eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 3/23/2023 9:32:48 PM

JOB DESCRIPTION

RED-HILL
RUSH Weekly Red Hill

JOB NUMBER

380-35588-1

Eurofins Eaton Analytical Pomona
941 Corporate Center Drive
Pomona CA 91768-2642

See page two for job notes and contact information.

my EOL

Eurofins Eaton Analytical Pomona

Job Notes

Laboratory certifies that the test results meet all TNI 2016 and ISO/IEC 17025:2017 requirements unless noted under the individual analysis.

Following the cover page are State Certification List, ISO 17025 Accredited Method List, Acknowledgement of Samples Received, Comments, Hits Report,Data Report, QC Summary, QC Report and Regulatory Forms, as applicable.

Test results relate only to the sample(s) tested.

Test results apply to the sample(s) as received, unless otherwise noted in the comments report (ISO/IEC 17025:2017).

This report shall not be reproduced except in full, without the written approval of the laboratory.

This report includes ISO/IEC 17025 and non-ISO 17025 accredited methods.

Compliance Statement

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

Authorization

Rachelle Arada

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Authorized for release by
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Table of Contents

Definitions/Glossary

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

Job ID: 380-35588-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
^3+	Reporting Limit Check Standard is outside acceptance limits, high biased
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
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.

Subcontract

Qualifier	Qualifier Description
U	This analyte was not detected.

Glossary

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

Glossary (Continued)

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

Case Narrative

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

Job ID: 380-35588-1

Job ID: 380-35588-1

Laboratory: Eurofins Eaton Analytical Pomona

Narrative

Job Narrative
380-35588-1

Comments
No additional comments.

Receipt
The samples were received on 1/26/2023 9:50 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.5º C.

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

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

Subcontract non-Sister
See attached subcontract report.

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

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

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

Detection Summary

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

Job ID: 380-35588-1

Client Sample ID: MOANALUA WELLS
PWSID Number: HI0000331

Lab Sample ID: 380-35588-1

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

Client Sample ID: TB MOANALUA WELLS

Lab Sample ID: 380-35588-2

No Detections.

Client Sample ID: FB: MOANALUA WELLS

Lab Sample ID: 380-35588-3

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: MOANALUA WELLS
Date Collected: 01/24/23 10:00
Date Received: 01/26/23 09:50

Lab Sample ID: 380-35588-1
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
2,4'-DDE	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
2,4'-DDT	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
2,4-Dinitrotoluene	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
2,6-Dinitrotoluene	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
4,4'-DDD	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
4,4'-DDE	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
4,4'-DDT	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Acenaphthene	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Acenaphthylene	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Acetochlor	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Alachlor	ND		0.050		ug/L		01/27/23 06:48	01/30/23 17:00	1
alpha-BHC	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
alpha-Chlordane	ND		0.050		ug/L		01/27/23 06:48	01/30/23 17:00	1
Anthracene	ND		0.020		ug/L		01/27/23 06:48	01/30/23 17:00	1
Atrazine	ND		0.050		ug/L		01/27/23 06:48	01/30/23 17:00	1
Benz(a)anthracene	ND		0.050		ug/L		01/27/23 06:48	01/30/23 17:00	1
Benzo[a]pyrene	ND		0.020		ug/L		01/27/23 06:48	01/30/23 17:00	1
Benzo[b]fluoranthene	ND		0.020		ug/L		01/27/23 06:48	01/30/23 17:00	1
Benzo[g,h,i]perylene	ND		0.050		ug/L		01/27/23 06:48	01/30/23 17:00	1
Benzo[k]fluoranthene	ND		0.020		ug/L		01/27/23 06:48	01/30/23 17:00	1
beta-BHC	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Bromacil	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Butachlor	ND		0.050		ug/L		01/27/23 06:48	01/30/23 17:00	1
Butylbenzylphthalate	ND		0.50		ug/L		01/27/23 06:48	01/30/23 17:00	1
Caffeine	ND		0.050		ug/L		01/27/23 06:48	01/30/23 17:00	1
Chlorobenzilate	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Chloroneb	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Chlorothalonil (Draconil, Bravo)	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Chlorpyrifos	ND		0.050		ug/L		01/27/23 06:48	01/30/23 17:00	1
Chrysene	ND		0.020		ug/L		01/27/23 06:48	01/30/23 17:00	1
delta-BHC	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Di(2-ethylhexyl)adipate	ND		0.60		ug/L		01/27/23 06:48	01/30/23 17:00	1
Bis(2-ethylhexyl) phthalate	ND		0.60		ug/L		01/27/23 06:48	01/30/23 17:00	1
Diazinon (Qualitative)	ND	*1	0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Dibenz(a,h)anthracene	ND		0.050		ug/L		01/27/23 06:48	01/30/23 17:00	1
Diclorvos (DDVP)	ND		0.050		ug/L		01/27/23 06:48	01/30/23 17:00	1
Dieldrin	ND		0.20		ug/L		01/27/23 06:48	01/30/23 17:00	1
Diethylphthalate	ND		0.50		ug/L		01/27/23 06:48	01/30/23 17:00	1
Dimethoate	ND	*1	0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Dimethylphthalate	ND		0.50		ug/L		01/27/23 06:48	01/30/23 17:00	1
Di-n-butyl phthalate	ND		1.0		ug/L		01/27/23 06:48	01/30/23 17:00	1
Di-n-octyl phthalate	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Endosulfan I (Alpha)	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Endosulfan II (Beta)	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Endosulfan sulfate	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Endrin	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Endrin aldehyde	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
EPTC	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1

Client Sample ID: MOANALUA WELLS
Date Collected: 01/24/23 10:00
Date Received: 01/26/23 09:50

Lab Sample ID: 380-35588-1
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Fluorene	ND		0.050		ug/L		01/27/23 06:48	01/30/23 17:00	1
gamma-Chlordane	ND		0.050		ug/L		01/27/23 06:48	01/30/23 17:00	1
Heptachlor	ND		0.040		ug/L		01/27/23 06:48	01/30/23 17:00	1
Heptachlor epoxide (isomer B)	ND	^3+	0.050		ug/L		01/27/23 06:48	01/30/23 17:00	1
Hexachlorobenzene	ND		0.050		ug/L		01/27/23 06:48	01/30/23 17:00	1
Hexachlorocyclopentadiene	ND		0.050		ug/L		01/27/23 06:48	01/30/23 17:00	1
Indeno[1,2,3-cd]pyrene	ND		0.050		ug/L		01/27/23 06:48	01/30/23 17:00	1
Isophorone	ND		0.50		ug/L		01/27/23 06:48	01/30/23 17:00	1
Lindane	ND		0.040		ug/L		01/27/23 06:48	01/30/23 17:00	1
Malathion	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Methoxychlor	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Metolachlor	ND		0.050		ug/L		01/27/23 06:48	01/30/23 17:00	1
Metribuzin	ND		0.050		ug/L		01/27/23 06:48	01/30/23 17:00	1
Molinate	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Naphthalene	ND		0.30		ug/L		01/27/23 06:48	01/30/23 17:00	1
Parathion	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Pendimethalin (Penoxaline)	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Total Permethrin (mixed isomers)	ND		0.20		ug/L		01/27/23 06:48	01/30/23 17:00	1
Phenanthrene	ND		0.040		ug/L		01/27/23 06:48	01/30/23 17:00	1
Propachlor	ND		0.050		ug/L		01/27/23 06:48	01/30/23 17:00	1
Pyrene	ND		0.050		ug/L		01/27/23 06:48	01/30/23 17:00	1
Simazine	ND		0.050		ug/L		01/27/23 06:48	01/30/23 17:00	1
Terbacil	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Terbuthylazine	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1
Thiobencarb	ND		0.20		ug/L		01/27/23 06:48	01/30/23 17:00	1
trans-Nonachlor	ND		0.050		ug/L		01/27/23 06:48	01/30/23 17:00	1
Trifluralin	ND		0.10		ug/L		01/27/23 06:48	01/30/23 17:00	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*			*N/A*	*01/27/23 06:48*	*01/30/23 17:00*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*99*		*70 - 130*	*01/27/23 06:48*	*01/30/23 17:00*	*1*
Triphenylphosphate	*109*		*70 - 130*	*01/27/23 06:48*	*01/30/23 17:00*	*1*
Perylene-d12	*100*		*70 - 130*	*01/27/23 06:48*	*01/30/23 17:00*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1

Client Sample ID: MOANALUA WELLS
Date Collected: 01/24/23 10:00
Date Received: 01/26/23 09:50

Lab Sample ID: 380-35588-1
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1
Perfluorobutanoic acid (PFBA)	**2.0**		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*105*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:41*	*1*
13C6 PFDA	*115*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:41*	*1*
13C5 PFHxA	*114*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:41*	*1*
13C4 PFHpA	*110*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:41*	*1*
13C8 PFOA	*114*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:41*	*1*
13C9 PFNA	*115*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:41*	*1*
13C7 PFUnA	*110*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:41*	*1*
13C2 PFDoA	*111*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:41*	*1*
13C4 PFBA	*111*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:41*	*1*
13C5 PFPeA	*107*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:41*	*1*
13C3 PFBS	*102*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:41*	*1*
13C3 PFHxS	*105*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:41*	*1*
13C8 PFOS	*107*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:41*	*1*
13C2-4:2-FTS	*120*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:41*	*1*
13C2-6:2-FTS	*113*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:41*	*1*
13C2-8:2-FTS	*124*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:41*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:12	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:12	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:12	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:12	1

Client Sample ID: MOANALUA WELLS
Date Collected: 01/24/23 10:00
Date Received: 01/26/23 09:50

Lab Sample ID: 380-35588-1
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:12	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:12	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:12	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:12	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:12	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:12	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:12	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:12	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:12	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:12	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:12	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:12	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:12	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*110*		*70 - 130*	*01/30/23 06:32*	*02/01/23 11:12*	*1*
13C2 PFHxA	*118*		*70 - 130*	*01/30/23 06:32*	*02/01/23 11:12*	*1*
13C2 PFDA	*108*		*70 - 130*	*01/30/23 06:32*	*02/01/23 11:12*	*1*
13C3-GenX	*110*		*70 - 130*	*01/30/23 06:32*	*02/01/23 11:12*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1
Acenaphthene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1
Acenaphthylene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1
Anthracene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1
Biphenyl	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1
Chrysene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1
Dibenzothiophene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		01/27/23 00:00	02/18/23 23:26	1
Fluoranthene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1
Fluorene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1
Naphthalene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-35588-1
Date Collected: 01/24/23 10:00
Matrix: Drinking Water
Date Received: 01/26/23 09:50
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perylene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1
Phenanthrene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1
Pyrene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 23:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*97*		*27 - 133*	*01/27/23 00:00*	*02/18/23 23:26*	*1*
(d10-Phenanthrene)	*98*		*43 - 129*	*01/27/23 00:00*	*02/18/23 23:26*	*1*
(d12-Chrysene)	*104*		*52 - 144*	*01/27/23 00:00*	*02/18/23 23:26*	*1*
(d12-Perylene)	*96*		*36 - 161*	*01/27/23 00:00*	*02/18/23 23:26*	*1*
(d8-Naphthalene)	*95*		*25 - 125*	*01/27/23 00:00*	*02/18/23 23:26*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			01/27/23 16:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*85*		*60 - 140*		*01/27/23 16:35*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.024		mg/L			02/02/23 17:07	1
JP5	ND	U	0.048		mg/L			02/02/23 17:07	1
JP8	ND	U	0.048		mg/L			02/02/23 17:07	1
MOTOR OIL	ND	U	0.048		mg/L			02/02/23 17:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOBENZENE	*87*		*60 - 130*		*02/02/23 17:07*	*1*
HEXACOSANE	*95*		*60 - 130*		*02/02/23 17:07*	*1*

Client Sample ID: TB MOANALUA WELLS

Lab Sample ID: 380-35588-2
Date Collected: 01/24/23 10:00
Matrix: Drinking Water
Date Received: 01/26/23 09:50

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

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*84*		*60 - 140*		*01/27/23 18:23*	*1*

Client Sample ID: FB: MOANALUA WELLS

Lab Sample ID: 380-35588-3
Date Collected: 01/24/23 10:00
Matrix: Drinking Water
Date Received: 01/26/23 09:50

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1

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

Job ID: 380-35588-1

Client Sample ID: FB: MOANALUA WELLS
Date Collected: 01/24/23 10:00
Date Received: 01/26/23 09:50

Lab Sample ID: 380-35588-3
Matrix: Drinking Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 03:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*102*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:51*	*1*
13C6 PFDA	*106*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:51*	*1*
13C5 PFHxA	*105*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:51*	*1*
13C4 PFHpA	*107*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:51*	*1*
13C8 PFOA	*109*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:51*	*1*
13C9 PFNA	*107*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:51*	*1*
13C7 PFUnA	*108*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:51*	*1*
13C2 PFDoA	*106*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:51*	*1*
13C4 PFBA	*110*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:51*	*1*
13C5 PFPeA	*112*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:51*	*1*
13C3 PFBS	*107*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:51*	*1*
13C3 PFHxS	*106*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:51*	*1*
13C8 PFOS	*104*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:51*	*1*
13C2-4:2-FTS	*115*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:51*	*1*
13C2-6:2-FTS	*114*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:51*	*1*
13C2-8:2-FTS	*110*		*50 - 200*	*02/02/23 12:35*	*02/04/23 03:51*	*1*

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

Job ID: 380-35588-1

Client Sample ID: FB: MOANALUA WELLS

Date Collected: 01/24/23 10:00
Date Received: 01/26/23 09:50

Lab Sample ID: 380-35588-3

Matrix: Drinking Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:33	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:33	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:33	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:33	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:33	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:33	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:33	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:33	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:33	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:33	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:33	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:33	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:33	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:33	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:33	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:33	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:33	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 11:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*92*		*70 - 130*	*01/30/23 06:32*	*02/01/23 11:33*	*1*
13C2 PFHxA	*112*		*70 - 130*	*01/30/23 06:32*	*02/01/23 11:33*	*1*
13C2 PFDA	*106*		*70 - 130*	*01/30/23 06:32*	*02/01/23 11:33*	*1*
13C3-GenX	*113*		*70 - 130*	*01/30/23 06:32*	*02/01/23 11:33*	*1*

Action Limit Summary

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

Job ID: 380-35588-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-35588-1

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Alachlor	ND		ug/L	2	0.050	525.2	Total/NA
Atrazine	ND		ug/L	3	0.050	525.2	Total/NA
Benzo[a]pyrene	ND		ug/L	0.2	0.020	525.2	Total/NA
Di(2-ethylhexyl)adipate	ND		ug/L	400	0.60	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	ND		ug/L	6	0.60	525.2	Total/NA
Endrin	ND		ug/L	2	0.10	525.2	Total/NA
Heptachlor	ND		ug/L	0.4	0.040	525.2	Total/NA
Heptachlor epoxide (isomer B)	ND	^3+	ug/L	0.2	0.050	525.2	Total/NA
Hexachlorobenzene	ND		ug/L	1	0.050	525.2	Total/NA
Hexachlorocyclopentadiene	ND		ug/L	50	0.050	525.2	Total/NA
Lindane	ND		ug/L	0.2	0.040	525.2	Total/NA
Methoxychlor	ND		ug/L	40	0.10	525.2	Total/NA
Simazine	ND		ug/L	4	0.050	525.2	Total/NA

Surrogate Summary

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

Job ID: 380-35588-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)		
		2NMX	TPP	PRY
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)
380-35588-1	MOANALUA WELLS	99	109	100

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)		
		2NMX	TPP	PRY
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)
380-35358-B-1-A MS	Matrix Spike	101	108	94
380-35358-B-2-A DU	Duplicate	102	113	96
LCS 380-30834/3-A	Lab Control Sample	100	109	92
LCSD 380-30834/4-A	Lab Control Sample Dup	97	110	92
MB 380-30834/1-A	Method Blank	97	106	92
MRL 380-30834/2-A	Lab Control Sample	97	99	95

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS	PFHxA	PFDA	GenX
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
380-35588-1	MOANALUA WELLS	110	118	108	110
380-35588-3	FB: MOANALUA WELLS	92	112	106	113

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)
380-35413-AA-1-A LMS	Matrix Spike	104	107	97	105
380-35413-AB-1-A LMSD	Matrix Spike Duplicate	107	114	102	114
LCS 380-30935/23-A	Lab Control Sample	104	121	107	120
LCSD 380-30935/24-A	Lab Control Sample Dup	106	110	101	110
MBL 380-30935/21-A	Method Blank	88	102	99	98
MRL 380-30935/22-A	Lab Control Sample	103	114	103	109

Surrogate Summary

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

Job ID: 380-35588-1

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)				
		Acenapht	Phenanth	CRY	NPT	PRY
Lab Sample ID	Client Sample ID	(27-133)	(43-129)	(52-144)	(25-125)	(36-161)
103872-B1	Method Blank	105	102	106	99	105
103872-BS1	Lab Control Sample	101	100	106	96	108
103872-BS2	Lab Control Sample Dup	99	101	107	95	107

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)				
		Acenapht	Phenanth	CRY	NPT	PRY
Lab Sample ID	Client Sample ID	(27-133)	(43-129)	(52-144)	(25-125)	(36-161)
380-35588-1	MOANALUA WELLS	97	98	104	95	96

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)
		BFB
Lab Sample ID	Client Sample ID	(60-140)
380-35588-1	MOANALUA WELLS	85
380-35588-2	TB MOANALUA WELLS	84

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

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

		Percent Surrogate Recovery (Acceptance Limits)
		BFB
Lab Sample ID	Client Sample ID	(60-140)
23A351-01M	Matrix Spike	107
23A351-01S	Matrix Spike Duplicate	110

Surrogate Summary

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

Job ID: 380-35588-1

Surrogate Legend
BFB = BROMOFLUOROBENZENE

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

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

		Percent Surrogate Recovery (Acceptance Limits)
		BFB
Lab Sample ID	**Client Sample ID**	
23VG39A14B	Method Blank	

Surrogate Legend
BFB = BROMOFLUOROBENZENE

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

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

		Percent Surrogate Recovery (Acceptance Limits)
		BFB
Lab Sample ID	**Client Sample ID**	**(70-130)**
23VG39A14C	LCD	102
23VG39A14L	Lab Control Sample	101

Surrogate Legend
BFB = BROMOFLUOROBENZENE

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BB	XACOSA
Lab Sample ID	**Client Sample ID**	**(60-130)**	**(60-130)**
380-35588-1	MOANALUA WELLS	87	95

Surrogate Legend
BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BB	XACOSA
Lab Sample ID	**Client Sample ID**		
23DSB002WB	Method Blank		

Surrogate Legend
BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BB	XACOSA
Lab Sample ID	**Client Sample ID**	**(60-130)**	**(60-130)**
23DSB002WC	LCD	89	95
23DSB002WL	Lab Control Sample	91	90
23J5B002WC	LCD	92	89
23J5B002WL	Lab Control Sample	93	88

Surrogate Summary

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

Job ID: 380-35588-1

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

Matrix: WATER

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)									
		BB	XACOSA								
Lab Sample ID	Client Sample ID	(60-130)	(60-130)								
23J8B002WC	LCD	100	88								
23J8B002WL	Lab Control Sample	100	88								

Surrogate Legend

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

Isotope Dilution Summary

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

Job ID: 380-35588-1

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

Matrix: Drinking Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-35588-1	MOANALUA WELLS	105	115	114	110	114	115	110	111
380-35588-3	FB: MOANALUA WELLS	102	106	105	107	109	107	108	106

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-35588-1	MOANALUA WELLS	111	107	102	105	107	120	113	124
380-35588-3	FB: MOANALUA WELLS	110	112	107	106	104	115	114	110

Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-36166-K-4-A LMS	Matrix Spike	81	100	94	91	91	99	107	101
380-36166-M-4-A LMSD	Matrix Spike Duplicate	71	89	75	73	79	87	96	93
LCS 380-31432/3-A	Lab Control Sample	102	106	102	104	105	107	109	104
LCSD 380-31432/4-A	Lab Control Sample Dup	89	97	91	91	94	98	105	101
MBL 380-31432/1-A	Method Blank	93	101	104	100	102	103	99	103
MRL 380-31432/2-A	Lab Control Sample	98	107	101	105	104	105	103	101

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-36166-K-4-A LMS	Matrix Spike	92	89	102	107	108	123	109	114
380-36166-M-4-A LMSD	Matrix Spike Duplicate	82	75	104	102	106	110	108	109
LCS 380-31432/3-A	Lab Control Sample	104	101	97	101	103	104	111	104
LCSD 380-31432/4-A	Lab Control Sample Dup	92	89	98	103	107	112	105	106
MBL 380-31432/1-A	Method Blank	108	103	101	100	100	108	112	110
MRL 380-31432/2-A	Lab Control Sample	112	110	102	104	102	116	108	112

Surrogate Legend

HFPODA = 13C3 HFPO-DA

Isotope Dilution Summary

Client: City & County of Honolulu
Job ID: 380-35588-1
Project/Site: RED-HILL

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 380-30834/1-A
Matrix: Water
Analysis Batch: 30941

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30834

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
2,4'-DDE	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
2,4'-DDT	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
2,4-Dinitrotoluene	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
2,6-Dinitrotoluene	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
4,4'-DDD	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
4,4'-DDE	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
4,4'-DDT	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Acenaphthene	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Acenaphthylene	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Acetochlor	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Alachlor	ND		0.050		ug/L		01/27/23 06:48	01/30/23 11:39	1
alpha-BHC	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
alpha-Chlordane	ND		0.050		ug/L		01/27/23 06:48	01/30/23 11:39	1
Anthracene	ND		0.020		ug/L		01/27/23 06:48	01/30/23 11:39	1
Atrazine	ND		0.050		ug/L		01/27/23 06:48	01/30/23 11:39	1
Benz(a)anthracene	ND		0.050		ug/L		01/27/23 06:48	01/30/23 11:39	1
Benzo[a]pyrene	ND		0.020		ug/L		01/27/23 06:48	01/30/23 11:39	1
Benzo[b]fluoranthene	ND		0.020		ug/L		01/27/23 06:48	01/30/23 11:39	1
Benzo[g,h,i]perylene	ND		0.050		ug/L		01/27/23 06:48	01/30/23 11:39	1
Benzo[k]fluoranthene	ND		0.020		ug/L		01/27/23 06:48	01/30/23 11:39	1
beta-BHC	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Bromacil	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Butachlor	ND		0.050		ug/L		01/27/23 06:48	01/30/23 11:39	1
Butylbenzylphthalate	ND		0.50		ug/L		01/27/23 06:48	01/30/23 11:39	1
Caffeine	ND		0.050		ug/L		01/27/23 06:48	01/30/23 11:39	1
Chlorobenzilate	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Chloroneb	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Chlorothalonil (Draconil, Bravo)	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Chlorpyrifos	ND		0.050		ug/L		01/27/23 06:48	01/30/23 11:39	1
Chrysene	ND		0.020		ug/L		01/27/23 06:48	01/30/23 11:39	1
delta-BHC	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Di(2-ethylhexyl)adipate	ND		0.60		ug/L		01/27/23 06:48	01/30/23 11:39	1
Bis(2-ethylhexyl) phthalate	ND		0.60		ug/L		01/27/23 06:48	01/30/23 11:39	1
Diazinon (Qualitative)	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Dibenz(a,h)anthracene	ND		0.050		ug/L		01/27/23 06:48	01/30/23 11:39	1
Diclorvos (DDVP)	ND		0.050		ug/L		01/27/23 06:48	01/30/23 11:39	1
Dieldrin	ND		0.20		ug/L		01/27/23 06:48	01/30/23 11:39	1
Diethylphthalate	ND		0.50		ug/L		01/27/23 06:48	01/30/23 11:39	1
Dimethoate	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Dimethylphthalate	ND		0.50		ug/L		01/27/23 06:48	01/30/23 11:39	1
Di-n-butyl phthalate	ND		1.0		ug/L		01/27/23 06:48	01/30/23 11:39	1
Di-n-octyl phthalate	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Endosulfan I (Alpha)	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Endosulfan II (Beta)	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Endosulfan sulfate	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Endrin	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Endrin aldehyde	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1

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

Lab Sample ID: MB 380-30834/1-A
Matrix: Water
Analysis Batch: 30941

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30834

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
EPTC	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Fluoranthene	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Fluorene	ND		0.050		ug/L		01/27/23 06:48	01/30/23 11:39	1
gamma-Chlordane	ND		0.050		ug/L		01/27/23 06:48	01/30/23 11:39	1
Heptachlor	ND		0.040		ug/L		01/27/23 06:48	01/30/23 11:39	1
Heptachlor epoxide (isomer B)	ND		0.050		ug/L		01/27/23 06:48	01/30/23 11:39	1
Hexachlorobenzene	ND		0.050		ug/L		01/27/23 06:48	01/30/23 11:39	1
Hexachlorocyclopentadiene	ND		0.050		ug/L		01/27/23 06:48	01/30/23 11:39	1
Indeno[1,2,3-cd]pyrene	ND		0.050		ug/L		01/27/23 06:48	01/30/23 11:39	1
Isophorone	ND		0.50		ug/L		01/27/23 06:48	01/30/23 11:39	1
Lindane	ND		0.040		ug/L		01/27/23 06:48	01/30/23 11:39	1
Malathion	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Methoxychlor	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Metolachlor	ND		0.050		ug/L		01/27/23 06:48	01/30/23 11:39	1
Metribuzin	ND		0.050		ug/L		01/27/23 06:48	01/30/23 11:39	1
Molinate	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Naphthalene	ND		0.30		ug/L		01/27/23 06:48	01/30/23 11:39	1
Parathion	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Pendimethalin (Penoxaline)	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Total Permethrin (mixed isomers)	ND		0.20		ug/L		01/27/23 06:48	01/30/23 11:39	1
Phenanthrene	ND		0.040		ug/L		01/27/23 06:48	01/30/23 11:39	1
Propachlor	ND		0.050		ug/L		01/27/23 06:48	01/30/23 11:39	1
Pyrene	ND		0.050		ug/L		01/27/23 06:48	01/30/23 11:39	1
Simazine	ND		0.050		ug/L		01/27/23 06:48	01/30/23 11:39	1
Terbacil	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Terbuthylazine	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1
Thiobencarb	ND		0.20		ug/L		01/27/23 06:48	01/30/23 11:39	1
trans-Nonachlor	ND		0.050		ug/L		01/27/23 06:48	01/30/23 11:39	1
Trifluralin	ND		0.10		ug/L		01/27/23 06:48	01/30/23 11:39	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*0.571*	*T J*	*ug/L*		*2.25*	*N/A*	*01/27/23 06:48*	*01/30/23 11:39*	*1*
Cyclotetrasiloxane, octamethyl-	*1.04*	*T J N*	*ug/L*		*2.34*	*556-67-2*	*01/27/23 06:48*	*01/30/23 11:39*	*1*
Decane	*1.50*	*T J N*	*ug/L*		*2.47*	*124-18-5*	*01/27/23 06:48*	*01/30/23 11:39*	*1*
9-Octadecenamide, (Z)-	*0.570*	*T J N*	*ug/L*		*7.58*	*301-02-0*	*01/27/23 06:48*	*01/30/23 11:39*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Nitro-m-xylene	*97*		*70 - 130*	*01/27/23 06:48*	*01/30/23 11:39*	*1*
Triphenylphosphate	*106*		*70 - 130*	*01/27/23 06:48*	*01/30/23 11:39*	*1*
Perylene-d12	*92*		*70 - 130*	*01/27/23 06:48*	*01/30/23 11:39*	*1*

Lab Sample ID: LCS 380-30834/3-A
Matrix: Water
Analysis Batch: 30941

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30834

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
2,4'-DDD			1.98	2.25		ug/L		113	70 - 130		
2,4'-DDE			1.98	1.89		ug/L		95	70 - 130		

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

Lab Sample ID: LCS 380-30834/3-A
Matrix: Water
Analysis Batch: 30941

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30834

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDT	1.98	2.03		ug/L		102	70 - 130
2,4-Dinitrotoluene	1.98	1.61		ug/L		81	70 - 130
2,6-Dinitrotoluene	1.98	1.57		ug/L		79	70 - 130
4,4'-DDD	1.98	2.10		ug/L		106	70 - 130
4,4'-DDE	1.98	2.22		ug/L		112	70 - 130
4,4'-DDT	1.98	1.95		ug/L		98	70 - 130
Acenaphthene	1.98	1.77		ug/L		89	70 - 130
Acenaphthylene	1.98	1.75		ug/L		88	70 - 130
Acetochlor	1.98	1.85		ug/L		93	70 - 130
Alachlor	1.98	1.94		ug/L		98	70 - 130
alpha-BHC	1.98	1.95		ug/L		98	70 - 130
alpha-Chlordane	1.98	1.74		ug/L		88	70 - 130
Anthracene	1.98	1.77		ug/L		89	70 - 130
Atrazine	1.98	2.00		ug/L		101	70 - 130
Benz(a)anthracene	1.98	2.01		ug/L		101	70 - 130
Benzo[a]pyrene	1.98	1.75		ug/L		88	70 - 130
Benzo[b]fluoranthene	1.98	1.82		ug/L		92	70 - 130
Benzo[g,h,i]perylene	1.98	1.87		ug/L		94	70 - 130
Benzo[k]fluoranthene	1.98	1.89		ug/L		95	70 - 130
beta-BHC	1.98	1.96		ug/L		99	70 - 130
Bromacil	1.98	2.11		ug/L		106	70 - 130
Butachlor	1.98	2.16		ug/L		109	70 - 130
Butylbenzylphthalate	1.98	2.32		ug/L		117	70 - 130
Caffeine	1.98	1.30		ug/L		66	45 - 137
Chlorobenzilate	1.98	2.24		ug/L		113	70 - 130
Chloroneb	1.98	1.87		ug/L		94	70 - 130
Chlorothalonil (Draconil, Bravo)	1.98	2.17		ug/L		109	70 - 130
Chlorpyrifos	1.98	2.14		ug/L		108	70 - 130
Chrysene	1.98	1.83		ug/L		92	70 - 130
delta-BHC	1.98	2.02		ug/L		102	70 - 130
Di(2-ethylhexyl)adipate	1.98	2.18		ug/L		110	70 - 130
Bis(2-ethylhexyl) phthalate	1.98	1.83		ug/L		92	70 - 130
Diazinon (Qualitative)	1.98	1.83		ug/L		92	15 - 132
Dibenz(a,h)anthracene	1.98	1.84		ug/L		93	70 - 130
Diclorvos (DDVP)	1.98	1.84		ug/L		93	70 - 130
Dieldrin	1.98	2.09		ug/L		105	70 - 130
Diethylphthalate	1.98	1.85		ug/L		93	70 - 130
Dimethoate	1.98	1.08		ug/L		55	35 - 100
Dimethylphthalate	1.98	1.75		ug/L		88	70 - 130
Di-n-butyl phthalate	3.97	3.89		ug/L		98	70 - 130
Di-n-octyl phthalate	1.98	1.79		ug/L		90	70 - 130
Endosulfan I (Alpha)	1.98	1.75		ug/L		88	70 - 130
Endosulfan II (Beta)	1.98	2.16		ug/L		109	70 - 130
Endosulfan sulfate	1.98	2.29		ug/L		115	70 - 130
Endrin	1.98	2.43		ug/L		123	70 - 130
Endrin aldehyde	1.98	1.99		ug/L		100	70 - 130
EPTC	1.98	1.99		ug/L		100	70 - 130
Fluoranthene	1.98	1.88		ug/L		95	70 - 130
Fluorene	1.98	1.82		ug/L		92	70 - 130

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

Lab Sample ID: LCS 380-30834/3-A
Matrix: Water
Analysis Batch: 30941

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30834

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
gamma-Chlordane			1.98	1.64		ug/L		83	70 - 130		
Heptachlor			1.98	2.19		ug/L		110	70 - 130		
Heptachlor epoxide (isomer B)			1.98	1.79		ug/L		90	70 - 130		
Hexachlorobenzene			1.98	1.84		ug/L		93	70 - 130		
Hexachlorocyclopentadiene			1.98	1.95		ug/L		99	70 - 130		
Indeno[1,2,3-cd]pyrene			1.98	1.82		ug/L		92	70 - 130		
Isophorone			1.98	1.73		ug/L		87	70 - 130		
Lindane			1.98	1.96		ug/L		99	70 - 130		
Malathion			1.98	2.06		ug/L		104	70 - 130		
Methoxychlor			1.98	2.16		ug/L		109	70 - 130		
Metolachlor			1.98	2.13		ug/L		108	70 - 130		
Metribuzin			1.98	2.07		ug/L		104	70 - 130		
Molinate			1.98	2.01		ug/L		101	70 - 130		
Naphthalene			1.98	1.75		ug/L		88	70 - 130		
Parathion			1.98	2.11		ug/L		106	70 - 130		
Pendimethalin (Penoxaline)			1.98	2.09		ug/L		105	70 - 130		
Phenanthrene			1.98	1.79		ug/L		90	70 - 130		
Propachlor			1.98	2.00		ug/L		101	70 - 130		
Pyrene			1.98	1.99		ug/L		100	70 - 130		
Simazine			1.98	2.08		ug/L		105	70 - 130		
Terbacil			1.98	2.16		ug/L		109	70 - 130		
Terbuthylazine			1.98	1.99		ug/L		100	70 - 130		
Thiobencarb			1.98	2.13		ug/L		107	70 - 130		
trans-Nonachlor			1.98	1.85		ug/L		93	70 - 130		
Trifluralin			1.98	2.03		ug/L		103	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Nitro-m-xylene	*100*		*70 - 130*
Triphenylphosphate	*109*		*70 - 130*
Perylene-d12	*92*		*70 - 130*

Lab Sample ID: LCSD 380-30834/4-A
Matrix: Water
Analysis Batch: 30941

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30834

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4'-DDD			1.99	2.32		ug/L		117	70 - 130	3	20
2,4'-DDE			1.99	1.99		ug/L		100	70 - 130	5	20
2,4'-DDT			1.99	2.18		ug/L		109	70 - 130	7	20
2,4-Dinitrotoluene			1.99	1.83		ug/L		92	70 - 130	13	20
2,6-Dinitrotoluene			1.99	1.75		ug/L		88	70 - 130	11	20
4,4'-DDD			1.99	2.21		ug/L		111	70 - 130	5	20
4,4'-DDE			1.99	2.36		ug/L		119	70 - 130	6	20
4,4'-DDT			1.99	2.06		ug/L		104	70 - 130	6	20
Acenaphthene			1.99	1.81		ug/L		91	70 - 130	2	20
Acenaphthylene			1.99	1.81		ug/L		91	70 - 130	3	20
Acetochlor			1.99	1.90		ug/L		96	70 - 130	3	20
Alachlor			1.99	2.00		ug/L		101	70 - 130	3	20

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

Lab Sample ID: LCSD 380-30834/4-A
Matrix: Water
Analysis Batch: 30941

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30834

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
alpha-BHC			1.99	2.06		ug/L		103	70 - 130	5	20
alpha-Chlordane			1.99	1.88		ug/L		94	70 - 130	7	20
Anthracene			1.99	1.82		ug/L		91	70 - 130	3	20
Atrazine			1.99	2.11		ug/L		106	70 - 130	5	20
Benz(a)anthracene			1.99	2.14		ug/L		108	70 - 130	6	20
Benzo[a]pyrene			1.99	1.88		ug/L		95	70 - 130	7	20
Benzo[b]fluoranthene			1.99	1.90		ug/L		95	70 - 130	4	20
Benzo[g,h,i]perylene			1.99	1.94		ug/L		98	70 - 130	4	20
Benzo[k]fluoranthene			1.99	2.01		ug/L		101	70 - 130	6	20
beta-BHC			1.99	2.08		ug/L		105	70 - 130	6	20
Bromacil			1.99	2.27		ug/L		114	70 - 130	7	20
Butachlor			1.99	2.21		ug/L		111	70 - 130	2	20
Butylbenzylphthalate			1.99	2.39		ug/L		120	70 - 130	3	20
Caffeine			1.99	1.54		ug/L		78	45 - 137	17	20
Chlorobenzilate			1.99	2.28		ug/L		115	70 - 130	2	20
Chloroneb			1.99	1.95		ug/L		98	70 - 130	4	20
Chlorothalonil (Draconil, Bravo)			1.99	2.20		ug/L		111	70 - 130	2	20
Chlorpyrifos			1.99	2.26		ug/L		113	70 - 130	5	20
Chrysene			1.99	1.91		ug/L		96	70 - 130	4	20
delta-BHC			1.99	2.07		ug/L		104	70 - 130	3	20
Di(2-ethylhexyl)adipate			1.99	2.33		ug/L		117	70 - 130	7	20
Bis(2-ethylhexyl) phthalate			1.99	1.97		ug/L		99	70 - 130	8	20
Diazinon (Qualitative)			1.99	1.45	*1	ug/L		73	15 - 132	23	20
Dibenz(a,h)anthracene			1.99	1.94		ug/L		98	70 - 130	6	20
Diclorvos (DDVP)			1.99	1.79		ug/L		90	70 - 130	2	20
Dieldrin			1.99	2.17		ug/L		109	70 - 130	4	20
Diethylphthalate			1.99	1.91		ug/L		96	70 - 130	3	20
Dimethoate			1.99	1.36	*1	ug/L		68	35 - 100	23	20
Dimethylphthalate			1.99	1.86		ug/L		93	70 - 130	6	20
Di-n-butyl phthalate			3.98	4.04		ug/L		102	70 - 130	4	20
Di-n-octyl phthalate			1.99	1.97		ug/L		99	70 - 130	9	20
Endosulfan I (Alpha)			1.99	1.82		ug/L		91	70 - 130	4	20
Endosulfan II (Beta)			1.99	2.26		ug/L		113	70 - 130	4	20
Endosulfan sulfate			1.99	2.47		ug/L		124	70 - 130	8	20
Endrin			1.99	2.47		ug/L		124	70 - 130	2	20
Endrin aldehyde			1.99	2.00		ug/L		100	70 - 130	0	20
EPTC			1.99	2.02		ug/L		102	70 - 130	2	20
Fluoranthene			1.99	1.98		ug/L		99	70 - 130	5	20
Fluorene			1.99	1.88		ug/L		95	70 - 130	3	20
gamma-Chlordane			1.99	1.74		ug/L		87	70 - 130	6	20
Heptachlor			1.99	2.18		ug/L		110	70 - 130	0	20
Heptachlor epoxide (isomer B)			1.99	1.86		ug/L		93	70 - 130	4	20
Hexachlorobenzene			1.99	2.01		ug/L		101	70 - 130	9	20
Hexachlorocyclopentadiene			1.99	2.01		ug/L		101	70 - 130	3	20
Indeno[1,2,3-cd]pyrene			1.99	1.96		ug/L		98	70 - 130	7	20
Isophorone			1.99	1.75		ug/L		88	70 - 130	1	20
Lindane			1.99	2.05		ug/L		103	70 - 130	4	20
Malathion			1.99	2.15		ug/L		108	70 - 130	4	20
Methoxychlor			1.99	2.29		ug/L		115	70 - 130	6	20

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

Lab Sample ID: LCSD 380-30834/4-A
Matrix: Water
Analysis Batch: 30941

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30834

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Metolachlor			1.99	2.18		ug/L		110	70 - 130	2	20
Metribuzin			1.99	2.16		ug/L		109	70 - 130	4	20
Molinate			1.99	2.10		ug/L		106	70 - 130	5	20
Naphthalene			1.99	1.79		ug/L		90	70 - 130	2	20
Parathion			1.99	2.20		ug/L		111	70 - 130	4	20
Pendimethalin (Penoxaline)			1.99	2.17		ug/L		109	70 - 130	4	20
Phenanthrene			1.99	1.84		ug/L		92	70 - 130	3	20
Propachlor			1.99	2.07		ug/L		104	70 - 130	4	20
Pyrene			1.99	2.08		ug/L		104	70 - 130	4	20
Simazine			1.99	2.26		ug/L		114	70 - 130	8	20
Terbacil			1.99	2.29		ug/L		115	70 - 130	6	20
Terbuthylazine			1.99	2.15		ug/L		108	70 - 130	8	20
Thiobencarb			1.99	2.19		ug/L		110	70 - 130	3	20
trans-Nonachlor			1.99	2.06		ug/L		104	70 - 130	11	20
Trifluralin			1.99	2.12		ug/L		107	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Nitro-m-xylene	*97*		*70 - 130*
Triphenylphosphate	*110*		*70 - 130*
Perylene-d12	*92*		*70 - 130*

Lab Sample ID: MRL 380-30834/2-A
Matrix: Water
Analysis Batch: 30941

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30834

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
2,4'-DDD			0.0993	0.134		ug/L		135	50 - 150		
2,4'-DDE			0.0993	0.0938	J	ug/L		94	50 - 150		
2,4'-DDT			0.0993	0.0777	J	ug/L		78	50 - 150		
2,4-Dinitrotoluene			0.0993	0.0757	J	ug/L		76	50 - 150		
2,6-Dinitrotoluene			0.0993	0.0793	J	ug/L		80	50 - 150		
4,4'-DDD			0.0993	0.0975	J	ug/L		98	50 - 150		
4,4'-DDE			0.0993	0.0974	J	ug/L		98	50 - 150		
4,4'-DDT			0.0993	0.0852	J	ug/L		86	50 - 150		
Acenaphthene			0.0993	0.105		ug/L		106	50 - 150		
Acenaphthylene			0.0993	0.0958	J	ug/L		96	50 - 150		
Acetochlor			0.0497	0.0535	J	ug/L		108	50 - 150		
Alachlor			0.0497	0.0549		ug/L		111	50 - 150		
alpha-BHC			0.0993	0.0974	J	ug/L		98	50 - 150		
alpha-Chlordane			0.0248	ND		ug/L		88	50 - 150		
Anthracene			0.0199	ND		ug/L		82	50 - 150		
Atrazine			0.0497	ND		ug/L		91	50 - 150		
Benz(a)anthracene			0.0497	0.0407	J	ug/L		82	50 - 150		
Benzo[a]pyrene			0.0199	0.0160	J	ug/L		80	50 - 150		
Benzo[b]fluoranthene			0.0199	0.0179	J	ug/L		90	50 - 150		
Benzo[g,h,i]perylene			0.0497	0.0549		ug/L		111	50 - 150		
Benzo[k]fluoranthene			0.0199	0.0181	J	ug/L		91	50 - 150		
beta-BHC			0.0993	0.0902	J	ug/L		91	50 - 150		

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

Lab Sample ID: MRL 380-30834/2-A
Matrix: Water
Analysis Batch: 30941

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30834

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Bromacil	0.0993	0.0926	J	ug/L		93	50 - 150
Butachlor	0.0497	0.0596		ug/L		120	50 - 150
Butylbenzylphthalate	0.149	0.187	J	ug/L		125	50 - 150
Caffeine	0.0497	0.0306	J	ug/L		62	50 - 150
Chlorobenzilate	0.0993	0.136		ug/L		137	50 - 150
Chloroneb	0.0993	0.102		ug/L		103	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0993	0.136		ug/L		137	50 - 150
Chlorpyrifos	0.0497	0.0479	J	ug/L		96	50 - 150
Chrysene	0.0199	0.0197	J	ug/L		99	50 - 150
delta-BHC	0.0993	0.101		ug/L		101	50 - 150
Di(2-ethylhexyl)adipate	0.298	0.372	J	ug/L		125	50 - 150
Bis(2-ethylhexyl) phthalate	0.596	0.789		ug/L		132	50 - 150
Diazinon (Qualitative)	0.0993	0.102		ug/L		103	15 - 132
Dibenz(a,h)anthracene	0.0497	0.0642		ug/L		129	50 - 150
Diclorvos (DDVP)	0.0497	0.0529		ug/L		106	50 - 150
Dieldrin	0.0993	0.0925	J	ug/L		93	50 - 150
Diethylphthalate	0.149	0.182	J	ug/L		122	50 - 150
Dimethoate	0.0993	0.0567	J	ug/L		57	35 - 100
Dimethylphthalate	0.298	0.275	J	ug/L		92	50 - 150
Di-n-butyl phthalate	0.298	0.288	J	ug/L		97	49 - 243
Di-n-octyl phthalate	0.0993	0.119		ug/L		120	50 - 150
Endosulfan I (Alpha)	0.0993	0.0808	J	ug/L		81	50 - 150
Endosulfan II (Beta)	0.0993	0.108		ug/L		109	50 - 150
Endosulfan sulfate	0.0993	0.0837	J	ug/L		84	50 - 150
Endrin	0.0993	0.124		ug/L		124	50 - 150
Endrin aldehyde	0.0993	0.147		ug/L		148	50 - 150
EPTC	0.0993	0.103		ug/L		103	50 - 150
Fluoranthene	0.0497	0.0402	J	ug/L		81	50 - 150
Fluorene	0.0497	ND		ug/L		95	50 - 150
gamma-Chlordane	0.0248	0.0368	J	ug/L		148	50 - 150
Heptachlor	0.0397	0.0411		ug/L		103	50 - 150
Heptachlor epoxide (isomer B)	0.0497	0.0822	^3+	ug/L		166	50 - 150
Hexachlorobenzene	0.0497	0.0436	J	ug/L		88	50 - 150
Hexachlorocyclopentadiene	0.0497	0.0414	J	ug/L		83	50 - 150
Indeno[1,2,3-cd]pyrene	0.0497	0.0552		ug/L		111	50 - 150
Isophorone	0.0993	0.0943	J	ug/L		95	50 - 150
Lindane	0.0397	0.0367	J	ug/L		92	50 - 150
Malathion	0.0993	0.106		ug/L		106	50 - 150
Methoxychlor	0.0993	0.0727	J	ug/L		73	50 - 150
Metolachlor	0.0497	0.0584		ug/L		118	50 - 150
Metribuzin	0.0497	0.0694		ug/L		140	50 - 150
Molinate	0.0993	0.106		ug/L		107	50 - 150
Naphthalene	0.0993	0.102	J	ug/L		102	50 - 150
Parathion	0.0993	0.117		ug/L		118	50 - 150
Pendimethalin (Penoxaline)	0.0993	0.0936	J	ug/L		94	50 - 150
Phenanthrene	0.0199	0.0191	J	ug/L		96	50 - 150
Propachlor	0.0497	0.0489	J	ug/L		98	50 - 150
Pyrene	0.0497	0.0417	J	ug/L		84	50 - 150
Simazine	0.0497	0.0440	J	ug/L		89	50 - 150

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

Lab Sample ID: MRL 380-30834/2-A
Matrix: Water
Analysis Batch: 30941

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30834

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Terbacil			0.0993	0.109		ug/L		110	50 - 150		
Terbuthylazine			0.0993	0.0868	J	ug/L		87	50 - 150		
Thiobencarb			0.0993	0.109	J	ug/L		110	50 - 150		
trans-Nonachlor			0.0248	ND		ug/L		81	50 - 150		
Trifluralin			0.0993	0.0876	J	ug/L		88	50 - 150		

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
2-Nitro-m-xylene	*97*		*70 - 130*
Triphenylphosphate	*99*		*70 - 130*
Perylene-d12	*95*		*70 - 130*

Lab Sample ID: 380-35358-B-1-A MS
Matrix: Water
Analysis Batch: 30941

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30834

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
2,4'-DDD	ND		1.98	2.24		ug/L		113	70 - 130		
2,4'-DDE	ND		1.98	1.92		ug/L		97	70 - 130		
2,4'-DDT	ND		1.98	2.17		ug/L		109	70 - 130		
2,4-Dinitrotoluene	ND		1.98	1.92		ug/L		97	70 - 130		
2,6-Dinitrotoluene	ND		1.98	1.83		ug/L		92	70 - 130		
4,4'-DDD	ND		1.98	2.17		ug/L		109	70 - 130		
4,4'-DDE	ND		1.98	2.31		ug/L		116	70 - 130		
4,4'-DDT	ND		1.98	2.01		ug/L		101	70 - 130		
Acenaphthene	ND		1.98	1.80		ug/L		91	70 - 130		
Acenaphthylene	ND		1.98	1.87		ug/L		94	70 - 130		
Acetochlor	ND		1.98	1.91		ug/L		96	70 - 130		
Alachlor	ND		1.98	1.98		ug/L		100	70 - 130		
alpha-BHC	ND		1.98	2.05		ug/L		103	70 - 130		
alpha-Chlordane	ND		1.98	1.78		ug/L		90	70 - 130		
Anthracene	ND	F1	1.98	0.909	F1	ug/L		46	70 - 130		
Atrazine	ND		1.98	2.10		ug/L		106	70 - 130		
Benz(a)anthracene	ND		1.98	1.87		ug/L		94	70 - 130		
Benzo[a]pyrene	ND		1.98	1.46		ug/L		74	70 - 130		
Benzo[b]fluoranthene	ND		1.98	1.99		ug/L		100	70 - 130		
Benzo[g,h,i]perylene	ND		1.98	2.01		ug/L		101	70 - 130		
Benzo[k]fluoranthene	ND		1.98	2.03		ug/L		102	70 - 130		
beta-BHC	ND		1.98	2.04		ug/L		103	70 - 130		
Bromacil	ND		1.98	2.37		ug/L		120	70 - 130		
Butachlor	ND		1.98	2.17		ug/L		109	70 - 130		
Butylbenzylphthalate	ND		1.98	2.37		ug/L		119	70 - 130		
Caffeine	ND		1.98	1.78		ug/L		90	46 - 144		
Chlorobenzilate	ND		1.98	2.28		ug/L		115	70 - 130		
Chloroneb	ND		1.98	1.96		ug/L		99	70 - 130		
Chlorothalonil (Draconil, Bravo)	ND		1.98	2.18		ug/L		110	70 - 130		
Chlorpyrifos	ND		1.98	2.16		ug/L		109	70 - 130		
Chrysene	ND		1.98	1.90		ug/L		96	70 - 130		
delta-BHC	ND		1.98	2.04		ug/L		103	70 - 130		

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

Lab Sample ID: 380-35358-B-1-A MS
Matrix: Water
Analysis Batch: 30941

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30834

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Di(2-ethylhexyl)adipate	ND		1.98	2.24		ug/L		113	70 - 130
Bis(2-ethylhexyl) phthalate	ND		1.98	1.97		ug/L		99	70 - 130
Diazinon (Qualitative)	ND	*1	1.98	1.93		ug/L		98	15 - 132
Dibenz(a,h)anthracene	ND		1.98	2.04		ug/L		103	70 - 130
Diclorvos (DDVP)	ND		1.98	2.01		ug/L		101	70 - 130
Dieldrin	ND		1.98	2.15		ug/L		108	70 - 130
Diethylphthalate	ND		1.98	1.94		ug/L		98	70 - 130
Dimethoate	ND	*1	1.98	1.68		ug/L		85	34 - 111
Dimethylphthalate	ND		1.98	1.87		ug/L		94	70 - 130
Di-n-butyl phthalate	ND		3.97	4.08		ug/L		103	70 - 130
Di-n-octyl phthalate	ND		1.98	1.98		ug/L		100	70 - 130
Endosulfan I (Alpha)	ND		1.98	1.86		ug/L		93	70 - 130
Endosulfan II (Beta)	ND		1.98	2.26		ug/L		114	70 - 130
Endosulfan sulfate	ND		1.98	2.44		ug/L		123	70 - 130
Endrin	ND		1.98	2.48		ug/L		125	70 - 130
Endrin aldehyde	ND		1.98	1.94		ug/L		98	70 - 130
EPTC	ND		1.98	2.17		ug/L		109	70 - 130
Fluoranthene	ND		1.98	1.96		ug/L		99	70 - 130
Fluorene	ND		1.98	1.92		ug/L		97	70 - 130
gamma-Chlordane	ND		1.98	1.73		ug/L		87	70 - 130
Heptachlor	ND		1.98	2.22		ug/L		112	70 - 130
Heptachlor epoxide (isomer B)	ND	^3+	1.98	1.90		ug/L		96	70 - 130
Hexachlorobenzene	ND		1.98	2.01		ug/L		101	70 - 130
Hexachlorocyclopentadiene	ND		1.98	2.03		ug/L		102	70 - 130
Indeno[1,2,3-cd]pyrene	ND		1.98	2.04		ug/L		103	70 - 130
Isophorone	ND		1.98	1.86		ug/L		94	70 - 130
Lindane	ND		1.98	2.08		ug/L		105	70 - 130
Malathion	ND		1.98	2.14		ug/L		108	70 - 130
Methoxychlor	ND		1.98	2.38		ug/L		120	70 - 130
Metolachlor	ND		1.98	2.19		ug/L		110	70 - 130
Metribuzin	ND		1.98	2.31		ug/L		116	70 - 130
Molinate	ND		1.98	2.19		ug/L		110	70 - 130
Naphthalene	ND		1.98	1.84		ug/L		93	70 - 130
Parathion	ND		1.98	2.16		ug/L		109	70 - 130
Pendimethalin (Penoxaline)	ND		1.98	2.20		ug/L		111	70 - 130
Phenanthrene	ND		1.98	1.83		ug/L		92	70 - 130
Propachlor	ND		1.98	2.12		ug/L		107	70 - 130
Pyrene	ND		1.98	2.01		ug/L		101	70 - 130
Simazine	ND		1.98	2.24		ug/L		113	70 - 130
Terbacil	ND		1.98	2.30		ug/L		116	70 - 130
Terbuthylazine	ND		1.98	2.14		ug/L		108	70 - 130
Thiobencarb	ND		1.98	2.18		ug/L		110	70 - 130
trans-Nonachlor	ND		1.98	2.00		ug/L		101	70 - 130
Trifluralin	ND		1.98	2.18		ug/L		110	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Nitro-m-xylene	*101*		*70 - 130*
Triphenylphosphate	*108*		*70 - 130*

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

Lab Sample ID: 380-35358-B-1-A MS
Matrix: Water
Analysis Batch: 30941

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30834

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Perylene-d12	*94*		*70 - 130*

Lab Sample ID: 380-35358-B-2-A DU
Matrix: Water
Analysis Batch: 30941

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 30834

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
2,4'-DDD	ND			ND		ug/L				NC	20
2,4'-DDE	ND			ND		ug/L				NC	20
2,4'-DDT	ND			ND		ug/L				NC	20
2,4-Dinitrotoluene	ND			ND		ug/L				NC	20
2,6-Dinitrotoluene	ND			ND		ug/L				NC	20
4,4'-DDD	ND			ND		ug/L				NC	20
4,4'-DDE	ND			ND		ug/L				NC	20
4,4'-DDT	ND			ND		ug/L				NC	20
Acenaphthene	ND			ND		ug/L				NC	20
Acenaphthylene	ND			ND		ug/L				NC	20
Acetochlor	ND			ND		ug/L				NC	20
Alachlor	ND			ND		ug/L				NC	20
alpha-BHC	ND			ND		ug/L				NC	20
alpha-Chlordane	ND			ND		ug/L				NC	20
Anthracene	ND			ND		ug/L				NC	20
Atrazine	ND			ND		ug/L				NC	20
Benz(a)anthracene	ND			ND		ug/L				NC	20
Benzo[a]pyrene	ND			ND		ug/L				NC	20
Benzo[b]fluoranthene	ND			ND		ug/L				NC	20
Benzo[g,h,i]perylene	ND			ND		ug/L				NC	20
Benzo[k]fluoranthene	ND			ND		ug/L				NC	20
beta-BHC	ND			ND		ug/L				NC	20
Bromacil	ND			ND		ug/L				NC	20
Butachlor	ND			ND		ug/L				NC	20
Butylbenzylphthalate	ND			ND		ug/L				NC	20
Caffeine	ND			ND		ug/L				NC	20
Chlorobenzilate	ND			ND		ug/L				NC	20
Chloroneb	ND			ND		ug/L				NC	20
Chlorothalonil (Draconil, Bravo)	ND			ND		ug/L				NC	20
Chlorpyrifos	ND			ND		ug/L				NC	20
Chrysene	ND			ND		ug/L				NC	20
delta-BHC	ND			ND		ug/L				NC	20
Di(2-ethylhexyl)adipate	ND			ND		ug/L				NC	20
Bis(2-ethylhexyl) phthalate	ND			ND		ug/L				NC	20
Diazinon (Qualitative)	ND	*1		ND	*1	ug/L				NC	20
Dibenz(a,h)anthracene	ND			ND		ug/L				NC	20
Diclorvos (DDVP)	ND			ND		ug/L				NC	20
Dieldrin	ND			ND		ug/L				NC	20
Diethylphthalate	ND			ND		ug/L				NC	20
Dimethoate	ND	*1		ND	*1	ug/L				NC	20
Dimethylphthalate	ND			ND		ug/L				NC	20

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

Lab Sample ID: 380-35358-B-2-A DU
Matrix: Water
Analysis Batch: 30941

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 30834

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

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
2-Nitro-m-xylene	*102*		*70 - 130*
Triphenylphosphate	*113*		*70 - 130*
Perylene-d12	*96*		*70 - 130*

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

Lab Sample ID: MBL 380-31432/1-A
Matrix: Water
Analysis Batch: 31593

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31432

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0		ng/L		02/02/23 12:35	02/04/23 00:55	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*93*		*50 - 200*	*02/02/23 12:35*	*02/04/23 00:55*	*1*
13C6 PFDA	*101*		*50 - 200*	*02/02/23 12:35*	*02/04/23 00:55*	*1*
13C5 PFHxA	*104*		*50 - 200*	*02/02/23 12:35*	*02/04/23 00:55*	*1*
13C4 PFHpA	*100*		*50 - 200*	*02/02/23 12:35*	*02/04/23 00:55*	*1*
13C8 PFOA	*102*		*50 - 200*	*02/02/23 12:35*	*02/04/23 00:55*	*1*
13C9 PFNA	*103*		*50 - 200*	*02/02/23 12:35*	*02/04/23 00:55*	*1*
13C7 PFUnA	*99*		*50 - 200*	*02/02/23 12:35*	*02/04/23 00:55*	*1*
13C2 PFDoA	*103*		*50 - 200*	*02/02/23 12:35*	*02/04/23 00:55*	*1*
13C4 PFBA	*108*		*50 - 200*	*02/02/23 12:35*	*02/04/23 00:55*	*1*
13C5 PFPeA	*103*		*50 - 200*	*02/02/23 12:35*	*02/04/23 00:55*	*1*
13C3 PFBS	*101*		*50 - 200*	*02/02/23 12:35*	*02/04/23 00:55*	*1*
13C3 PFHxS	*100*		*50 - 200*	*02/02/23 12:35*	*02/04/23 00:55*	*1*

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

Lab Sample ID: MBL 380-31432/1-A
Matrix: Water
Analysis Batch: 31593

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31432

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	100		50 - 200	02/02/23 12:35	02/04/23 00:55	1
13C2-4:2-FTS	108		50 - 200	02/02/23 12:35	02/04/23 00:55	1
13C2-6:2-FTS	112		50 - 200	02/02/23 12:35	02/04/23 00:55	1
13C2-8:2-FTS	110		50 - 200	02/02/23 12:35	02/04/23 00:55	1

Lab Sample ID: LCS 380-31432/3-A
Matrix: Water
Analysis Batch: 31593

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31432

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	114		ng/L		95	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	118		ng/L		98	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	116		ng/L		97	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	115		ng/L		96	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	119		ng/L		99	70 - 130
Perfluorodecanoic acid (PFDA)	120	119		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	120	120		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	118		ng/L		98	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	116		ng/L		97	70 - 130
Perfluorohexanoic acid (PFHxA)	120	118		ng/L		98	70 - 130
Perfluorononanoic acid (PFNA)	120	119		ng/L		99	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	119		ng/L		99	70 - 130
Perfluorooctanoic acid (PFOA)	120	119		ng/L		99	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	118		ng/L		98	70 - 130
Perfluorobutanoic acid (PFBA)	120	122		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	123		ng/L		102	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	117		ng/L		97	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	119		ng/L		99	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	120	120		ng/L		100	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	116		ng/L		96	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	120		ng/L		100	70 - 130
Perfluoropentanoic acid (PFPeA)	120	125		ng/L		104	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	118		ng/L		98	70 - 130

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

Lab Sample ID: LCS 380-31432/3-A
Matrix: Water
Analysis Batch: 31593

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31432

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoropentanesulfonic acid (PFPeS)			120	114		ng/L		95	70 - 130		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*102*		*50 - 200*
13C6 PFDA	*106*		*50 - 200*
13C5 PFHxA	*102*		*50 - 200*
13C4 PFHpA	*104*		*50 - 200*
13C8 PFOA	*105*		*50 - 200*
13C9 PFNA	*107*		*50 - 200*
13C7 PFUnA	*109*		*50 - 200*
13C2 PFDoA	*104*		*50 - 200*
13C4 PFBA	*104*		*50 - 200*
13C5 PFPeA	*101*		*50 - 200*
13C3 PFBS	*97*		*50 - 200*
13C3 PFHxS	*101*		*50 - 200*
13C8 PFOS	*103*		*50 - 200*
13C2-4:2-FTS	*104*		*50 - 200*
13C2-6:2-FTS	*111*		*50 - 200*
13C2-8:2-FTS	*104*		*50 - 200*

Lab Sample ID: LCSD 380-31432/4-A
Matrix: Water
Analysis Batch: 31593

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31432

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	110		ng/L		92	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			120	111		ng/L		92	70 - 130	6	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			120	115		ng/L		96	70 - 130	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			120	117		ng/L		97	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)			120	123		ng/L		102	70 - 130	3	30
Perfluorodecanoic acid (PFDA)			120	120		ng/L		100	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)			120	119		ng/L		99	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)			120	118		ng/L		98	70 - 130	0	30
Perfluorohexanesulfonic acid (PFHxS)			120	115		ng/L		96	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)			120	117		ng/L		98	70 - 130	0	30
Perfluorononanoic acid (PFNA)			120	118		ng/L		98	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)			120	118		ng/L		98	70 - 130	1	30
Perfluorooctanoic acid (PFOA)			120	117		ng/L		98	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)			120	121		ng/L		100	70 - 130	2	30
Perfluorobutanoic acid (PFBA)			120	120		ng/L		100	70 - 130	1	30

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

Lab Sample ID: LCSD 380-31432/4-A
Matrix: Water
Analysis Batch: 31593

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31432

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)			120	122		ng/L		102	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			120	117		ng/L		98	70 - 130	3	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			120	119		ng/L		99	70 - 130	2	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			120	113		ng/L		94	70 - 130	5	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			120	118		ng/L		98	70 - 130	2	30
Perfluoro-3-methoxypropanoic acid (PFMPA)			120	112		ng/L		93	70 - 130	3	30
Perfluoro-4-methoxybutanoic acid (PFMBA)			120	125		ng/L		104	70 - 130	5	30
Perfluoropentanoic acid (PFPeA)			120	122		ng/L		102	70 - 130	2	30
Perfluoroheptanesulfonic acid (PFHpS)			120	114		ng/L		95	70 - 130	4	30
Perfluoropentanesulfonic acid (PFPeS)			120	116		ng/L		96	70 - 130	2	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*89*		*50 - 200*
13C6 PFDA	*97*		*50 - 200*
13C5 PFHxA	*91*		*50 - 200*
13C4 PFHpA	*91*		*50 - 200*
13C8 PFOA	*94*		*50 - 200*
13C9 PFNA	*98*		*50 - 200*
13C7 PFUnA	*105*		*50 - 200*
13C2 PFDoA	*101*		*50 - 200*
13C4 PFBA	*92*		*50 - 200*
13C5 PFPeA	*89*		*50 - 200*
13C3 PFBS	*98*		*50 - 200*
13C3 PFHxS	*103*		*50 - 200*
13C8 PFOS	*107*		*50 - 200*
13C2-4:2-FTS	*112*		*50 - 200*
13C2-6:2-FTS	*105*		*50 - 200*
13C2-8:2-FTS	*106*		*50 - 200*

Lab Sample ID: MRL 380-31432/2-A
Matrix: Water
Analysis Batch: 31593

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31432

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.00	2.14		ng/L		107	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			2.00	2.18		ng/L		109	50 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.00	2.27		ng/L		113	50 - 150		

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

Lab Sample ID: MRL 380-31432/2-A
Matrix: Water
Analysis Batch: 31593

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31432

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.33		ng/L		116	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.33		ng/L		116	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.38		ng/L		119	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.24		ng/L		112	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.37		ng/L		118	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.17		ng/L		108	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.47		ng/L		123	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.38		ng/L		119	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.29		ng/L		114	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.42		ng/L		121	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.53		ng/L		126	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.45		ng/L		122	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.29		ng/L		114	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.39		ng/L		119	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.48		ng/L		124	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.27		ng/L		113	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.00	2.22		ng/L		111	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.32		ng/L		116	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	2.40		ng/L		120	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.57		ng/L		128	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.28		ng/L		114	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	2.26		ng/L		113	50 - 150

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*98*		*50 - 200*
13C6 PFDA	*107*		*50 - 200*
13C5 PFHxA	*101*		*50 - 200*
13C4 PFHpA	*105*		*50 - 200*
13C8 PFOA	*104*		*50 - 200*
13C9 PFNA	*105*		*50 - 200*
13C7 PFUnA	*103*		*50 - 200*
13C2 PFDoA	*101*		*50 - 200*
13C4 PFBA	*112*		*50 - 200*
13C5 PFPeA	*110*		*50 - 200*
13C3 PFBS	*102*		*50 - 200*
13C3 PFHxS	*104*		*50 - 200*
13C8 PFOS	*102*		*50 - 200*

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

Lab Sample ID: MRL 380-31432/2-A
Matrix: Water
Analysis Batch: 31593

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31432

Isotope Dilution	MRL %Recovery	MRL Qualifier	Limits
13C2-4:2-FTS	116		50 - 200
13C2-6:2-FTS	108		50 - 200
13C2-8:2-FTS	112		50 - 200

Lab Sample ID: 380-36166-K-4-A LMS
Matrix: Water
Analysis Batch: 31593

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31432

Analyte	Sample Result	Sample Qualifier	Spike Added	LMS Result	LMS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.00	2.00		ng/L		100	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.00	2.14		ng/L		107	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.00	2.03		ng/L		101	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.00	2.45		ng/L		122	50 - 150
Perfluorobutanesulfonic acid (PFBS)	ND		2.00	2.59		ng/L		129	50 - 150
Perfluorodecanoic acid (PFDA)	ND		2.00	2.28		ng/L		114	50 - 150
Perfluorododecanoic acid (PFDoA)	ND		2.00	2.18		ng/L		109	50 - 150
Perfluoroheptanoic acid (PFHpA)	ND		2.00	2.39		ng/L		119	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	ND		2.00	2.38		ng/L		119	50 - 150
Perfluorohexanoic acid (PFHxA)	ND		2.00	2.46		ng/L		123	50 - 150
Perfluorononanoic acid (PFNA)	ND		2.00	2.20		ng/L		110	50 - 150
Perfluorooctanesulfonic acid (PFOS)	ND		2.00	2.22		ng/L		111	50 - 150
Perfluorooctanoic acid (PFOA)	ND		2.00	2.53		ng/L		126	50 - 150
Perfluoroundecanoic acid (PFUnA)	ND		2.00	2.50		ng/L		125	50 - 150
Perfluorobutanoic acid (PFBA)	ND		2.00	2.80		ng/L		140	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.00	2.25		ng/L		112	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.00	2.36		ng/L		118	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.00	2.55		ng/L		127	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.00	2.00		ng/L		100	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.00	2.37		ng/L		118	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.00	2.29		ng/L		114	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.00	2.38		ng/L		119	50 - 150
Perfluoropentanoic acid (PFPeA)	ND		2.00	2.84		ng/L		123	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.00	2.28		ng/L		114	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	ND		2.00	2.15		ng/L		107	50 - 150

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

Isotope Dilution	LMS %Recovery	LMS Qualifier	Limits
13C3 HFPO-DA	81		50 - 200
13C6 PFDA	100		50 - 200
13C5 PFHxA	94		50 - 200
13C4 PFHpA	91		50 - 200
13C8 PFOA	91		50 - 200
13C9 PFNA	99		50 - 200
13C7 PFUnA	107		50 - 200
13C2 PFDoA	101		50 - 200
13C4 PFBA	92		50 - 200
13C5 PFPeA	89		50 - 200
13C3 PFBS	102		50 - 200
13C3 PFHxS	107		50 - 200
13C8 PFOS	108		50 - 200
13C2-4:2-FTS	123		50 - 200
13C2-6:2-FTS	109		50 - 200
13C2-8:2-FTS	114		50 - 200

Lab Sample ID: 380-36166-M-4-A LMSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 31593 — **Prep Batch: 31432**

Analyte	Sample Result	Sample Qualifier	Spike Added	LMSD Result	LMSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.01	1.95	J	ng/L		97	50 - 150	3	50
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.01	2.07		ng/L		103	50 - 150	4	50
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.01	2.04		ng/L		102	50 - 150	0	50
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.01	2.20		ng/L		109	50 - 150	11	50
Perfluorobutanesulfonic acid (PFBS)	ND		2.01	2.29		ng/L		114	50 - 150	12	50
Perfluorodecanoic acid (PFDA)	ND		2.01	2.30		ng/L		114	50 - 150	1	50
Perfluorododecanoic acid (PFDoA)	ND		2.01	2.15		ng/L		107	50 - 150	2	50
Perfluoroheptanoic acid (PFHpA)	ND		2.01	2.44		ng/L		122	50 - 150	2	50
Perfluorohexanesulfonic acid (PFHxS)	ND		2.01	2.50		ng/L		125	50 - 150	5	50
Perfluorohexanoic acid (PFHxA)	ND		2.01	2.53		ng/L		126	50 - 150	3	50
Perfluorononanoic acid (PFNA)	ND		2.01	2.26		ng/L		112	50 - 150	3	50
Perfluorooctanesulfonic acid (PFOS)	ND		2.01	2.26		ng/L		113	50 - 150	2	50
Perfluorooctanoic acid (PFOA)	ND		2.01	2.51		ng/L		125	50 - 150	1	50
Perfluoroundecanoic acid (PFUnA)	ND		2.01	2.46		ng/L		122	50 - 150	2	50
Perfluorobutanoic acid (PFBA)	ND		2.01	2.43		ng/L		121	50 - 150	14	50
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.01	2.48		ng/L		123	50 - 150	10	50
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.01	2.33		ng/L		116	50 - 150	1	50
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.01	2.15		ng/L		107	50 - 150	17	50

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

Lab Sample ID: 380-36166-M-4-A LMSD
Matrix: Water
Analysis Batch: 31593

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31432

Analyte	Sample Result	Sample Qualifier	Spike Added	LMSD Result	LMSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.01	2.11		ng/L		105	50 - 150	5	50
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.01	2.16		ng/L		107	50 - 150	10	50
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.01	2.12		ng/L		105	50 - 150	8	50
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.01	2.27		ng/L		113	50 - 150	5	50
Perfluoropentanoic acid (PFPeA)	ND		2.01	2.75		ng/L		118	50 - 150	3	50
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.01	2.18		ng/L		108	50 - 150	5	50
Perfluoropentanesulfonic acid (PFPeS)	ND		2.01	2.17		ng/L		108	50 - 150	1	50

Isotope Dilution	*LMSD %Recovery*	*LMSD Qualifier*	*Limits*
13C3 HFPO-DA	*71*		*50 - 200*
13C6 PFDA	*89*		*50 - 200*
13C5 PFHxA	*75*		*50 - 200*
13C4 PFHpA	*73*		*50 - 200*
13C8 PFOA	*79*		*50 - 200*
13C9 PFNA	*87*		*50 - 200*
13C7 PFUnA	*96*		*50 - 200*
13C2 PFDoA	*93*		*50 - 200*
13C4 PFBA	*82*		*50 - 200*
13C5 PFPeA	*75*		*50 - 200*
13C3 PFBS	*104*		*50 - 200*
13C3 PFHxS	*102*		*50 - 200*
13C8 PFOS	*106*		*50 - 200*
13C2-4:2-FTS	*110*		*50 - 200*
13C2-6:2-FTS	*108*		*50 - 200*
13C2-8:2-FTS	*109*		*50 - 200*

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

Lab Sample ID: MBL 380-30935/21-A
Matrix: Water
Analysis Batch: 31120

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30935

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 08:47	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 08:47	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 08:47	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 08:47	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 08:47	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 08:47	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 08:47	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 08:47	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 08:47	1

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

Lab Sample ID: MBL 380-30935/21-A
Matrix: Water
Analysis Batch: 31120

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30935

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 08:47	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 08:47	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 08:47	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 08:47	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 08:47	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 08:47	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 08:47	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 08:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0		ng/L		01/30/23 06:32	02/01/23 08:47	1

Surrogate	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*88*		*70 - 130*	*01/30/23 06:32*	*02/01/23 08:47*	*1*
13C2 PFHxA	*102*		*70 - 130*	*01/30/23 06:32*	*02/01/23 08:47*	*1*
13C2 PFDA	*99*		*70 - 130*	*01/30/23 06:32*	*02/01/23 08:47*	*1*
13C3-GenX	*98*		*70 - 130*	*01/30/23 06:32*	*02/01/23 08:47*	*1*

Lab Sample ID: LCS 380-30935/23-A
Matrix: Water
Analysis Batch: 31120

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30935

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	25.1	24.1		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	23.2	23.2		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	25.1	25.0		ng/L		100	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.1	24.6		ng/L		98	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.1	25.5		ng/L		102	70 - 130
Perfluorohexanoic acid (PFHxA)	25.1	28.4		ng/L		113	70 - 130
Perfluorododecanoic acid (PFDoA)	25.1	24.0		ng/L		96	70 - 130
Perfluorooctanoic acid (PFOA)	25.1	25.8		ng/L		103	70 - 130
Perfluorodecanoic acid (PFDA)	25.1	24.7		ng/L		99	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	22.9	24.4		ng/L		107	70 - 130
Perfluorobutanesulfonic acid (PFBS)	22.2	22.9		ng/L		104	70 - 130
Perfluoroheptanoic acid (PFHpA)	25.1	27.8		ng/L		111	70 - 130
Perfluorononanoic acid (PFNA)	25.1	26.1		ng/L		104	70 - 130
Perfluorotetradecanoic acid (PFTA)	25.1	23.6		ng/L		94	70 - 130
Perfluorotridecanoic acid (PFTrDA)	25.1	24.3		ng/L		97	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	23.4	23.6		ng/L		101	70 - 130

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

Lab Sample ID: LCS 380-30935/23-A
Matrix: Water
Analysis Batch: 31120

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30935

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			23.7	21.9		ng/L		93	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			23.7	25.1		ng/L		106	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
d5-NEtFOSAA	*104*		*70 - 130*
13C2 PFHxA	*121*		*70 - 130*
13C2 PFDA	*107*		*70 - 130*
13C3-GenX	*120*		*70 - 130*

Lab Sample ID: LCSD 380-30935/24-A
Matrix: Water
Analysis Batch: 31120

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30935

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			25.1	25.3		ng/L		101	70 - 130	5	30
Perfluorooctanesulfonic acid (PFOS)			23.2	23.6		ng/L		102	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)			25.1	25.7		ng/L		102	70 - 130	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			25.1	25.6		ng/L		102	70 - 130	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			25.1	27.2		ng/L		109	70 - 130	6	30
Perfluorohexanoic acid (PFHxA)			25.1	27.5		ng/L		110	70 - 130	3	30
Perfluorododecanoic acid (PFDoA)			25.1	24.1		ng/L		96	70 - 130	0	30
Perfluorooctanoic acid (PFOA)			25.1	26.2		ng/L		104	70 - 130	1	30
Perfluorodecanoic acid (PFDA)			25.1	25.0		ng/L		100	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)			22.9	25.1		ng/L		110	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)			22.2	23.5		ng/L		106	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)			25.1	27.8		ng/L		111	70 - 130	0	30
Perfluorononanoic acid (PFNA)			25.1	26.0		ng/L		104	70 - 130	0	30
Perfluorotetradecanoic acid (PFTA)			25.1	23.9		ng/L		96	70 - 130	2	30
Perfluorotridecanoic acid (PFTrDA)			25.1	24.5		ng/L		98	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			23.4	23.3		ng/L		100	70 - 130	1	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			23.7	21.9		ng/L		93	70 - 130	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			23.7	25.0		ng/L		106	70 - 130	0	30

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

Lab Sample ID: LCSD 380-30935/24-A
Matrix: Water
Analysis Batch: 31120

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30935

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
d5-NEtFOSAA	106		70 - 130
13C2 PFHxA	110		70 - 130
13C2 PFDA	101		70 - 130
13C3-GenX	110		70 - 130

Lab Sample ID: MRL 380-30935/22-A
Matrix: Water
Analysis Batch: 31120

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30935

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.16		ng/L		108	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.85	2.00		ng/L		108	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.11		ng/L		106	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.10		ng/L		105	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.12		ng/L		106	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.29		ng/L		114	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.07		ng/L		104	50 150
Perfluorooctanoic acid (PFOA)	2.00	2.38		ng/L		119	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.10		ng/L		105	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.83	1.97	J	ng/L		108	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.77	1.86	J	ng/L		105	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.21		ng/L		111	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.17		ng/L		109	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	1.94	J	ng/L		97	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	1.98	J	ng/L		99	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.87	1.79	J	ng/L		96	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.89	1.75	J	ng/L		93	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	2.07		ng/L		109	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	103		70 - 130
13C2 PFHxA	114		70 - 130
13C2 PFDA	103		70 - 130
13C3-GenX	109		70 - 130

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

Lab Sample ID: 380-35413-AA-1-A LMS
Matrix: Water
Analysis Batch: 31120

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30935

Analyte	Sample Result	Sample Qualifier	Spike Added	LMS Result	LMS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.00	2.08		ng/L		104	50 - 150
Perfluorooctanesulfonic acid (PFOS)	ND		1.86	2.30		ng/L		124	50 - 150
Perfluoroundecanoic acid (PFUnA)	ND		2.00	2.21		ng/L		110	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.00	2.24		ng/L		112	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	F1	2.00	2.42		ng/L		121	50 - 150
Perfluorohexanoic acid (PFHxA)	ND		2.00	2.58		ng/L		129	50 - 150
Perfluorododecanoic acid (PFDoA)	ND		2.00	2.10		ng/L		105	50 - 150
Perfluorooctanoic acid (PFOA)	ND		2.00	2.36		ng/L		118	50 - 150
Perfluorodecanoic acid (PFDA)	ND		2.00	2.12		ng/L		106	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	ND		1.83	2.29		ng/L		125	50 - 150
Perfluorobutanesulfonic acid (PFBS)	ND		1.77	2.11		ng/L		119	50 - 150
Perfluoroheptanoic acid (PFHpA)	ND		2.00	2.24		ng/L		112	50 - 150
Perfluorononanoic acid (PFNA)	ND		2.00	2.21		ng/L		110	50 - 150
Perfluorotetradecanoic acid (PFTA)	ND		2.00	2.05		ng/L		103	50 - 150
Perfluorotridecanoic acid (PFTrDA)	ND		2.00	2.10		ng/L		105	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		1.87	2.02		ng/L		108	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.89	1.98	J	ng/L		104	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.89	2.02		ng/L		107	50 - 150

Surrogate	*LMS %Recovery*	*LMS Qualifier*	*Limits*
d5-NEtFOSAA	*104*		*70 - 130*
13C2 PFHxA	*107*		*70 - 130*
13C2 PFDA	*97*		*70 - 130*
13C3-GenX	*105*		*70 - 130*

Lab Sample ID: 380-35413-AB-1-A LMSD
Matrix: Water
Analysis Batch: 31120

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30935

Analyte	Sample Result	Sample Qualifier	Spike Added	LMSD Result	LMSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.00	2.26		ng/L		113	50 - 150	8	50
Perfluorooctanesulfonic acid (PFOS)	ND		1.86	2.23		ng/L		120	50 - 150	3	50
Perfluoroundecanoic acid (PFUnA)	ND		2.00	2.30		ng/L		115	50 - 150	4	50
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.00	2.97		ng/L		148	50 - 150	28	50

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

Lab Sample ID: 380-35413-AB-1-A LMSD
Matrix: Water
Analysis Batch: 31120

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30935

Analyte	Sample Result	Sample Qualifier	Spike Added	LMSD Result	LMSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	F1	2.00	3.05	F1	ng/L		152	50 - 150	23	50
Perfluorohexanoic acid (PFHxA)	ND		2.00	2.59		ng/L		129	50 - 150	0	50
Perfluorododecanoic acid (PFDoA)	ND		2.00	2.23		ng/L		111	50 - 150	6	50
Perfluorooctanoic acid (PFOA)	ND		2.00	2.50		ng/L		125	50 - 150	6	50
Perfluorodecanoic acid (PFDA)	ND		2.00	2.33		ng/L		116	50 - 150	9	50
Perfluorohexanesulfonic acid (PFHxS)	ND		1.83	2.22		ng/L		121	50 - 150	3	50
Perfluorobutanesulfonic acid (PFBS)	ND		1.77	2.25		ng/L		127	50 - 150	6	50
Perfluoroheptanoic acid (PFHpA)	ND		2.00	2.53		ng/L		126	50 - 150	12	50
Perfluorononanoic acid (PFNA)	ND		2.00	2.29		ng/L		114	50 - 150	4	50
Perfluorotetradecanoic acid (PFTA)	ND		2.00	2.17		ng/L		108	50 - 150	5	50
Perfluorotridecanoic acid (PFTrDA)	ND		2.00	2.21		ng/L		110	50 - 150	5	50
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		1.87	1.99	J	ng/L		106	50 - 150	2	50
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.89	1.95	J	ng/L		103	50 - 150	1	50
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.89	2.11		ng/L		111	50 - 150	4	50

Surrogate	*LMSD %Recovery*	*LMSD Qualifier*	*Limits*
d5-NEtFOSAA	*107*		*70 - 130*
13C2 PFHxA	*114*		*70 - 130*
13C2 PFDA	*102*		*70 - 130*
13C3-GenX	*114*		*70 - 130*

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

Lab Sample ID: 103872-B1
Matrix: BlankMatrix
Analysis Batch: O-40118

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-40118_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Acenaphthene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Acenaphthylene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Anthracene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1

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

Lab Sample ID: 103872-B1
Matrix: BlankMatrix
Analysis Batch: O-40118

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-40118_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Biphenyl	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Chrysene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Dibenzothiophene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		01/27/23 00:00	02/18/23 18:12	1
Fluoranthene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Fluorene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Naphthalene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Perylene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Phenanthrene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Pyrene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*105*		*27 - 133*	*01/27/23 00:00*	*02/18/23 18:12*	*1*
(d10-Phenanthrene)	*102*		*43 - 129*	*01/27/23 00:00*	*02/18/23 18:12*	*1*
(d12-Chrysene)	*106*		*52 - 144*	*01/27/23 00:00*	*02/18/23 18:12*	*1*
(d12-Perylene)	*105*		*36 - 161*	*01/27/23 00:00*	*02/18/23 18:12*	*1*
(d8-Naphthalene)	*99*		*25 - 125*	*01/27/23 00:00*	*02/18/23 18:12*	*1*

Lab Sample ID: 103872-BS1
Matrix: BlankMatrix
Analysis Batch: O-40118

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-40118_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.5	0.487		µg/L		97	31 - 128
1-Methylphenanthrene	0.5	0.555		µg/L		111	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.48		µg/L		96	55 - 122
2,6-Dimethylnaphthalene	0.5	0.529		µg/L		106	48 - 120
2-Methylnaphthalene	0.5	0.484		µg/L		97	47 - 130
Acenaphthene	0.5	0.483		µg/L		97	53 - 131
Acenaphthylene	0.5	0.492		µg/L		98	43 - 140
Anthracene	0.5	0.504		µg/L		101	58 - 135
Benz[a]anthracene	0.5	0.541		µg/L		108	55 - 145
Benzo[a]pyrene	0.5	0.538		µg/L		108	51 - 143
Benzo[b]fluoranthene	0.5	0.58		µg/L		116	46 - 165
Benzo[e]pyrene	0.5	0.565		µg/L		113	42 - 152
Benzo[g,h,i]perylene	1	0.933		µg/L		93	63 - 133
Benzo[k]fluoranthene	0.5	0.578		µg/L		116	56 - 145
Biphenyl	0.5	0.504		µg/L		101	56 - 119
Chrysene	0.5	0.529		µg/L		106	56 - 141
Dibenz[a,h]anthracene	1	0.941		µg/L		94	55 - 150
Dibenzo[a,l]pyrene	0.5	0.732		µg/L		146	50 - 150
Dibenzothiophene	0.5	0.491		µg/L		98	46 - 126
Disalicylidenepropanediamine	50	47.7		µg/L		95	50 - 150

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

Lab Sample ID: 103872-BS1
Matrix: BlankMatrix
Analysis Batch: O-40118

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-40118_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Fluoranthene			0.5	0.545		µg/L		109	60 - 146		
Fluorene			0.5	0.478		µg/L		96	58 - 131		
Indeno[1,2,3-cd]pyrene			1	0.88		µg/L		88	50 - 151		
Naphthalene			0.5	0.466		µg/L		93	41 - 126		
Perylene			0.5	0.5		µg/L		100	48 - 141		
Phenanthrene			0.5	0.497		µg/L		99	67 - 127		
Pyrene			0.5	0.542		µg/L		108	54 - 156		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
(d10-Acenaphthene)	*101*		*27 - 133*
(d10-Phenanthrene)	*100*		*43 - 129*
(d12-Chrysene)	*106*		*52 - 144*
(d12-Perylene)	*108*		*36 - 161*
(d8-Naphthalene)	*96*		*25 - 125*

Lab Sample ID: 103872-BS2
Matrix: BlankMatrix
Analysis Batch: O-40118

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-40118_P

Analyte			Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene			0.5	0.486		µg/L		97	31 - 128	0	30
1-Methylphenanthrene			0.5	0.54		µg/L		108	66 - 127	3	30
2,3,5-Trimethylnaphthalene			0.5	0.472		µg/L		94	55 - 122	2	30
2,6-Dimethylnaphthalene			0.5	0.527		µg/L		105	48 - 120	1	30
2-Methylnaphthalene			0.5	0.494		µg/L		99	47 - 130	2	30
Acenaphthene			0.5	0.487		µg/L		97	53 - 131	0	30
Acenaphthylene			0.5	0.476		µg/L		95	43 - 140	3	30
Anthracene			0.5	0.501		µg/L		100	58 - 135	1	30
Benz[a]anthracene			0.5	0.545		µg/L		109	55 - 145	1	30
Benzo[a]pyrene			0.5	0.539		µg/L		108	51 - 143	0	30
Benzo[b]fluoranthene			0.5	0.563		µg/L		113	46 - 165	3	30
Benzo[e]pyrene			0.5	0.565		µg/L		113	42 - 152	0	30
Benzo[g,h,i]perylene			1	0.928		µg/L		93	63 - 133	0	30
Benzo[k]fluoranthene			0.5	0.531		µg/L		106	56 - 145	9	30
Biphenyl			0.5	0.497		µg/L		99	56 - 119	2	30
Chrysene			0.5	0.508		µg/L		102	56 - 141	4	30
Dibenz[a,h]anthracene			1	0.873		µg/L		87	55 - 150	8	30
Dibenzo[a,l]pyrene			0.5	0.749		µg/L		150	50 - 150	3	30
Dibenzothiophene			0.5	0.484		µg/L		97	46 - 126	1	30
Disalicylidenepropanediamine			50	50		µg/L		100	50 - 150	5	30
Fluoranthene			0.5	0.533		µg/L		107	60 - 146	2	30
Fluorene			0.5	0.481		µg/L		96	58 - 131	0	30
Indeno[1,2,3-cd]pyrene			1	0.895		µg/L		89	50 - 151	2	30
Naphthalene			0.5	0.459		µg/L		92	41 - 126	1	30
Perylene			0.5	0.555		µg/L		111	48 - 141	10	30
Phenanthrene			0.5	0.482		µg/L		96	67 - 127	3	30
Pyrene			0.5	0.543		µg/L		109	54 - 156	1	30

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

Lab Sample ID: 103872-BS2
Matrix: BlankMatrix
Analysis Batch: O-40118

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-40118_P

Surrogate	*LCS DUP %Recovery*	*LCS DUP Qualifier*	*Limits*
(d10-Acenaphthene)	*99*		*27 - 133*
(d10-Phenanthrene)	*101*		*43 - 129*
(d12-Chrysene)	*107*		*52 - 144*
(d12-Perylene)	*107*		*36 - 161*
(d8-Naphthalene)	*95*		*25 - 125*

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

Lab Sample ID: 23VG39A14B
Matrix: WATER
Analysis Batch: 23VG39A14

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			01/27/23 12:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE					*01/27/23 12:58*	*1*

Lab Sample ID: 23VG39A14L
Matrix: WATER
Analysis Batch: 23VG39A14

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
GASOLINE			0.500	0.474		mg/L		95	60 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
BROMOFLUOROBENZENE	*101*		*70 - 130*

Lab Sample ID: 23A351-01M
Matrix: WATER
Analysis Batch: 23VG39A14

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
GASOLINE	ND		0.500	0.462		mg/L		92	50 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
BROMOFLUOROBENZENE	*107*		*60 - 140*

Lab Sample ID: 23A351-01S
Matrix: WATER
Analysis Batch: 23VG39A14

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
GASOLINE	ND		0.500	0.480		mg/L		96	50 - 130	4	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
BROMOFLUOROBENZENE	*110*		*60 - 140*

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

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

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.025		mg/L			02/02/23 13:41	1
JP5	ND	U	0.050		mg/L			02/02/23 13:41	1
JP8	ND	U	0.050		mg/L			02/02/23 13:41	1
MOTOR OIL	ND	U	0.050		mg/L			02/02/23 13:41	1

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

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

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

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

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

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

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

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

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

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

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

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

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

GC/MS Semi VOA

Prep Batch: 30834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-35588-1	MOANALUA WELLS	Total/NA	Drinking Water	525.2	
MB 380-30834/1-A	Method Blank	Total/NA	Water	525.2	
LCS 380-30834/3-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-30834/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-30834/2-A	Lab Control Sample	Total/NA	Water	525.2	
380-35358-B-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-35358-B-2-A DU	Duplicate	Total/NA	Water	525.2	

Analysis Batch: 30941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-35588-1	MOANALUA WELLS	Total/NA	Drinking Water	525.2	30834
MB 380-30834/1-A	Method Blank	Total/NA	Water	525.2	30834
LCS 380-30834/3-A	Lab Control Sample	Total/NA	Water	525.2	30834
LCSD 380-30834/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	30834
MRL 380-30834/2-A	Lab Control Sample	Total/NA	Water	525.2	30834
380-35358-B-1-A MS	Matrix Spike	Total/NA	Water	525.2	30834
380-35358-B-2-A DU	Duplicate	Total/NA	Water	525.2	30834

LCMS

Prep Batch: 30935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-35588-1	MOANALUA WELLS	Total/NA	Drinking Water	537.1 DW	
380-35588-3	FB: MOANALUA WELLS	Total/NA	Drinking Water	537.1 DW	
MBL 380-30935/21-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-30935/23-A	Lab Control Sample	Total/NA	Water	537.1 DW	
LCSD 380-30935/24-A	Lab Control Sample Dup	Total/NA	Water	537.1 DW	
MRL 380-30935/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-35413-AA-1-A LMS	Matrix Spike	Total/NA	Water	537.1 DW	
380-35413-AB-1-A LMSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 31120

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-35588-1	MOANALUA WELLS	Total/NA	Drinking Water	537.1	30935
380-35588-3	FB: MOANALUA WELLS	Total/NA	Drinking Water	537.1	30935
MBL 380-30935/21-A	Method Blank	Total/NA	Water	537.1	30935
LCS 380-30935/23-A	Lab Control Sample	Total/NA	Water	537.1	30935
LCSD 380-30935/24-A	Lab Control Sample Dup	Total/NA	Water	537.1	30935
MRL 380-30935/22-A	Lab Control Sample	Total/NA	Water	537.1	30935
380-35413-AA-1-A LMS	Matrix Spike	Total/NA	Water	537.1	30935
380-35413-AB-1-A LMSD	Matrix Spike Duplicate	Total/NA	Water	537.1	30935

Prep Batch: 31432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-35588-1	MOANALUA WELLS	Total/NA	Drinking Water	533	
380-35588-3	FB: MOANALUA WELLS	Total/NA	Drinking Water	533	
MBL 380-31432/1-A	Method Blank	Total/NA	Water	533	
LCS 380-31432/3-A	Lab Control Sample	Total/NA	Water	533	
LCSD 380-31432/4-A	Lab Control Sample Dup	Total/NA	Water	533	
MRL 380-31432/2-A	Lab Control Sample	Total/NA	Water	533	
380-36166-K-4-A LMS	Matrix Spike	Total/NA	Water	533	

LCMS (Continued)

Prep Batch: 31432 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-36166-M-4-A LMSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 31593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-35588-1	MOANALUA WELLS	Total/NA	Drinking Water	533	31432
380-35588-3	FB: MOANALUA WELLS	Total/NA	Drinking Water	533	31432
MBL 380-31432/1-A	Method Blank	Total/NA	Water	533	31432
LCS 380-31432/3-A	Lab Control Sample	Total/NA	Water	533	31432
LCSD 380-31432/4-A	Lab Control Sample Dup	Total/NA	Water	533	31432
MRL 380-31432/2-A	Lab Control Sample	Total/NA	Water	533	31432
380-36166-K-4-A LMS	Matrix Spike	Total/NA	Water	533	31432
380-36166-M-4-A LMSD	Matrix Spike Duplicate	Total/NA	Water	533	31432

Subcontract

Analysis Batch: O-40118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-35588-1	MOANALUA WELLS	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-40118_P
103872-B1	Method Blank	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40118_P
103872-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40118_P
103872-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40118_P

Analysis Batch: 23DSB002W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-35588-1	MOANALUA WELLS	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/JP8	
23DSB002WB	Method Blank	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	
23DSB002WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	
23J5B002WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	
23J8B002WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/JP8	

Analysis Batch: 23VG39A14

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-35588-1	MOANALUA WELLS	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-35588-2	TB MOANALUA WELLS	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
23VG39A14B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Subcontract (Continued)

Analysis Batch: 23VG39A14 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
23VG39A14L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23A351-01M	Matrix Spike	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23A351-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Prep Batch: O-40118_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-35588-1	MOANALUA WELLS	Total/NA	Drinking Water	EPA_625	
103872-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
103872-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
103872-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	

Lab Chronicle

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

Job ID: 380-35588-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-35588-1

Date Collected: 01/24/23 10:00

Matrix: Drinking Water

Date Received: 01/26/23 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			30834	OTM3	EA MON	01/27/23 06:48
Total/NA	Analysis	525.2		1	30941	UPAC	EA MON	01/30/23 17:00
Total/NA	Prep	533			31432	P8ZX	EA MON	02/02/23 12:35
Total/NA	Analysis	533		1	31593	UKYM	EA MON	02/04/23 03:41
Total/NA	Prep	537.1 DW			30935	US1B	EA MON	01/30/23 06:32
Total/NA	Analysis	537.1		1	31120	UKYM	EA MON	02/01/23 11:12
Total/NA	Prep	EPA_625		1	O-40118_P			01/27/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-40118	YC		02/18/23 23:26
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39A14	SCerva		01/27/23 16:35
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSB002W	SDees		02/02/23 17:07

Client Sample ID: TB MOANALUA WELLS

Lab Sample ID: 380-35588-2

Date Collected: 01/24/23 10:00

Matrix: Drinking Water

Date Received: 01/26/23 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39A14	SCerva		01/27/23 18:23

Client Sample ID: FB: MOANALUA WELLS

Lab Sample ID: 380-35588-3

Date Collected: 01/24/23 10:00

Matrix: Drinking Water

Date Received: 01/26/23 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			31432	P8ZX	EA MON	02/02/23 12:35
Total/NA	Analysis	533		1	31593	UKYM	EA MON	02/04/23 03:51
Total/NA	Prep	537.1 DW			30935	US1B	EA MON	01/30/23 06:32
Total/NA	Analysis	537.1		1	31120	UKYM	EA MON	02/01/23 11:33

Laboratory References:

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

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

Accreditation/Certification Summary

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

Job ID: 380-35588-1

Laboratory: Eurofins Eaton Analytical Pomona

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	02-29-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	Drinking Water	2,4'-DDD
525.2	525.2	Drinking Water	2,4'-DDE
525.2	525.2	Drinking Water	2,4'-DDT
525.2	525.2	Drinking Water	2,4-Dinitrotoluene
525.2	525.2	Drinking Water	2,6-Dinitrotoluene
525.2	525.2	Drinking Water	4,4'-DDD
525.2	525.2	Drinking Water	4,4'-DDE
525.2	525.2	Drinking Water	4,4'-DDT
525.2	525.2	Drinking Water	Acenaphthene
525.2	525.2	Drinking Water	Acenaphthylene
525.2	525.2	Drinking Water	Acetochlor
525.2	525.2	Drinking Water	alpha-BHC
525.2	525.2	Drinking Water	alpha-Chlordane
525.2	525.2	Drinking Water	Anthracene
525.2	525.2	Drinking Water	Benz(a)anthracene
525.2	525.2	Drinking Water	Benzo[b]fluoranthene
525.2	525.2	Drinking Water	Benzo[g,h,i]perylene
525.2	525.2	Drinking Water	Benzo[k]fluoranthene
525.2	525.2	Drinking Water	beta-BHC
525.2	525.2	Drinking Water	Bromacil
525.2	525.2	Drinking Water	Butylbenzylphthalate
525.2	525.2	Drinking Water	Caffeine
525.2	525.2	Drinking Water	Chlorobenzilate
525.2	525.2	Drinking Water	Chloroneb
525.2	525.2	Drinking Water	Chlorothalonil (Draconil, Bravo)
525.2	525.2	Drinking Water	Chlorpyrifos
525.2	525.2	Drinking Water	Chrysene
525.2	525.2	Drinking Water	delta-BHC
525.2	525.2	Drinking Water	Diazinon (Qualitative)
525.2	525.2	Drinking Water	Dibenz(a,h)anthracene
525.2	525.2	Drinking Water	Diclorvos (DDVP)
525.2	525.2	Drinking Water	Diethylphthalate
525.2	525.2	Drinking Water	Dimethoate
525.2	525.2	Drinking Water	Dimethylphthalate
525.2	525.2	Drinking Water	Di-n-butyl phthalate
525.2	525.2	Drinking Water	Di-n-octyl phthalate
525.2	525.2	Drinking Water	Endosulfan I (Alpha)
525.2	525.2	Drinking Water	Endosulfan II (Beta)
525.2	525.2	Drinking Water	Endosulfan sulfate
525.2	525.2	Drinking Water	Endrin aldehyde
525.2	525.2	Drinking Water	EPTC
525.2	525.2	Drinking Water	Fluoranthene
525.2	525.2	Drinking Water	Fluorene
525.2	525.2	Drinking Water	gamma-Chlordane
525.2	525.2	Drinking Water	Indeno[1,2,3-cd]pyrene

Laboratory: Eurofins Eaton Analytical Pomona (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	Drinking Water	Isophorone
525.2	525.2	Drinking Water	Malathion
525.2	525.2	Drinking Water	Molinate
525.2	525.2	Drinking Water	Naphthalene
525.2	525.2	Drinking Water	Parathion
525.2	525.2	Drinking Water	Pendimethalin (Penoxaline)
525.2	525.2	Drinking Water	Phenanthrene
525.2	525.2	Drinking Water	Pyrene
525.2	525.2	Drinking Water	Terbacil
525.2	525.2	Drinking Water	Terbuthylazine
525.2	525.2	Drinking Water	Thiobencarb
525.2	525.2	Drinking Water	Total Permethrin (mixed isomers)
525.2	525.2	Drinking Water	trans-Nonachlor
525.2	525.2	Drinking Water	Trifluralin
533	533	Drinking Water	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)
533	533	Drinking Water	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)
533	533	Drinking Water	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)
533	533	Drinking Water	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)
533	533	Drinking Water	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
533	533	Drinking Water	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)
533	533	Drinking Water	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)
533	533	Drinking Water	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)
533	533	Drinking Water	Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)
533	533	Drinking Water	Perfluoro-3-methoxypropanoic acid (PFMPA)
533	533	Drinking Water	Perfluoro-4-methoxybutanoic acid (PFMBA)
533	533	Drinking Water	Perfluorobutanoic acid (PFBA)
533	533	Drinking Water	Perfluoroheptanesulfonic acid (PFHpS)
533	533	Drinking Water	Perfluoropentanesulfonic acid (PFPeS)
533	533	Drinking Water	Perfluoropentanoic acid (PFPeA)
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)

Method Summary

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

Job ID: 380-35588-1

Method	Method Description	Protocol	Laboratory
525.2	Semivolatile Organic Compounds (GC/MS)	EPA	EA MON
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA MON
537.1	Perfluorinated Alkyl Acids (LC/MS)	EPA	EA MON
625	EPA 625 Base/Neutral and Acid Organics i	EPA	
8015	8015 - TPH DRO/ORO	EPA	
8015B	SW846 8015B Gasoline Range Organics	SW846	
525.2	Extraction of Semivolatile Compounds	EPA	EA MON
533	Extraction of Perfluorinated and Polyfluorinated Alkyl Acids	EPA	EA MON
537.1 DW	Extraction of Perfluorinated Alkyl Acids	EPA	EA MON

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

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

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

Sample Summary

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

Job ID: 380-35588-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-35588-1	MOANALUA WELLS	Drinking Water	01/24/23 10:00	01/26/23 09:50	HI0000331
380-35588-2	TB MOANALUA WELLS	Drinking Water	01/24/23 10:00	01/26/23 09:50	
380-35588-3	FB: MOANALUA WELLS	Drinking Water	01/24/23 10:00	01/26/23 09:50	

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

Date: 03-03-2023
EMAX Batch No.: 23A351

Attn: Jackie Contreras

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

Subject: Laboratory Report
Project: 380-35588

Enclosed is the Laboratory report for samples received on 01/27/23.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-35588-1	A351-01	01/24/23	WATER	TPH GASOLINE TPH
380-35588-2	A351-02	01/24/23	WATER	TPH GASOLINE
380-35588-1MS	A351-01M	01/24/23	WATER	TPH GASOLINE
380-35588-1MSD	A351-01S	01/24/23	WATER	TPH GASOLINE

The results are summarized on the following pages.

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

Sincerely yours,

Caspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

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

NELAP Accredited Certificate Number CA002912022-22
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

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

Chain of Custody Record

22A351

eurofins | Environment Testing

3/23/2023

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-36989.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: EMAX Laboratories Inc		Accreditations Required (See note): State - Hawaii		Job #: 380-35588-1
Address: 3051 Fujita Street, ,	Due Date Requested: 2/9/2023			
City: Torrance	TAT Requested (days):			
State, Zip: CA, 90505				
Phone:	PO #:			
Email:	WO #:			
Project Name: RED-HILL	Project #: 38001111			
Site: Honolulu BWS Sites	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

	Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (8015 Gas (Purgeable) LL (EAL))/ 8015 Gas (Purgeable) LL (EAL)	SUB (8015 LL DRO/MRO/JP5/JP8)/ 8015 LL DRO/MRO/JP5/JP8	Total Number of containers	Special Instructions/Note:
				Preservation Code:							
1	MOANALUA WELLS (380-35588-1)	1/24/23	10:00 Hawaiian		Water			X	X	6	See Attached Instructions
2	TB MOANALUA WELLS (380-35588-2)	1/24/23	10:00 Hawaiian		Water			X		2	See Attached Instructions

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

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

Empty Kit Relinquished by:		Date:	Time:		Method of Shipment:	
Relinquished by:	Date/Time: 1/27/23 11:37	Company EMAX	Received by:	Date/Time: 1/27/23 11:37	Company EMAX	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks:	Temp- 4.0/3.8

EMAX LABORATORIES, INC.

REFERENCE: EMAX-SM02 Rev. 12

SAMPLE RECEIPT FORM 1

Type of Delivery	Airbill / Tracking Number	ECN 23A351
☐ Fedex ☐ UPS ☐ GSO ☐ Others		Recipient Cecilia Chavez
☐ EMAX Courier ☑ Client Delivery		Date 01/27/23 Time 11:37

COC INSPECTION

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

Note: _____

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other		
Condition correction factor: -0.2	☐ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☑ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	☑ Cooler 1 4.0/3.8 °C	☐ Cooler 2_____ °C	☐ Cooler 3_____ °C	☐ Cooler 4_____ °C	☐ Cooler 5_____ °C
	☐ Cooler 6_____ °C	☐ Cooler 7_____ °C	☐ Cooler 8_____ °C	☐ Cooler 9_____ °C	☐ Cooler 10_____ °C
Thermometer:	*A - S/N* 221052768	*B - S/N* 210760237	*C - S/N* _____	*D - S/N* _____	

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

Note: _____

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
1	5,6	D2	IPS/IPB not indicated on label	R8
2	7,8	D7	two dates - 1/10/23 and 1/24/23	

1/27/23

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time. NB 2/2/23

NOTES/OBSERVATIONS:

SAMPLE MATRIX IS DRINKING WATER? ☐ YES ☐ NO

☐ Continue to next page.

LEGEND:

Code	Description- Sample Management
D1	Analysis is not indicated in _____
D2	Analysis mismatch COC vs label
D3	Sample ID mismatch COC vs label
D4	Sample ID is not indicated in _____
D5	Container -[improper] [leaking] [broken]
D6	Date/Time is not indicated in _____
D7	Date/Time mismatch COC vs label
D8	Sample listed in COC is not received
D9	Sample received is not listed in COC
D10	No initial/date on corrections in COC/label
D11	Container count mismatch COC vs received
D12	Container size mismatch COC vs received

Code	Description-Sample Management
D13	Out of Holding Time
D14	Bubble is >6mm
D15	No trip blank in cooler
D16	Preservation not indicated in _____
D17	Preservation mismatch COC vs label
D18	Insufficient chemical preservative
D19	Insufficient Sample
D20	No filtration info for dissolved analysis
D21	No sample for moisture determination
D22	_____
D23	_____
D24	_____

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

REVIEWS:

Sample Labeling (Receiving Staff) Date 01/27/23 — SRF Date 1/27/23 — PM Date 2/2/23

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-35588

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

SDG#: 23A351

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-35588

SDG : 23A351

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

A total of two(2) water samples were received on 01/27/23 to be analyzed for Total Petroleum Hydrocarbons by Purge and Trap in accordance with Method 5030B/8015B and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project..

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. VG39A14B - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. VG39A14L/VG39A14C were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Gasoline was within MS QC limits in A351-01M/A351-01S. Refer to Matrix QC summary form for details.

Surrogate
Surrogate was added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : EUROFINS EATON ANALYTICAL
Project : 380-35588

SDG NO. : 23A351
Instrument ID : GCT039

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	VG39A14B	1	NA	01/27/2312:58	01/27/2312:58	EA27005A	EA27003A	23VG39A14	Method Blank
LCS1W	VG39A14L	1	NA	01/27/2313:34	01/27/2313:34	EA27006A	EA27003A	23VG39A14	Lab Control Sample (LCS)
LCD1W	VG39A14C	1	NA	01/27/2314:10	01/27/2314:10	EA27007A	EA27003A	23VG39A14	LCS Duplicate
380-35588-1	A351-01	1	NA	01/27/2316:35	01/27/2316:35	EA27011A	EA27003A	23VG39A14	Field Sample
380-35588-1MS	A351-01M	1	NA	01/27/2317:11	01/27/2317:11	EA27012A	EA27003A	23VG39A14	Matrix Spike Sample (MS)
380-35588-1MSD	A351-01S	1	NA	01/27/2317:47	01/27/2317:47	EA27013A	EA27003A	23VG39A14	MS Duplicate (MSD)
380-35588-2	A351-02	1	NA	01/27/2318:23	01/27/2318:23	EA27014A	EA27003A	23VG39A14	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	01/24/23 10:00
Project	: 380-35588	Date Received:	01/27/23
Batch No.	: 23A351	Date Extracted:	01/27/23 16:35
Sample ID	: 380-35588-1	Date Analyzed:	01/27/23 16:35
Lab Samp ID:	A351-01	Dilution Factor:	1
Lab File ID:	EA27011A	Matrix:	WATER
Ext Btch ID:	23VG39A14	% Moisture:	NA
Calib. Ref.:	EA27003A	Instrument ID:	39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.020	0.010

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0339	0.0400	85	60-140

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

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

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	01/24/23 10:00
Project	: 380-35588	Date Received:	01/27/23
Batch No.	: 23A351	Date Extracted:	01/27/23 18:23
Sample ID	: 380-35588-2	Date Analyzed:	01/27/23 18:23
Lab Samp ID:	A351-02	Dilution Factor:	1
Lab File ID:	EA27014A	Matrix:	WATER
Ext Btch ID:	23VG39A14	% Moisture:	NA
Calib. Ref.:	EA27003A	Instrument ID:	39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.020	0.010

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0335	0.0400	84	60-140

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

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

QC SUMMARIES

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	01/27/23 12:58
Project	: 380-35588	Date Received:	01/27/23
Batch No.	: 23A351	Date Extracted:	01/27/23 12:58
Sample ID	: MBLK1W	Date Analyzed:	01/27/23 12:58
Lab Samp ID:	VG39A14B	Dilution Factor:	1
Lab File ID:	EA27005A	Matrix:	WATER
Ext Btch ID:	23VG39A14	% Moisture:	NA
Calib. Ref.:	EA27003A	Instrument ID:	39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.020	0.010

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0324	0.0400	81	60-140

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

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

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-35588
BATCH NO. : 23A351
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: VG39A14B	VG39A14L	VG39A14C
LAB FILE ID	: EA27005A	EA27006A	EA27007A
DATE PREPARED	: 01/27/23 12:58	01/27/23 13:34	01/27/23 14:10
DATE ANALYZED	: 01/27/23 12:58	01/27/23 13:34	01/27/23 14:10
PREP BATCH	: 23VG39A14	23VG39A14	23VG39A14
CALIBRATION REF	: EA27003A	EA27003A	EA27003A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Gasoline	ND	0.500	0.474	95	0.500	0.488	98	3	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0405	101	0.0400	0.0407	102	70-130

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

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-35588
BATCH NO. : 23A351
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: 380-35588-1	380-35588-1MS	380-35588-1MSD
LAB SAMPLE ID	: A351-01	A351-01M	A351-01S
LAB FILE ID	: EA27011A	EA27012A	EA27013A
DATE PREPARED	: 01/27/23 16:35	01/27/23 17:11	01/27/23 17:47
DATE ANALYZED	: 01/27/23 16:35	01/27/23 17:11	01/27/23 17:47
PREP BATCH	: 23VG39A14	23VG39A14	23VG39A14
CALIBRATION REF	: EA27003A	EA27003A	EA27003A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Gasoline	ND	0.500	0.462	92	0.500	0.480	96	4	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0427	107	0.0400	0.0440	110	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-35588

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 23A351

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-35588

SDG : 23A351

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 01/27/23 to be analyzed for Total Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time
The sample was analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSB002WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. DSB002WL/DSB002WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-35588

SDG : 23A351

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 01/27/23 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time
The sample was analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSB002WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. J5B002WL/J5B002WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-35588

SDG : 23A351

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 01/27/23 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time
The sample was analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSB002WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. J8B002WL/J8B002WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
Project : 380-35588

SDG NO. : 23A351
Instrument ID : D5

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSB002WB	1	NA	02/02/2313:41	02/01/2313:45	LB01085A	LB01079A	23DSB002W	Method Blank
LCS1W	DSB002WL	1	NA	02/02/2313:59	02/01/2313:45	LB01086A	LB01079A	23DSB002W	Lab Control Sample (LCS)
LCD1W	DSB002WC	1	NA	02/02/2314:17	02/01/2313:45	LB01087A	LB01079A	23DSB002W	LCS Duplicate
380-35588-1	A351-01	1	NA	02/02/2317:07	02/01/2313:45	LB01095A	LB01079A	23DSB002W	Field Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
Project : 380-35588

SDG NO. : 23A351
Instrument ID : D5

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSB002WB	1	NA	02/02/2313:41	02/01/2313:45	LB01085A	LB01080A	23DSB002W	Method Blank
LCS1W	J5B002WL	1	NA	02/02/2314:58	02/01/2313:45	LB01088A	LB01080A	23DSB002W	Lab Control Sample (LCS)
LCD1W	J5B002WC	1	NA	02/02/2315:16	02/01/2313:45	LB01089A	LB01080A	23DSB002W	LCS Duplicate
380-35588-1	A351-01	1	NA	02/02/2317:07	02/01/2313:45	LB01095A	LB01080A	23DSB002W	Field Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
Project : 380-35588

SDG NO. : 23A351
Instrument ID : D5

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSB002WB	1	NA	02/02/2313:41	02/01/2313:45	LB01085A	LB01081A	23DSB002W	Method Blank
LCS1W	J8B002WL	1	NA	02/02/2315:34	02/01/2313:45	LB01090A	LB01081A	23DSB002W	Lab Control Sample (LCS)
LCD1W	J8B002WC	1	NA	02/02/2315:53	02/01/2313:45	LB01091A	LB01081A	23DSB002W	LCS Duplicate
380-35588-1	A351-01	1	NA	02/02/2317:07	02/01/2313:45	LB01095A	LB01081A	23DSB002W	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	01/24/23 10:00
Project	: 380-35588	Date Received:	01/27/23
Batch No.	: 23A351	Date Extracted:	02/01/23 13:45
Sample ID	: 380-35588-1	Date Analyzed:	02/02/23 17:07
Lab Samp ID:	23A351-01	Dilution Factor:	1
Lab File ID:	LB01095A	Matrix:	WATER
Ext Btch ID:	23DSB002W	% Moisture:	NA
Calib. Ref.:	LB01079A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Diesel	ND	0.024	0.012
Motor Oil	ND	0.048	0.024

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.417	0.480	87	60-130
Hexacosane	0.114	0.120	95	60-130

Notes:

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

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 1040ml Final Volume : 5ml
Prepared by : POreto Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	01/24/23 10:00
Project	: 380-35588	Date Received:	01/27/23
Batch No.	: 23A351	Date Extracted:	02/01/23 13:45
Sample ID	: 380-35588-1	Date Analyzed:	02/02/23 17:07
Lab Samp ID:	23A351-01	Dilution Factor:	1
Lab File ID:	LB01095A	Matrix:	WATER
Ext Btch ID:	23DSB002W	% Moisture:	NA
Calib. Ref.:	LB01080A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.048	0.024

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.417	0.480	87	60-130
Hexacosane	0.114	0.120	95	60-130

Notes:
RL : Reporting Limit

Parameter	H-C Range
JP5	C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 1040ml
Final Volume : 5ml
Prepared by : POreto
Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 01/24/23 10:00
Project : 380-35588	Date Received: 01/27/23
Batch No. : 23A351	Date Extracted: 02/01/23 13:45
Sample ID : 380-35588-1	Date Analyzed: 02/02/23 17:07
Lab Samp ID: 23A351-01	Dilution Factor: 1
Lab File ID: LB01095A	Matrix: WATER
Ext Btch ID: 23DSB002W	% Moisture: NA
Calib. Ref.: LB01081A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.048	0.024

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.417	0.480	87	60-130
Hexacosane	0.114	0.120	95	60-130

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

Detection limits are reported relative to sample result significant figures.
Sample Amount : 1040ml Final Volume : 5ml
Prepared by : POreto Analyzed by : SDeeso

QC SUMMARIES

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 02/01/23 13:45
Project : 380-35588	Date Received: 02/01/23
Batch No. : 23A351	Date Extracted: 02/01/23 13:45
Sample ID : MBLK1W	Date Analyzed: 02/02/23 13:41
Lab Samp ID: DSB002WB	Dilution Factor: 1
Lab File ID: LB01085A	Matrix: WATER
Ext Btch ID: 23DSB002W	% Moisture: NA
Calib. Ref.: LB01079A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Diesel	ND	0.025	0.012
Motor Oil	ND	0.050	0.025

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.402	0.500	80	60-130
Hexacosane	0.104	0.125	83	60-130

Notes:

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

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml	Final Volume : 5ml
Prepared by : POreto	Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-35588
BATCH NO. : 23A351
METHOD : 3520C/8015B

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

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.50	2.36	94	2.50	2.50	100	6	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.457	91	0.500	0.443	89	60-130
Hexacosane	0.125	0.113	90	0.125	0.119	95	60-130

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

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	02/01/23 13:45
Project	: 380-35588	Date Received:	02/01/23
Batch No.	: 23A351	Date Extracted:	02/01/23 13:45
Sample ID	: MBLK1W	Date Analyzed:	02/02/23 13:41
Lab Samp ID:	DSB002WB	Dilution Factor:	1
Lab File ID:	LB01085A	Matrix:	WATER
Ext Btch ID:	23DSB002W	% Moisture:	NA
Calib. Ref.:	LB01080A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.050	0.025

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.402	0.500	80	60-130
Hexacosane	0.104	0.125	83	60-130

Notes:
RL : Reporting Limit

Parameter	H-C Range
JP5	C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 1000ml Final Volume : 5ml
Prepared by : POreto Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-35588
BATCH NO. : 23A351
METHOD : 3520C/8015B

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

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP5	ND	2.50	2.16	86	2.50	2.18	87	1	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.465	93	0.500	0.462	92	60-130
Hexacosane	0.125	0.110	88	0.125	0.111	89	60-130

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

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	02/01/23 13:45
Project	: 380-35588	Date Received:	02/01/23
Batch No.	: 23A351	Date Extracted:	02/01/23 13:45
Sample ID	: MBLK1W	Date Analyzed:	02/02/23 13:41
Lab Samp ID:	DSB002WB	Dilution Factor:	1
Lab File ID:	LB01085A	Matrix:	WATER
Ext Btch ID:	23DSB002W	% Moisture:	NA
Calib. Ref.:	LB01081A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.050	0.025

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.402	0.500	80	60-130
Hexacosane	0.104	0.125	83	60-130

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

Detection limits are reported relative to sample result significant figures.
Sample Amount : 1000ml Final Volume : 5ml
Prepared by : POreto Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-35588
BATCH NO. : 23A351
METHOD : 3520C/8015B

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

ACCESSION:

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

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

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

February 24, 2023

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

Project Name: RED-HILL Project # 38001111 Job # 380-35588-1
Physis Project ID: 1407003-374

Dear Rachelle,

Enclosed are the analytical results for the sample submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 1/27/2023. A total of 1 sample was received for analysis in accordance with the attached chain of custody (COC). Per the COC, the sample was analyzed for:

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

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

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

Regards,

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

PROJECT SAMPLE LIST

Eurofins Eaton Analytical

PHYSIS Project ID: 1407003-374

RED-HILL Project # 38001111 Job # 380-35588-1

Total Samples: 1

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
103873	MOANALUA WELLS	380-35588-1	1/24/2023	10:00	Samplewater	Not Specified

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

ABBREVIATIONS and ACRONYMS

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

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QUALITY ASSURANCE SUMMARY

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

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

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

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

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

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

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

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

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

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

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the target analyte and most often used with organic analytical procedures. Surrogates are added in known concentration to all samples and are measured to indicate overall efficiency of the method including processing and analyses.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes.

SAMPLE STORAGE/RETENTION: In order to maintain chemical integrity prior to analysis, all samples submitted to Physis are refrigerated (liquids) or frozen (solids) upon receipt unless otherwise recommended by applicable methods. Solid samples are retained for 1 year from collection while liquid samples are retained until method recommended holding times elapse.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

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PHYSIS QUALIFIER CODES

CODE	DEFINITION
#	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified accuracy and/or precision acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore accuracy and/or precision acceptance limits do not apply
SL	analyte results were lower than 10 times the MDL, therefore accuracy and/or precision acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore accuracy and/or precision acceptance limits do not apply
Q	analyte was outside the specified QAPP acceptance limits for precision and/or accuracy but within Physis derived acceptance limits, therefore the sample data was reported without further clarification
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

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CASE NARRATIVE

QUALIFIER NOTES

In addition to the use of analyte specific Physis Qualifier Codes where applicable, the following were also noted.

ND

MDL is listed due to report format restrictions; it is not used in reporting. Analytical results reported are ND at the RL.

ANALYTICAL REPORT

ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 1407003-374
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-35588-1

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 103873-R1	**MOANALUA WELLS 380-35588-1**		**Matrix: Samplewater**				**Sampled:**	**24-Jan-23 10:00**		**Received:**	**27-Jan-23**
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40118	27-Jan-23	18-Feb-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 103873-R1	**MOANALUA WELLS 380-35588-1**		**Matrix: Samplewater**				**Sampled:**	**24-Jan-23 10:00**		**Received:**	**27-Jan-23**
(d10-Acenaphthene)	EPA 625.1	% Recovery	97	1			Total		O-40118	27-Jan-23	18-Feb-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	98	1			Total		O-40118	27-Jan-23	18-Feb-23
(d12-Chrysene)	EPA 625.1	% Recovery	104	1			Total		O-40118	27-Jan-23	18-Feb-23
(d12-Perylene)	EPA 625.1	% Recovery	96	1			Total		O-40118	27-Jan-23	18-Feb-23
(d8-Naphthalene)	EPA 625.1	% Recovery	95	1			Total		O-40118	27-Jan-23	18-Feb-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23
D benz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23
D benzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23
D benzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23

PHYSIS Project ID: 1407003-374
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-35588-1

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	27-Jan-23	18-Feb-23

QUALITY CONTROL REPORT

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

PHYSIS Project ID: 1407003-374
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-35588-1

Base/Neutral Extractable Compounds QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 103872-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**					**Received:**	
		Method: EPA 625.1				Batch ID: O-40118		Prepared: 27-Jan-23					Analyzed: 18-Feb-23	
Disalicylidenepropanediamin	Total	ND	1	0.05	0.1	µg/L								
Sample ID: 103872-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**					**Received:**	
		Method: EPA 625.1				Batch ID: O-40118		Prepared: 27-Jan-23					Analyzed: 18-Feb-23	
Disalicylidenepropanediamin	Total	47.7	1	0.05	0.1	µg/L	50	0	95	50 - 150%	PASS			
Sample ID: 103872-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**					**Received:**	
		Method: EPA 625.1				Batch ID: O-40118		Prepared: 27-Jan-23					Analyzed: 18-Feb-23	
Disalicylidenepropanediamin	Total	50	1	0.05	0.1	µg/L	50	0	100	50 - 150%	PASS	5	30 PASS	

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 103872-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**			**Received:**			
		Method: EPA 625.1				Batch ID: O-40118		Prepared: 27-Jan-23		Analyzed: 18-Feb-23			
(d10-Acenaphthene)	Total	105	1			% Recovery	100	105	27 - 133%	PASS			
(d10-Phenanthrene)	Total	102	1			% Recovery	100	102	43 - 129%	PASS			
(d12-Chrysene)	Total	106	1			% Recovery	100	106	52 - 144%	PASS			
(d12-Perylene)	Total	105	1			% Recovery	100	105	36 - 161%	PASS			
(d8-Naphthalene)	Total	99	1			% Recovery	100	99	25 - 125%	PASS			
1-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L							
1-Methylphenanthrene	Total	ND	1	0.001	0.005	µg/L							
2,3,5-Trimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L							
2,6-Dimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L							
2-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L							
Acenaphthene	Total	ND	1	0.001	0.005	µg/L							
Acenaphthylene	Total	ND	1	0.001	0.005	µg/L							
Anthracene	Total	ND	1	0.001	0.005	µg/L							
Benz[a]anthracene	Total	ND	1	0.001	0.005	µg/L							
Benzo[a]pyrene	Total	ND	1	0.001	0.005	µg/L							
Benzo[b]fluoranthene	Total	ND	1	0.001	0.005	µg/L							
Benzo[e]pyrene	Total	ND	1	0.001	0.005	µg/L							
Benzo[g,h,i]perylene	Total	ND	1	0.001	0.005	µg/L							
Benzo[k]fluoranthene	Total	ND	1	0.001	0.005	µg/L							
Biphenyl	Total	ND	1	0.001	0.005	µg/L							
Chrysene	Total	ND	1	0.001	0.005	µg/L							
Dibenz[a,h]anthracene	Total	ND	1	0.001	0.005	µg/L							
Dibenzo[a,l]pyrene	Total	ND	1	0.001	0.005	µg/L							
Dibenzothiophene	Total	ND	1	0.001	0.005	µg/L							

PHYSIS Project ID: 1407003-374
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-35588-1

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Fluoranthene	Total	ND	1	0.001	0.005	µg/L							
Fluorene	Total	ND	1	0.001	0.005	µg/L							
Indeno[1,2,3-cd]pyrene	Total	ND	1	0.001	0.005	µg/L							
Naphthalene	Total	ND	1	0.001	0.005	µg/L							
Perylene	Total	ND	1	0.001	0.005	µg/L							
Phenanthrene	Total	ND	1	0.001	0.005	µg/L							
Pyrene	Total	ND	1	0.001	0.005	µg/L							

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 103872-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**	
		Method: EPA 625.1				Batch ID: O-40118		Prepared: 27-Jan-23				Analyzed: 18-Feb-23	
(d10-Acenaphthene)	Total	101	1			% Recovery	100	0	101	27 - 133%	PASS		
(d10-Phenanthrene)	Total	100	1			% Recovery	100	0	100	43 - 129%	PASS		
(d12-Chrysene)	Total	106	1			% Recovery	100	0	106	52 - 144%	PASS		
(d12-Perylene)	Total	108	1			% Recovery	100	0	108	36 - 161%	PASS		
(d8-Naphthalene)	Total	96	1			% Recovery	100	0	96	25 - 125%	PASS		
1-Methylnaphthalene	Total	0.487	1	0.001	0.005	µg/L	0.5	0	97	31 - 128%	PASS		
1-Methylphenanthrene	Total	0.555	1	0.001	0.005	µg/L	0.5	0	111	66 - 127%	PASS		
2,3,5-Trimethylnaphthalene	Total	0.48	1	0.001	0.005	µg/L	0.5	0	96	55 - 122%	PASS		
2,6-Dimethylnaphthalene	Total	0.529	1	0.001	0.005	µg/L	0.5	0	106	48 - 120%	PASS		
2-Methylnaphthalene	Total	0.484	1	0.001	0.005	µg/L	0.5	0	97	47 - 130%	PASS		
Acenaphthene	Total	0.483	1	0.001	0.005	µg/L	0.5	0	97	53 - 131%	PASS		
Acenaphthylene	Total	0.492	1	0.001	0.005	µg/L	0.5	0	98	43 - 140%	PASS		
Anthracene	Total	0.504	1	0.001	0.005	µg/L	0.5	0	101	58 - 135%	PASS		
Benz[a]anthracene	Total	0.541	1	0.001	0.005	µg/L	0.5	0	108	55 - 145%	PASS		
Benzo[a]pyrene	Total	0.538	1	0.001	0.005	µg/L	0.5	0	108	51 - 143%	PASS		
Benzo[b]fluoranthene	Total	0.58	1	0.001	0.005	µg/L	0.5	0	116	46 - 165%	PASS		
Benzo[e]pyrene	Total	0.565	1	0.001	0.005	µg/L	0.5	0	113	42 - 152%	PASS		
Benzo[g,h,i]perylene	Total	0.933	1	0.001	0.005	µg/L	1	0	93	63 - 133%	PASS		
Benzo[k]fluoranthene	Total	0.578	1	0.001	0.005	µg/L	0.5	0	116	56 - 145%	PASS		
Biphenyl	Total	0.504	1	0.001	0.005	µg/L	0.5	0	101	56 - 119%	PASS		
Chrysene	Total	0.529	1	0.001	0.005	µg/L	0.5	0	106	56 - 141%	PASS		
Dibenz[a,h]anthracene	Total	0.941	1	0.001	0.005	µg/L	1	0	94	55 - 150%	PASS		
Dibenzo[a,l]pyrene	Total	0.732	1	0.001	0.005	µg/L	0.5	0	146	50 - 150%	PASS		
Dibenzothiophene	Total	0.491	1	0.001	0.005	µg/L	0.5	0	98	46 - 126%	PASS		

PHYSIS Project ID: 1407003-374
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-35588-1

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Fluoranthene	Total	0.545	1	0.001	0.005	µg/L	0.5	0	109	60 - 146%	PASS			
Fluorene	Total	0.478	1	0.001	0.005	µg/L	0.5	0	96	58 - 131%	PASS			
Indeno[1,2,3-cd]pyrene	Total	0.88	1	0.001	0.005	µg/L	1	0	88	50 - 151%	PASS			
Naphthalene	Total	0.466	1	0.001	0.005	µg/L	0.5	0	93	41 - 126%	PASS			
Perylene	Total	0.5	1	0.001	0.005	µg/L	0.5	0	100	48 - 141%	PASS			
Phenanthrene	Total	0.497	1	0.001	0.005	µg/L	0.5	0	99	67 - 127%	PASS			
Pyrene	Total	0.542	1	0.001	0.005	µg/L	0.5	0	108	54 - 156%	PASS			

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
Sample ID: 103872-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**					**Received:**		
		Method: EPA 625.1				Batch ID: O-40118		Prepared: 27-Jan-23					Analyzed: 18-Feb-23		
(d10-Acenaphthene)	Total	99	1			% Recovery	100	0	99	27 - 133%	PASS	2	30	PASS	
(d10-Phenanthrene)	Total	101	1			% Recovery	100	0	101	43 - 129%	PASS	1	30	PASS	
(d12-Chrysene)	Total	107	1			% Recovery	100	0	107	52 - 144%	PASS	1	30	PASS	
(d12-Perylene)	Total	107	1			% Recovery	100	0	107	36 - 161%	PASS	1	30	PASS	
(d8-Naphthalene)	Total	95	1			% Recovery	100	0	95	25 - 125%	PASS	1	30	PASS	
1-Methylnaphthalene	Total	0.486	1	0.001	0.005	µg/L	0.5	0	97	31 - 128%	PASS	0	30	PASS	
1-Methylphenanthrene	Total	0.54	1	0.001	0.005	µg/L	0.5	0	108	66 - 127%	PASS	3	30	PASS	
2,3,5-Trimethylnaphthalene	Total	0.472	1	0.001	0.005	µg/L	0.5	0	94	55 - 122%	PASS	2	30	PASS	
2,6-Dimethylnaphthalene	Total	0.527	1	0.001	0.005	µg/L	0.5	0	105	48 - 120%	PASS	1	30	PASS	
2-Methylnaphthalene	Total	0.494	1	0.001	0.005	µg/L	0.5	0	99	47 - 130%	PASS	2	30	PASS	
Acenaphthene	Total	0.487	1	0.001	0.005	µg/L	0.5	0	97	53 - 131%	PASS	0	30	PASS	
Acenaphthylene	Total	0.476	1	0.001	0.005	µg/L	0.5	0	95	43 - 140%	PASS	3	30	PASS	
Anthracene	Total	0.501	1	0.001	0.005	µg/L	0.5	0	100	58 - 135%	PASS	1	30	PASS	
Benz[a]anthracene	Total	0.545	1	0.001	0.005	µg/L	0.5	0	109	55 - 145%	PASS	1	30	PASS	
Benzo[a]pyrene	Total	0.539	1	0.001	0.005	µg/L	0.5	0	108	51 - 143%	PASS	0	30	PASS	
Benzo[b]fluoranthene	Total	0.563	1	0.001	0.005	µg/L	0.5	0	113	46 - 165%	PASS	3	30	PASS	
Benzo[e]pyrene	Total	0.565	1	0.001	0.005	µg/L	0.5	0	113	42 - 152%	PASS	0	30	PASS	
Benzo[g,h,i]perylene	Total	0.928	1	0.001	0.005	µg/L	1	0	93	63 - 133%	PASS	0	30	PASS	
Benzo[k]fluoranthene	Total	0.531	1	0.001	0.005	µg/L	0.5	0	106	56 - 145%	PASS	9	30	PASS	
Biphenyl	Total	0.497	1	0.001	0.005	µg/L	0.5	0	99	56 - 119%	PASS	2	30	PASS	
Chrysene	Total	0.508	1	0.001	0.005	µg/L	0.5	0	102	56 - 141%	PASS	4	30	PASS	
Dibenz[a,h]anthracene	Total	0.873	1	0.001	0.005	µg/L	1	0	87	55 - 150%	PASS	8	30	PASS	
Dibenzo[a,l]pyrene	Total	0.749	1	0.001	0.005	µg/L	0.5	0	150	50 - 150%	PASS	3	30	PASS	
Dibenzothiophene	Total	0.484	1	0.001	0.005	µg/L	0.5	0	97	46 - 126%	PASS	1	30	PASS	

PHYSIS Project ID: 1407003-374
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-35588-1

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
Fluoranthene	Total	0.533	1	0.001	0.005	µg/L	0.5	0	107	60 - 146%	PASS	2	30	PASS	
Fluorene	Total	0.481	1	0.001	0.005	µg/L	0.5	0	96	58 - 131%	PASS	0	30	PASS	
Indeno[1,2,3-cd]pyrene	Total	0.895	1	0.001	0.005	µg/L	1	0	89	50 - 151%	PASS	2	30	PASS	
Naphthalene	Total	0.459	1	0.001	0.005	µg/L	0.5	0	92	41 - 126%	PASS	1	30	PASS	
Perylene	Total	0.555	1	0.001	0.005	µg/L	0.5	0	111	48 - 141%	PASS	10	30	PASS	
Phenanthrene	Total	0.482	1	0.001	0.005	µg/L	0.5	0	96	67 - 127%	PASS	3	30	PASS	
Pyrene	Total	0.543	1	0.001	0.005	µg/L	0.5	0	109	54 - 156%	PASS	1	30	PASS	

TENTATIVELY IDENTIFIED COMPOUNDS

ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Sample ID: 103873

p	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
35.8622	7.2030	1111	Anthracene-D10-	1719-06-8	95
10.7968	1.8415	284	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	87

Concentration estimated using the response for Anthracene-d10

Sample ID: Lab Blank B1_40118

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
35.8658	6.2344	1111	Anthracene-D10-	1719-06-8	95
10.7990	1.5990	285	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	86

Concentration estimated using the response for Anthracene-d10

CHAIN OF CUSTODY

PHASIS
TERRA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-36991.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: Physis Environmental Laboratories		Accreditations Required (See note): State - Hawaii		Job #: 380-35588-1
Address: 1904 Wright Circle,	Due Date Requested: 2/9/2023			
City: Anaheim	TAT Requested (days):			
State, Zip: CA, 92806				
Phone:	PO #:			
Email:	WO #:			
Project Name: RED-HILL	Project #: 38001111			
Site: Honolulu BWS Sites	SSOW#:			

Analysis Requested

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

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (625 PAH Physis LL (EAL) + TICs)/ 625 PAH Physis LL (EAL) + TICs	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MOANALUA WELLS (380-35588-1)	1/24/23	10:00 Hawaiian		Water			X	2	See Attached Instructions

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	1/27/23 1232	CCA	[signature]	1/27/23 1232	PHYSIS
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 06/08/2021

3/23/2023

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

PHYSIS

Project Iteration ID: 1407003-374
Client Name: Eurofins Eaton Analytical
Project Name: RED-HILL Project # 38001111 Job # 380-35588-1
COC Page Number: 2 of 2
Bottle Label Color: NA

Sample Receipt Summary

Receiving Info

1. Initials Received By: MN
2. Date Received: 1/27/23
3. Time Received: 1232
4. Client Name: Eurofins
5. Courier Information: (Please circle)
   - (Client) • UPS • Area Fast • DRS
   - FedEx • GSO/GLS • Ontrac • PAMS
   - PHYSIS Driver:
     - i. Start Time:_____ iii. Total Mileage:_____
     - ii. End Time:_____ iv. Number of Pickups:_____
6. Container Information: (Please put the # of containers or circle none)
   - 1 Cooler • __ Styrofoam Cooler • ____ Boxes • None
   - ___ Carboy(s) • __Carboy Trash Can(s) • ____ Carboy Cap(s) • Other _____
7. What type of ice was used: (Please circle any that apply)
   - (Wet Ice) • Blue Ice • Dry Ice • Water • None
8. Randomly Selected Samples Temperature (°C): 1-0 Used I/R Thermometer # 1-2

Inspection Info

1. Initials Inspected By: RGH

Sample Integrity Upon Receipt:

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

Notes:

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

Chain of Custody Record

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Client Information	Sampler: RYAN GREER	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-9773-2757.1
Client Contact: Dr. Ron Fenstemacher	Phone: 509 748 5840	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin:	Page: Page 1 of 3
Company: City & County of Honolulu	PWSID:			Job #:
Address: 630 South Beretania Street Chemistry Lab	Due Date Requested:			
City: Honolulu	TAT Requested (days):			
State, Zip: HI, 96843	Compliance Project: Δ Yes Δ No			
Phone: 808-748-5091(Tel)	PO #: C20525101 exp 05312023			
Email: RFENSTEMACHER@hbws.org	WO #:			
Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill	Project #: 38001111			
Site: Hawaii	SSOW#:			

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	525.2_PREC - (MOD) 525plus Plus TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	537.1_DW_PREC - 537.1 Full List	533 - All Analytes	Total Number of containers	Special Instructions/Note:
			Preservation Code:				R	R	RA		RA	Y	N		
MOANALUA WELLS	1/24/22	1000	G	Water			2		2	2	4	3	3		
AIEA GULCH WELLS PUMP 2				Water											
AIEA WELLS PUMPS 1&2 (260)				Water											
HALAWA WELLS UNITS 1&2				Water											
MOANALUA WELLS				Water											
AIEA GULCH WELLS PUMP 2				Water											
AIEA WELLS PUMPS 1&2 (260)				Water											
HALAWA WELLS UNITS 1&2				Water											
MOANALUA WELLS				Water											
AIEA GULCH WELLS PUMP 2				Water											
AIEA WELLS PUMPS 1&2 (260)				Water											

380-35588 COC

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment: FED EX 7711 2556 7984

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by: [redacted]	1/25/22 1300	HBWS	C. RETTNER	01/26/2023 09:50	EEA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:	751A 2.7°-2.5° GEL-FROZEN

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

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: RYAN GREER	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-9773-2757.2
Client Contact: Dr. Ron Fenstemacher	Phone: 808 748 5840	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin:	Page: Page 2 of 3
Company: City & County of Honolulu	PWSID:			Job #:

Address: 630 South Beretania Street Chemistry Lab	Due Date Requested:
City: Honolulu	TAT Requested (days):
State, Zip: HI, 96843	Compliance Project: Δ Yes Δ No
Phone: 808-748-5091(Tel)	PO #: C20525101 exp 05312023
Email: RFENSTEMACHER@hbws.org	WO #:
Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill	Project #: 38001111
Site: Hawaii	SSOW#:

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	525.2_PREC - (MOD) 525plus Plus TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	537.1_DW_PREC - 537.1 Full List	533 - All Analytes	Total Number of containers	Special Instructions/Note:
			Preservation Code:				R	R	RA		RA	Y	N		
HALAWA WELLS UNITS 1&2				Water											
MOANALUA WELLS				Water											
AIEA GULCH WELLS PUMP 2				Water											
AIEA WELLS PUMPS 1&2 (260)				Water											
HALAWA WELLS UNITS 1&2				Water											
TB MOANALUA WELLS	1/24/22	1000	G	Water				2							
TB AIEA GULCH WELLS PUMP2				Water											
TB AIEA WELLS PUMPS 1&2 (260)				Water											
TB HALAWA WELLS UNITS 1&2				Water											
MOANALUA WELLS				Water											
AIEA GULCH WELLS PUMP 2				Water											

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment: FED EX 7711 2556 7984

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
RYAN GREER	1/25/22 1300	HBWS	G. REITNER	01/26/2023 09:50	EEA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 751A 2.7°-2.5° GEL-FROZEN

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

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler:	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-9773-2757.3
Client Contact: Dr. Ron Fenstemacher	Phone:	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin:	Page: Page 3 of 3
Company: City & County of Honolulu	PWSID:			Job #:

Address: 630 South Beretania Street Chemistry Lab	Due Date Requested:
City: Honolulu	TAT Requested (days):
State, Zip: HI, 96843	Compliance Project: Δ Yes Δ No
Phone: 808-748-5091(Tel)	PO #: C20525101 exp 05312023
Email: RFENSTEMACHER@hbws.org	WO #:
Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill	Project #: 38001111
Site: Hawaii	SSOW#:

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Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	525.2_PREC - (MOD) 525plus Plus TICs	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	537.1_DW_PREC - 537.1 Full List	533 - All Analytes	Total Number of containers	Special Instructions/Note:
			Preservation Code:				R	R	RA		RA	Y	N		
AIEA WELLS PUMPS 1&2 (260)				Water											
HALAWA WELLS UNITS 1&2				Water											
FB: MOANALUA WELLS				Water								1	1		
FB: AIEA GULCH WELLS PUMP 2				Water											
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)
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Deliverable Requested: I, II, III, IV, Other (specify)

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Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
			G.REITNER	01/26/2023 09:50	EEA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: (751A) 2.7°-2.5° GEL-FROZEN

Bottle Order Information

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

Order Completion Information

Creator: *Davis Haley*
Filled by:
Sent Date:
Sent Via:
Tracking #:

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
4	2	8	Amber Glass 1 liter - Sodium Thiosulfate	Sodium Thiosulfate	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	Water	Normal	625 PAH	
4	4	16	Voa Vial 40ml - SodiumThio w/HCl-dropper	Sodium Thiosulfate	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Water	Normal		
4	2	8	Amber Glass 1 L - NaThiosulfate 8mL HCL	Sodium Thiosulfate/Hydrochloric Acid	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	Water	Normal		
4	2	8	Amber Glass 1 Liter- Sodium Sulfite/HCl	Sodium Sulfite w/HCl	525.2_PREC - (MOD) 525plus Plus TICs	Water	Normal		
4	2	8	VOA Vial 40mL - NaThiosulfate/HCL	Sodium Thiosulfate/Hydrochloric Acid	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Water	Trip Blank	Trip Blank	
4	3	12	Plastic 250ml - Trizma	Trizma	537.1_DW_PREC - 537.1 Full List	Water	Normal		
4	3	12	Plastic 250ml – Ammonium Acetate	Ammonium Acetate	533 - All Analytes	Water	Normal		
4	1	4	Plastic 250ml - Reagent Water	None		Water	Field Blank		
4	1	4	Plastic 250ml – Ammonium Acetate	Ammonium Acetate	//	Water	Field Blank	Field Blank	
4	1	4	Plastic 250ml - Reagent Water	None		Water	Field Blank		
4	1	4	Plastic 250ml - Trizma	Trizma	//	Water	Field Blank		

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

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-35588-1

Login Number: 35588
List Number: 1
Creator: Carpenter, Kelly

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	