrix: Water
Analysis Batch: 48883

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 48694

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	25.1		ng/L		100	70 - 130
Perfluorohexanoic acid (PFHxA)	2.1		25.1	27.5		ng/L		101	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	23.5		ng/L		93	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		25.1	28.0		ng/L		104	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		25.1	25.5		ng/L		102	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		22.9	23.2		ng/L		98	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		22.2	22.3		ng/L		94	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	25.7		ng/L		98	70 - 130
Perfluorononanoic acid (PFNA)	<2.0	^3+	25.1	28.7		ng/L		114	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	21.5		ng/L		86	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	21.6		ng/L		86	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		23.5	23.5		ng/L		100	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		23.7	20.9		ng/L		88	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		23.7	25.4		ng/L		107	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
d5-NEtFOSAA	*109*		*70 - 130*
13C2 PFHxA	*112*		*70 - 130*
13C2 PFDA	*110*		*70 - 130*
13C3-GenX	*102*		*70 - 130*

Lab Sample ID: 380-55757-A-1-C MSD
Matrix: Water
Analysis Batch: 48883

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 48694

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.1	20.3		ng/L		81	70 - 130	9	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		23.2	24.2		ng/L		102	70 - 130	3	30
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	23.8		ng/L		95	70 - 130	0	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	24.7		ng/L		98	70 - 130	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	24.0		ng/L		96	70 - 130	4	30
Perfluorohexanoic acid (PFHxA)	2.1		25.1	26.9		ng/L		99	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	22.6		ng/L		90	70 - 130	4	30
Perfluorooctanoic acid (PFOA)	<2.0		25.1	27.4		ng/L		102	70 - 130	2	30
Perfluorodecanoic acid (PFDA)	<2.0		25.1	25.6		ng/L		102	70 - 130	0	30

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

Lab Sample ID: 380-55757-A-1-C MSD
Matrix: Water
Analysis Batch: 48883

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 48694

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)	<2.0		22.9	22.6		ng/L		95	70 - 130	3	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		22.2	21.9		ng/L		93	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	26.3		ng/L		100	70 - 130	2	30
Perfluorononanoic acid (PFNA)	<2.0	^3+	25.1	29.4		ng/L		117	70 - 130	2	30
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	21.0		ng/L		84	70 - 130	2	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	21.4		ng/L		85	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		23.5	22.6		ng/L		96	70 - 130	4	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		23.7	20.6		ng/L		87	70 - 130	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		23.7	25.3		ng/L		107	70 - 130	0	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
d5-NEtFOSAA	*102*		*70 - 130*
13C2 PFHxA	*108*		*70 - 130*
13C2 PFDA	*110*		*70 - 130*
13C3-GenX	*102*		*70 - 130*

GC/MS Semi VOA

Prep Batch: 48728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-55683-1	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	525.2	
MB 380-48728/21-A	Method Blank	Total/NA	Water	525.2	
LCS 380-48728/23-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-48728/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-48728/22-A	Lab Control Sample	Total/NA	Water	525.2	
380-55614-AI-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-55774-AK-3-A DU	Duplicate	Total/NA	Water	525.2	

Analysis Batch: 48954

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-55683-1	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	525.2	48728
MB 380-48728/21-A	Method Blank	Total/NA	Water	525.2	48728
LCS 380-48728/23-A	Lab Control Sample	Total/NA	Water	525.2	48728
LCSD 380-48728/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	48728
MRL 380-48728/22-A	Lab Control Sample	Total/NA	Water	525.2	48728
380-55614-AI-1-A MS	Matrix Spike	Total/NA	Water	525.2	48728
380-55774-AK-3-A DU	Duplicate	Total/NA	Water	525.2	48728

LCMS

Prep Batch: 48694

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-55683-1	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	537.1 DW	
380-55683-3	FB: AIEA GULCH WELLS PUMP 2	Total/NA	Water	537.1 DW	
MBL 380-48694/23-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-48694/25-A	Lab Control Sample	Total/NA	Water	537.1 DW	
LCSD 380-48694/26-A	Lab Control Sample Dup	Total/NA	Water	537.1 DW	
MRL 380-48694/24-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-55757-A-1-B MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-55757-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 48883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-55683-1	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	537.1	48694
380-55683-3	FB: AIEA GULCH WELLS PUMP 2	Total/NA	Water	537.1	48694
MBL 380-48694/23-A	Method Blank	Total/NA	Water	537.1	48694
LCS 380-48694/25-A	Lab Control Sample	Total/NA	Water	537.1	48694
LCSD 380-48694/26-A	Lab Control Sample Dup	Total/NA	Water	537.1	48694
MRL 380-48694/24-A	Lab Control Sample	Total/NA	Water	537.1	48694
380-55757-A-1-B MS	Matrix Spike	Total/NA	Water	537.1	48694
380-55757-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	48694

Prep Batch: 50042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-55683-1	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	533	
380-55683-3	FB: AIEA GULCH WELLS PUMP 2	Total/NA	Water	533	
MBL 380-50042/18-A	Method Blank	Total/NA	Water	533	
LCS 380-50042/20-A	Lab Control Sample	Total/NA	Water	533	
LCSD 380-50042/21-A	Lab Control Sample Dup	Total/NA	Water	533	
MRL 380-50042/19-A	Lab Control Sample	Total/NA	Water	533	
380-55683-1 MS	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	533	

LCMS (Continued)

Prep Batch: 50042 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-55685-O-1-B DU	Duplicate	Total/NA	Water	533	

Analysis Batch: 50643

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-55683-1	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	533	50042
380-55683-3	FB: AIEA GULCH WELLS PUMP 2	Total/NA	Water	533	50042
MBL 380-50042/18-A	Method Blank	Total/NA	Water	533	50042
LCS 380-50042/20-A	Lab Control Sample	Total/NA	Water	533	50042
LCSD 380-50042/21-A	Lab Control Sample Dup	Total/NA	Water	533	50042
MRL 380-50042/19-A	Lab Control Sample	Total/NA	Water	533	50042
380-55683-1 MS	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	533	50042
380-55685-O-1-B DU	Duplicate	Total/NA	Water	533	50042

Lab Chronicle

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

Job ID: 380-55683-1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-55683-1

Date Collected: 07/18/23 13:00

Matrix: Drinking Water

Date Received: 07/20/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			48728	G9MN	EA POM	07/25/23 16:50
Total/NA	Analysis	525.2		1	48954	UPAC	EA POM	07/26/23 20:29
Total/NA	Prep	533			50042	EE6W	EA POM	08/02/23 16:10
Total/NA	Analysis	533		1	50643	Y7BM	EA POM	08/07/23 19:38
Total/NA	Prep	537.1 DW			48694	US1B	EA POM	07/25/23 09:17
Total/NA	Analysis	537.1		1	48883	UKDT	EA POM	07/26/23 21:24

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-55683-3

Date Collected: 07/18/23 13:00

Matrix: Water

Date Received: 07/20/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			50042	EE6W	EA POM	08/02/23 16:10
Total/NA	Analysis	533		1	50643	Y7BM	EA POM	08/07/23 21:43
Total/NA	Prep	537.1 DW			48694	US1B	EA POM	07/25/23 09:17
Total/NA	Analysis	537.1		1	48883	UKDT	EA POM	07/26/23 21:34

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: 380-55683-1

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: 380-55683-1

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: 380-55683-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-55683-1	AIEA GULCH WELLS PUMP 2	Drinking Water	07/18/23 13:00	07/20/23 10:15	HI0000331
380-55683-3	FB: AIEA GULCH WELLS PUMP 2	Water	07/18/23 13:00	07/20/23 10:15	

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: Bryson Nakamoto	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:			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				Water																	
AIEA GULCH WELLS PUMP2	7/18/23	1300	G	Water			2		2	2	4										
AIEA WELLS PUMPS 1&2 (260)				Water																	
HALAWA WELLS UNITS 1&2				Water																	
FB MOANALUA WELLS				Water																	
FB AIEA GULCH WELLS PUMP2	7/18/23			Water							2										
FB AIEA WELLS PUMPS 1&2 (260)				Water																	
FB HALAWA WELLS UNITS 1&2				Water																	

380-55683 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:
① 7727 8566 7906

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment: FED EX ② 7727 8566 8400

Relinquished by: [redacted]	Date/Time: 7/18/23 1500	Company HBWS	Received by: G REITNER	Date/Time: 07/20/2023 10:15	Company EEAP
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: GEL-FROZEN (752A) ① 2.9'-0.2°=2.7° ② 1.8'-0.2°=1.6°

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: Bryson Nakamoto	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:			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				Water											
AIEA GULCH WELLS PUMP2	7/18/23	1300	G	Water								3	3		
AIEA WELLS PUMPS 1&2 (260)				Water											
HALAWA WELLS UNITS 1&2				Water											
FB MOANALUA WELLS				Water											
FB AIEA GULCH WELLS PUMP2	7/18/23			Water								1	1		
FB AIEA WELLS PUMPS 1&2 (260)				Water											
FB HALAWA WELLS UNITS 1&2				Water											

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

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

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

Special Instructions/QC Requirements:

① 7727 8566 7908
② 7727 8566 8400

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Bryson Nakamoto	7/18/23 1500	HBWS	G. FETNER	07/20/2023 10:15	EEAP
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: GEL-FROZEN (752A) ① 2.9°-0.2°=2.7° / ② 1.8°-0.2°=1.6°

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-55683-1

Login Number: 55683
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.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	