MEMORANDUM

06 Feb 24

Packet No: 24-011720206

From: NAVFAC HAWAII, Environmental Services Laboratory, PRP411

To: PATRICK CRILE MCBH WW

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Subj: ☐ LABORATORY REPORTS
☐ MISCELLANEOUS CHARGES AND/OR CHAIN(S) OF CUSTODY SHEETS

Encl: Lab Number(s) 24-01172 , 24-01173 , 24-01174

1. Thank you for using our laboratory to provide you with quality test results and/or services.

2. Please take a few minutes and check over the enclosures. If you believe anything is missing or in need of correction, let us know immediately and we will send you a correction as soon as possible.

3. Our goal is to better serve all our customers and we are concerned that you are receiving our services in the most efficient and timely manner possible. Please acknowledge receipt by signing below and returning this memo so we will know that you have received the enclosures. Also feel free to include any comments you have concerning our services. You may return this memo to us through the guardmail (NAVFAC HI PRP411) or fax it to 471-4534.

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5. ~~Laboratory certifies that the results meet all A2LA requirements unless noted in the "remarks" section of the report~~. MME 020624

Duane Morita, Acting Laboratory Manager

Total Number of Pages: 29

To: NAVFAC HI PRP4

☐ Receipt acknowledged. Enclosures appear complete and acceptable.

☐ Comments/discrepancies noted.

_____

_____

☐ Please fax corrections/amendments to Fax#: _____

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Customer's Signature/Date: _____

LFE/052-24
Enclosure 1

eurofins | Environment Testing

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

ANALYTICAL REPORT

PREPARED FOR

Attn: Duane Morita
NAVFAC Hawaii Environmental Svcs Lab
PRJ 411
Bldg 1423 Central Avenue
JBPHH, Hawaii 96860

Generated 12/20/2023 4:18:19 PM

JOB DESCRIPTION

MCBH Kaneohe

JOB NUMBER

810-87850-1

Eurofins Eaton Analytical South Bend
110 S Hill Street
South Bend IN 46617

LFE/052-24
Enclosure 1

See page two for job notes and contact information.

my EOL

Eurofins Eaton Analytical South Bend

Job Notes

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

Authorization

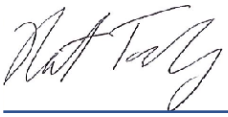

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Table of Contents

Definitions/Glossary

Client: NAVFAC Hawaii Environmental Svcs Lab
Job ID: 810-87850-1
Project/Site: MCBH Kaneohe

Qualifiers

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Job ID: 810-87850-1 — Eurofins Eaton Analytical South Bend

Job Narrative
810-87850-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 12/14/2023 9:30 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 time was 0.8°C

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

Detection Summary

Client: NAVFAC Hawaii Environmental Svcs Lab
Job ID: 810-87850-1
Project/Site: MCBH Kaneohe

Client Sample ID: 24-01172;MCBH 1296, EP0001
Lab Sample ID: 810-87850-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client: NAVFAC Hawaii Environmental Svcs Lab
Project/Site: MCBH Kaneohe

Job ID: 810-87850-1

Client Sample ID: 24-01172;MCBH 1296, EP0001
Date Collected: 12/12/23 08:52
Date Received: 12/14/23 09:30

Lab Sample ID: 810-87850-1
Matrix: Drinking Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1
Perfluoropentanoic acid (PFPeA)	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1
Perfluorohexanoic acid (PFHxA)	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1
Perfluorooctanoic acid (PFOA)	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1
Perfluorononanoic acid (PFNA)	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1
Perfluoropentanesulfonic acid (PFPeS)	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1
Perfluoroheptanesulfonic acid (PFHpS)	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1
Perfluorooctanesulfonic acid (PFOS)	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<1.9		1.9		ng/L		12/15/23 09:15	12/16/23 13:01	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*50 - 200*	*12/15/23 09:15*	*12/16/23 13:01*	*1*
13C5 PFPeA	*97*		*50 - 200*	*12/15/23 09:15*	*12/16/23 13:01*	*1*
13C5 PFHxA	*92*		*50 - 200*	*12/15/23 09:15*	*12/16/23 13:01*	*1*
13C4 PFHpA	*89*		*50 - 200*	*12/15/23 09:15*	*12/16/23 13:01*	*1*
13C8 PFOA	*86*		*50 - 200*	*12/15/23 09:15*	*12/16/23 13:01*	*1*
13C9 PFNA	*80*		*50 - 200*	*12/15/23 09:15*	*12/16/23 13:01*	*1*
13C6 PFDA	*60*		*50 - 200*	*12/15/23 09:15*	*12/16/23 13:01*	*1*
13C7 PFUnA	*54*		*50 - 200*	*12/15/23 09:15*	*12/16/23 13:01*	*1*
13C2 PFDoA	*61*		*50 - 200*	*12/15/23 09:15*	*12/16/23 13:01*	*1*
13C3 HFPO-DA	*93*		*50 - 200*	*12/15/23 09:15*	*12/16/23 13:01*	*1*
13C3 PFBS	*114*		*50 - 200*	*12/15/23 09:15*	*12/16/23 13:01*	*1*
13C8 PFOS	*111*		*50 - 200*	*12/15/23 09:15*	*12/16/23 13:01*	*1*
13C2-4:2-FTS	*93*		*50 - 200*	*12/15/23 09:15*	*12/16/23 13:01*	*1*

Client Sample ID: 24-01172;MCBH 1296, EP0001
Lab Sample ID: 810-87850-1
Date Collected: 12/12/23 08:52
Matrix: Drinking Water
Date Received: 12/14/23 09:30

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2-6:2-FTS	*94*		*50 - 200*	*12/15/23 09:15*	*12/16/23 13:01*	*1*
13C2-8:2-FTS	*116*		*50 - 200*	*12/15/23 09:15*	*12/16/23 13:01*	*1*
13C3 PFHxS	*112*		*50 - 200*	*12/15/23 09:15*	*12/16/23 13:01*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	<1.9		1.9		ng/L		12/15/23 10:12	12/16/23 07:02	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9		ng/L		12/15/23 10:12	12/16/23 07:02	1
Perfluorohexanoic acid (PFHxA)	<1.9		1.9		ng/L		12/15/23 10:12	12/16/23 07:02	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9		ng/L		12/15/23 10:12	12/16/23 07:02	1
Perfluorooctanoic acid (PFOA)	<1.9		1.9		ng/L		12/15/23 10:12	12/16/23 07:02	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9		ng/L		12/15/23 10:12	12/16/23 07:02	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9		ng/L		12/15/23 10:12	12/16/23 07:02	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9		ng/L		12/15/23 10:12	12/16/23 07:02	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9		ng/L		12/15/23 10:12	12/16/23 07:02	1
Perfluorononanoic acid (PFNA)	<1.9		1.9		ng/L		12/15/23 10:12	12/16/23 07:02	1
Perfluorotetradecanoic acid (PFTeDA)	<1.9		1.9		ng/L		12/15/23 10:12	12/16/23 07:02	1
Perfluorotridecanoic acid (PFTrDA)	<1.9		1.9		ng/L		12/15/23 10:12	12/16/23 07:02	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<1.9		1.9		ng/L		12/15/23 10:12	12/16/23 07:02	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.9		1.9		ng/L		12/15/23 10:12	12/16/23 07:02	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		1.9		ng/L		12/15/23 10:12	12/16/23 07:02	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.9		1.9		ng/L		12/15/23 10:12	12/16/23 07:02	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<1.9		1.9		ng/L		12/15/23 10:12	12/16/23 07:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		1.9		ng/L		12/15/23 10:12	12/16/23 07:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*98*		*70 - 130*	*12/15/23 10:12*	*12/16/23 07:02*	*1*
13C2 PFDA	*94*		*70 - 130*	*12/15/23 10:12*	*12/16/23 07:02*	*1*
13C3 HFPO-DA	*96*		*70 - 130*	*12/15/23 10:12*	*12/16/23 07:02*	*1*
d5-NEtFOSAA	*86*		*70 - 130*	*12/15/23 10:12*	*12/16/23 07:02*	*1*

Surrogate Summary

Client: NAVFAC Hawaii Environmental Svcs Lab
Job ID: 810-87850-1
Project/Site: MCBH Kaneohe

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	PFHxA (70-130)	PFDA (70-130)	HFPODA (70-130)	d5NEFOS (70-130)
810-87850-1	24-01172;MCBH 1296, EP0001	98	94	96	86
810-87850-1 MS	24-01172;MCBH 1296, EP0001	103	99	97	92
LLCS 810-82953/2-A	Lab Control Sample	102	100	97	97
MBL 810-82953/1-A	Method Blank	100	93	93	104

Surrogate Legend

PFHxA = 13C2 PFHxA
PFDA = 13C2 PFDA
HFPODA = 13C3 HFPO-DA
d5NEFOS = d5-NEtFOSAA

Isotope Dilution Summary

Client: NAVFAC Hawaii Environmental Svcs Lab
Job ID: 810-87850-1
Project/Site: MCBH Kaneohe

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	PFBA (50-200)	PFPeA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	C6PFDA (50-200)	13C7PUA (50-200)
810-87850-1	24-01172;MCBH 1296, EP0001	101	97	92	89	86	80	60	54
LCS 810-82913/3-A	Lab Control Sample	102	99	97	98	108	108	110	106
LLCS 810-82913/2-A	Lab Control Sample	91	87	82	83	88	92	88	90
MBL 810-82913/1-A	Method Blank	98	99	91	95	101	109	108	101

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (50-200)	HFPODA (50-200)	C3PFBS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)	C3PFHS (50-200)
810-87850-1	24-01172;MCBH 1296, EP0001	61	93	114	111	93	94	116	112
LCS 810-82913/3-A	Lab Control Sample	97	103	108	112	95	101	115	110
LLCS 810-82913/2-A	Lab Control Sample	83	82	109	110	84	94	117	108
MBL 810-82913/1-A	Method Blank	98	90	106	107	88	103	119	105

Surrogate Legend

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

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

Lab Sample ID: MBL 810-82913/1-A
Matrix: Drinking Water
Analysis Batch: 83048

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 82913

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<0.52		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1
Perfluorohexanoic acid (PFHxA)	<0.42		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1
Perfluoroheptanoic acid (PFHpA)	<0.40		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1
Perfluorononanoic acid (PFNA)	<0.38		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1
Perfluorodecanoic acid (PFDA)	<0.36		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1
Perfluoroundecanoic acid (PFUnA)	<0.38		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1
Perfluorododecanoic acid (PFDoA)	<0.35		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1
Perfluorobutanesulfonic acid (PFBS)	<0.42		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1
Perfluoropentanesulfonic acid (PFPeS)	<0.37		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1
Perfluorohexanesulfonic acid (PFHxS)	<0.39		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.44		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1
Perfluorooctanesulfonic acid (PFOS)	<0.39		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.45		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.56		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.68		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.57		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<0.53		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.40		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<0.45		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<0.51		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.35		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.32		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.93		2.0		ng/L		12/15/23 09:15	12/16/23 10:18	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*98*		*50 - 200*	*12/15/23 09:15*	*12/16/23 10:18*	*1*
13C5 PFPeA	*99*		*50 - 200*	*12/15/23 09:15*	*12/16/23 10:18*	*1*
13C5 PFHxA	*91*		*50 - 200*	*12/15/23 09:15*	*12/16/23 10:18*	*1*
13C4 PFHpA	*95*		*50 - 200*	*12/15/23 09:15*	*12/16/23 10:18*	*1*
13C8 PFOA	*101*		*50 - 200*	*12/15/23 09:15*	*12/16/23 10:18*	*1*
13C9 PFNA	*109*		*50 - 200*	*12/15/23 09:15*	*12/16/23 10:18*	*1*
13C6 PFDA	*108*		*50 - 200*	*12/15/23 09:15*	*12/16/23 10:18*	*1*
13C7 PFUnA	*101*		*50 - 200*	*12/15/23 09:15*	*12/16/23 10:18*	*1*
13C2 PFDoA	*98*		*50 - 200*	*12/15/23 09:15*	*12/16/23 10:18*	*1*
13C3 HFPO-DA	*90*		*50 - 200*	*12/15/23 09:15*	*12/16/23 10:18*	*1*
13C3 PFBS	*106*		*50 - 200*	*12/15/23 09:15*	*12/16/23 10:18*	*1*
13C8 PFOS	*107*		*50 - 200*	*12/15/23 09:15*	*12/16/23 10:18*	*1*

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

Lab Sample ID: MBL 810-82913/1-A
Matrix: Drinking Water
Analysis Batch: 83048

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 82913

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-4:2-FTS	88		50 - 200	12/15/23 09:15	12/16/23 10:18	1
13C2-6:2-FTS	103		50 - 200	12/15/23 09:15	12/16/23 10:18	1
13C2-8:2-FTS	119		50 - 200	12/15/23 09:15	12/16/23 10:18	1
13C3 PFHxS	105		50 - 200	12/15/23 09:15	12/16/23 10:18	1

Lab Sample ID: LCS 810-82913/3-A
Matrix: Drinking Water
Analysis Batch: 83048

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 82913

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	200	193		ng/L		97	70 - 130
Perfluoropentanoic acid (PFPeA)	200	191		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	200	199		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	200	194		ng/L		97	70 - 130
Perfluorooctanoic acid (PFOA)	200	186		ng/L		93	70 - 130
Perfluorononanoic acid (PFNA)	200	196		ng/L		98	70 - 130
Perfluorodecanoic acid (PFDA)	200	197		ng/L		98	70 - 130
Perfluoroundecanoic acid (PFUnA)	200	195		ng/L		98	70 - 130
Perfluorododecanoic acid (PFDoA)	200	193		ng/L		97	70 - 130
Perfluorobutanesulfonic acid (PFBS)	178	169		ng/L		95	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	188	181		ng/L		96	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	183	170		ng/L		93	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	191	173		ng/L		91	70 - 130
Perfluorooctanesulfonic acid (PFOS)	186	170		ng/L		91	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	178	188		ng/L		106	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	188	186		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	190	192		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	192	201		ng/L		104	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	200	194		ng/L		97	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	189	191		ng/L		101	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	187	177		ng/L		95	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	189	173		ng/L		91	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	200	192		ng/L		96	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	200	193		ng/L		97	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	200	187		ng/L		93	70 - 130

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

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	102		50 - 200
13C5 PFPeA	99		50 - 200
13C5 PFHxA	97		50 - 200
13C4 PFHpA	98		50 - 200
13C8 PFOA	108		50 - 200
13C9 PFNA	108		50 - 200
13C6 PFDA	110		50 - 200
13C7 PFUnA	106		50 - 200
13C2 PFDoA	97		50 - 200
13C3 HFPO-DA	103		50 - 200
13C3 PFBS	108		50 - 200
13C8 PFOS	112		50 - 200
13C2-4:2-FTS	95		50 - 200
13C2-6:2-FTS	101		50 - 200
13C2-8:2-FTS	115		50 - 200
13C3 PFHxS	110		50 - 200

Lab Sample ID: LLCS 810-82913/2-A
Matrix: Drinking Water
Analysis Batch: 83048

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 82913

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	2.00	1.82	J	ng/L		91	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	1.93	J	ng/L		96	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	1.91	J	ng/L		96	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	1.87	J	ng/L		94	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	1.88	J	ng/L		94	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.02		ng/L		101	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.00		ng/L		100	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.06		ng/L		103	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.10		ng/L		105	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.78	1.60	J	ng/L		90	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	1.88	1.67	J	ng/L		89	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.83	1.68	J	ng/L		92	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	1.91	1.73	J	ng/L		91	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.86	1.90	J	ng/L		102	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	1.78	2.10		ng/L		118	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	1.88	1.92	J	ng/L		102	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	1.90	2.00		ng/L		105	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.92	2.07		ng/L		108	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	2.00	1.84	J	ng/L		92	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	1.81	J	ng/L		96	50 - 150

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

Lab Sample ID: LLCS 810-82913/2-A
Matrix: Drinking Water
Analysis Batch: 83048

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 82913

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	1.87	2.06		ng/L		110	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	1.89	1.82	J	ng/L		96	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	1.83	J	ng/L		92	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	1.88	J	ng/L		94	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	1.80	J	ng/L		90	50 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*91*		*50 - 200*
13C5 PFPeA	*87*		*50 - 200*
13C5 PFHxA	*82*		*50 - 200*
13C4 PFHpA	*83*		*50 - 200*
13C8 PFOA	*88*		*50 - 200*
13C9 PFNA	*92*		*50 - 200*
13C6 PFDA	*88*		*50 - 200*
13C7 PFUnA	*90*		*50 - 200*
13C2 PFDoA	*83*		*50 - 200*
13C3 HFPO-DA	*82*		*50 - 200*
13C3 PFBS	*109*		*50 - 200*
13C8 PFOS	*110*		*50 - 200*
13C2-4:2-FTS	*84*		*50 - 200*
13C2-6:2-FTS	*94*		*50 - 200*
13C2-8:2-FTS	*117*		*50 - 200*
13C3 PFHxS	*108*		*50 - 200*

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

Lab Sample ID: MBL 810-82953/1-A
Matrix: Drinking Water
Analysis Batch: 83032

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 82953

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	<0.53		2.0	ng/L		12/15/23 10:12	12/16/23 06:41	1
Perfluoroundecanoic acid (PFUnA)	<0.63		2.0	ng/L		12/15/23 10:12	12/16/23 06:41	1
Perfluorohexanoic acid (PFHxA)	<0.63		2.0	ng/L		12/15/23 10:12	12/16/23 06:41	1
Perfluorododecanoic acid (PFDoA)	<0.63		2.0	ng/L		12/15/23 10:12	12/16/23 06:41	1
Perfluorooctanoic acid (PFOA)	<0.50		2.0	ng/L		12/15/23 10:12	12/16/23 06:41	1
Perfluorodecanoic acid (PFDA)	<0.60		2.0	ng/L		12/15/23 10:12	12/16/23 06:41	1
Perfluorohexanesulfonic acid (PFHxS)	<0.44		2.0	ng/L		12/15/23 10:12	12/16/23 06:41	1
Perfluorobutanesulfonic acid (PFBS)	<0.71		2.0	ng/L		12/15/23 10:12	12/16/23 06:41	1
Perfluoroheptanoic acid (PFHpA)	<0.52		2.0	ng/L		12/15/23 10:12	12/16/23 06:41	1
Perfluorononanoic acid (PFNA)	<0.48		2.0	ng/L		12/15/23 10:12	12/16/23 06:41	1
Perfluorotetradecanoic acid (PFTeDA)	<0.65		2.0	ng/L		12/15/23 10:12	12/16/23 06:41	1
Perfluorotridecanoic acid (PFTrDA)	<0.60		2.0	ng/L		12/15/23 10:12	12/16/23 06:41	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.62		2.0	ng/L		12/15/23 10:12	12/16/23 06:41	1

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

Lab Sample ID: MBL 810-82953/1-A
Matrix: Drinking Water
Analysis Batch: 83032

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 82953

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.51		2.0		ng/L		12/15/23 10:12	12/16/23 06:41	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<0.62		2.0		ng/L		12/15/23 10:12	12/16/23 06:41	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<0.64		2.0		ng/L		12/15/23 10:12	12/16/23 06:41	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<0.64		2.0		ng/L		12/15/23 10:12	12/16/23 06:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.49		2.0		ng/L		12/15/23 10:12	12/16/23 06:41	1

Surrogate	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*100*		*70 - 130*	*12/15/23 10:12*	*12/16/23 06:41*	*1*
13C2 PFDA	*93*		*70 - 130*	*12/15/23 10:12*	*12/16/23 06:41*	*1*
13C3 HFPO-DA	*93*		*70 - 130*	*12/15/23 10:12*	*12/16/23 06:41*	*1*
d5-NEtFOSAA	*104*		*70 - 130*	*12/15/23 10:12*	*12/16/23 06:41*	*1*

Lab Sample ID: LLCS 810-82953/2-A
Matrix: Drinking Water
Analysis Batch: 83032

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 82953

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonic acid (PFOS)	2.00	2.17		ng/L		108	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.20		ng/L		110	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.35		ng/L		117	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.21		ng/L		111	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.23		ng/L		112	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.26		ng/L		113	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.16		ng/L		108	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.34		ng/L		117	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.39		ng/L		120	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.32		ng/L		116	50 - 150
Perfluorotetradecanoic acid (PFTeDA)	2.00	1.93	J	ng/L		97	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.06		ng/L		103	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.09		ng/L		104	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.25		ng/L		113	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	2.00	2.15		ng/L		108	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	2.00	2.14		ng/L		107	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	2.00	2.03		ng/L		102	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.36		ng/L		118	50 - 150

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

Surrogate	LLCS %Recovery	LLCS Qualifier	Limits
13C2 PFHxA	102		70 - 130
13C2 PFDA	100		70 - 130
13C3 HFPO-DA	97		70 - 130
d5-NEtFOSAA	97		70 - 130

Lab Sample ID: 810-87850-1 MS
Matrix: Drinking Water
Analysis Batch: 83032

Client Sample ID: 24-01172;MCBH 1296, EP0001
Prep Type: Total/NA
Prep Batch: 82953

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonic acid (PFOS)	<1.9		93.4	82.9		ng/L		89	70 - 130
Perfluoroundecanoic acid (PFUnA)	<1.9		93.4	89.6		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	<1.9		93.4	90.5		ng/L		97	70 - 130
Perfluorododecanoic acid (PFDoA)	<1.9		93.4	86.8		ng/L		93	70 - 130
Perfluorooctanoic acid (PFOA)	<1.9		93.4	83.3		ng/L		89	70 - 130
Perfluorodecanoic acid (PFDA)	<1.9		93.4	88.7		ng/L		95	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<1.9		93.4	92.9		ng/L		99	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<1.9		93.4	93.1		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	<1.9		93.4	94.1		ng/L		101	70 - 130
Perfluorononanoic acid (PFNA)	<1.9		93.4	89.4		ng/L		96	70 - 130
Perfluorotetradecanoic acid (PFTeDA)	<1.9		93.4	67.7		ng/L		72	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<1.9		93.4	76.7		ng/L		82	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<1.9		93.4	84.2		ng/L		90	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<1.9		93.4	85.2		ng/L		91	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<1.9		93.4	85.5		ng/L		92	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	<1.9		93.4	82.9		ng/L		89	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<1.9		93.4	82.8		ng/L		89	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		93.4	90.1		ng/L		97	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
13C2 PFHxA	103		70 - 130
13C2 PFDA	99		70 - 130
13C3 HFPO-DA	97		70 - 130
d5-NEtFOSAA	92		70 - 130

QC Association Summary

Client: NAVFAC Hawaii Environmental Svcs Lab
Job ID: 810-87850-1
Project/Site: MCBH Kaneohe

LCMS

Prep Batch: 82913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-87850-1	24-01172;MCBH 1296, EP0001	Total/NA	Drinking Water	533	
MBL 810-82913/1-A	Method Blank	Total/NA	Drinking Water	533	
LCS 810-82913/3-A	Lab Control Sample	Total/NA	Drinking Water	533	
LLCS 810-82913/2-A	Lab Control Sample	Total/NA	Drinking Water	533	

Prep Batch: 82953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-87850-1	24-01172;MCBH 1296, EP0001	Total/NA	Drinking Water	537.1 DW	
MBL 810-82953/1-A	Method Blank	Total/NA	Drinking Water	537.1 DW	
LLCS 810-82953/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW	
810-87850-1 MS	24-01172;MCBH 1296, EP0001	Total/NA	Drinking Water	537.1 DW	

Analysis Batch: 83032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-87850-1	24-01172;MCBH 1296, EP0001	Total/NA	Drinking Water	537.1	82953
MBL 810-82953/1-A	Method Blank	Total/NA	Drinking Water	537.1	82953
LLCS 810-82953/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1	82953
810-87850-1 MS	24-01172;MCBH 1296, EP0001	Total/NA	Drinking Water	537.1	82953

Analysis Batch: 83048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-87850-1	24-01172;MCBH 1296, EP0001	Total/NA	Drinking Water	533	82913
MBL 810-82913/1-A	Method Blank	Total/NA	Drinking Water	533	82913
LCS 810-82913/3-A	Lab Control Sample	Total/NA	Drinking Water	533	82913
LLCS 810-82913/2-A	Lab Control Sample	Total/NA	Drinking Water	533	82913

Lab Chronicle

Client: NAVFAC Hawaii Environmental Svcs Lab
Project/Site: MCBH Kaneohe

Job ID: 810-87850-1

Client Sample ID: 24-01172;MCBH 1296, EP0001

Date Collected: 12/12/23 08:52
Date Received: 12/14/23 09:30

Lab Sample ID: 810-87850-1

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			82913	KB	EA SB	12/15/23 09:15
Total/NA	Analysis	533		1	83048	KB	EA SB	12/16/23 13:01
Total/NA	Prep	537.1 DW			82953	EH	EA SB	12/15/23 10:12
Total/NA	Analysis	537.1		1	83032	ST	EA SB	12/16/23 07:02

Laboratory References:

EA SB = Eurofins Eaton Analytical South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777

Accreditation/Certification Summary

Client: NAVFAC Hawaii Environmental Svcs Lab
Job ID: 810-87850-1
Project/Site: MCBH Kaneohe

Laboratory: Eurofins Eaton Analytical South Bend

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	ISO/IEC 17025	5794.01	07-31-24
Hawaii	State	IN035	06-30-24

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
533	533	Drinking Water	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid
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
533	533	Drinking Water	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)
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
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
537.1	537.1 DW	Drinking Water	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)

Method Summary

Client: NAVFAC Hawaii Environmental Svcs Lab
Project/Site: MCBH Kaneohe

Job ID: 810-87850-1

Method	Method Description	Protocol	Laboratory
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA SB
537.1	Perfluorinated Alkyl Acids (LC/MS)	EPA	EA SB
533	Extraction of Perfluorinated and Polyfluorinated Alkyl Acids	EPA	EA SB
537.1 DW	Extraction of Perfluorinated Alkyl Acids	EPA	EA SB

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EA SB = Eurofins Eaton Analytical South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777

Sample Summary

Client: NAVFAC Hawaii Environmental Svcs Lab
Project/Site: MCBH Kaneohe

Job ID: 810-87850-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
810-87850-1	24-01172;MCBH 1296, EP0001	Drinking Water	12/12/23 08:52	12/14/23 09:30

LFE/052-24
Enclosure 1

South Bend, IN
110 S Hill Street
South Bend, IN 46617
Phone (574) 233-4777 Phone (574) 233-8207

Chain of Custody Record

eurofins

Client Information	Sampler:	Lab PM: Chlebowski, Traci	Carrier Tracking No(s): 7744 5622 0951	COC No: 810-26627-6247.1
Client Contact: Duane Morita	Phone:	E-Mail: Traci.Chlebowski@et.eurofinsus.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: NAVFAC Hawaii Environmental Svcs. Lab	PWSID:			Job #:
Address: PRJ411 Bldg 1423 Central Avenue	Due Date Requested:			
City: JBPHH	TAT Requested (days):			
State, Zip: HI, 96860	Compliance Project: Δ Yes Δ No			
Phone: (808) 474-3704	PO #: Drinking Water			
Email: duane.t.morita.civ@us.navy.mil	WO #:			
Project Name: Source Testing	Project #: 81000302			
Site: MCBH Kaneohe	SSOW#:			

Analysis Requested

810-87850 Chain of Custody

Preservation Codes:

- HCL
- NaOH
- Zn Acetate
- Nitric Acid
- NaHSO4
- MeOH
- Amchlor
- Ascorbic Acid
- Ice
- DI Water
- EDTA
- 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
- Z - other (specify)

Other: Y - Trizma; Z - Ammonium Acetate

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)	537.1_DW_PREC-PFC18	533-533 Perfluorinated/Alkyl Substances	Total Number of containers	Special Instructions/Note:
			Preservation Code:				Y	Z		
24-01172;MCBH 1296, EP0001	12/12/23	0852	G	Drinking Water			X	X	2	
24-01173, Field Blank	12/12/23	0852	Field Blank	Drinking Water			X		3	Initial Temp 0.6 Corrected Temp 0.8 IR Gun # 25WET
24-01174, Field Blank	12/12/23	0855	Field Blank	Drinking Water				X	1	
									1	

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

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

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

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Duane Morita	12 Dec 2023 1500	NAVFAC HI	Fedex		
Relinquished by:	Date/Time:	Company	Received by: Kameron Williams	Date/Time: 12/14/23 0930	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:

Ver: 01/16/2019

12/20/2023

NAVFAC HAWAII ENVIRONMENTAL SERVICES LABORATORY CHAIN-OF-CUSTODY

Navy Facilities Engineering Command, Hawaii, Pearl Harbor, Hawaii Phone: (808) 474-3704, FAX: (808) 471-4534

JON: MCBH DW	ESM:	POC: Patrick Crile	PH#: 496-4358	FAX#:
Report To: Patrick Crile		Copy To:	Copy To:	
patrick.crile@usmc.mil				

Sample ID	Sample Description	Matrix Code	Sampling Date	Sampling Time	Container Vol	Container Type	Analysis Required	Preservative / Res. Cl (ppm)	FOR LAB USE ONLY pH	Lab Number	Ext.	Lctn.	Cond. A	Cond. U
1296 EP0001	Drinking Water, EPDS	DW	12/12/23	0852	2 x 250mL	Plastic	PFAS, EPA 537.1	Trizma Pre-set 0.42	N/A	24-01172	1-2	C	✓	
			12/12/23	0855	3 x 250mL	Plastic	PFAS, EPA 533	Ammonium Acetate 0.42	N/A		3-5	C	✓	
Field Trip Blank		DW	12/12/23	0852	250mL	Plastic	PFAS, EPA 537.1	Trizma Pre-set 0.42	N/A	24-01173	1-2	C	✓	
Field Trip Blank		DW	12/12/23	0855	250mL	Plastic	PFAS, EPA 533	Ammonium Acetate 0.42	N/A	24-01174	1-2	C	✓	

Sampling Information	Transportation Information		Unused Sample Disposition	Sample Condition
Location Sampled: MCBH Kaneohe	Transported/Stored in: Cooler with ice	Cooler Temp: 18.7 °C	[ ] Return to customer	[X] Received with CoC
			[X] Dispose at 60 Days	[ ] Received with Custody Seals
Sampler(s): (Print names clearly) J. Bruhn	Air bill/Carrier ID#:		[ ] Archive for ____ Days	[ ] Seals Required [ ] Seals Intact
			[ ] Contact before disposal	[X] Labels and CoC agree

Remarks: Laboratory must be certified by the Hawaii State DOH or USEPA.

Relinquished By: (Print clearly & Sign)	Date	Time	Received By: (Print clearly & Sign)	Date	Time
Jacob M. Bruhn	12/12/23	934	Taylor Tashiro Taylor Tashiro	12/12/23	0934
			Kameron Williams Kameron Williams EEA-SB	12/14/23	0920

Login Sample Receipt Checklist

Client: NAVFAC Hawaii Environmental Svcs Lab

Job Number: 810-87850-1

Login Number: 87850
List Number: 1
Creator: Williams, Kameron

List Source: Eurofins Eaton Analytical South Bend

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	

Contract Data Review Sheet

Delivery Order #_____ PWC Laboratory Number _____

(Write in)		(Check Yes or No)	
Date and Time Collected 12/12/23, 0852-0855	Sample Description Correct Yes [X], No []	Report Date OK Yes [X], No []	
Matrix DW	PWC Customer Correct Yes [X], No []	Signature/Initials Yes [X], No []	

TCLP Extraction Requested (Circle) Rotary (3BC/3BD), ZHE (4AA/4AB) Extraction Date _____
TCLP Extraction Performed (Check) Rotary [], ZHE [] None (<0.5%) []
Holding Time OK (≤14 d Org, 180d Metal, 28d Hg) Yes [] No [] If % S <0.5% count holding time at Filtration Date _____

(Write in dates. Check the box if present/OK. Note flagged data with an "F")

Code/Analysis	Date Prep	Date Anal	Holding Time(s) Met	Method Correct	All Analytes Reported	PQL< MCL/ CRQL	Surr OK or Flag		QC Batch	Surr OK or Flag	MB	Dup	MS	MSD	BS	BSD
EDB/DBCP			14 days	504.1				Table 4.2								
Chlordane, PCB, Toxaphene			7/40 d	505												
2,4-D, Pentachlorophenol, 2,4,5-TP (Silvex), Dalapon, Dinoseb, Picloram			7/40 d	515.1												
Alachlor, Atrazine, Heptachlor, Heptachlor Epoxide, Lindane, Methoxychlor, Benzo(a)pyrene, Di(2-ethylhexyl)adipate, Di(2-ethylhexyl)phthalate, Endrin, Hexachlorobenzene, Hexchlorcyclopentadiene, Simazine			14/40 d	525.2												
Aldicarb, Aldicarb sulfoxide, Aldicarb sulfone, Carbofuran, Oxamyl (Vydate)			14 day	531.1												
Glyphospate			14/40 d	547												
Endothall			14/40 d	548.1												
Diquat			14/40 d	549.2												
2,3,7,8-TCDD (Dioxin)			7/40 d	1613A												
TCE, PCE, CCL4			14/40 d	502.2/ 524.2												
TCE, PCE, CCL4, DCP			14/40 d	502.2/ 524.2												
PFAS	12/13/23	12/14/23	28/28 d	533	✓	✓	✓		B3048	✓	✓				✓	✓
	12/15/23	12/16/23	14/28 d	537.1	✓	✓	✓		B3032	✓	✓		✓		✓	✗ wrong compound
DCP			14/40 d	502.2/ 524.2												
BTX			14/40 d	502.2/ 524.2												
THM			14/40 d	502.2/ 524.2												
Benzo(a)pyrene			14/40 d	525.2												
Atrazine			14/40 d	525.2												
DBCP, EDP			14/40 d	504.1												
Other:																

Notes/Comments/Corrections: _____

Signature: _____ Date: 2/6/24

LFE/052-24
Enclosure 1

NAVFAC HAWAII ENVIRONMENTAL SERVICES LABORATORY CHAIN-OF-CUSTODY

Navy Facilities Engineering Command, Hawaii, Pearl Harbor, Hawaii Phone: (808) 474-3704, FAX: (808) 471-4534

JON: MCBH DW	ESM:	POC: Patrick Crile	PH#: 496-4358	FAX#:
Report To: Patrick Crile		Copy To:	Copy To:	
patrick.crile@usmc.mil				

Sample ID	Sample Description	Matrix Code	Sampling Date	Sampling Time	Container Vol	Container Type	Analysis Required	Preservative / Res. Cl (ppm)	FOR LAB USE ONLY pH	Lab Number	Ext.	Lctn.	Cond. A	Cond. U
1296 EP0001	Drinking Water, EPDS	DW	12/12/23	0852	2 x 250mL	Plastic	PFAS, EPA 537.1	Trizma Pre-set 0.42	N/A	24-01172	1-2	C	✓	
			12/12/23	0855	3 x 250mL	Plastic	PFAS, EPA 533	Ammonium Acetate 0.42	N/A		3-5	C	✓	
Field Trip Blank		DW	12/12/23	0852	250mL	Plastic	PFAS, EPA 537.1	Trizma Pre-set 0.42	N/A	24-01173	1-2	C	✓	
Field Trip Blank		DW	12/12/23	0855	250mL	Plastic	PFAS, EPA 533	Ammonium Acetate 0.42	N/A	24-01174	1-2	C	✓	

Sampling Information	Transportation Information		Unused Sample Disposition	Sample Condition
Location Sampled: MCBH Kaneohe	Transported/Stored in: Cooler with ice	Cooler Temp: 18.7 °C	| | Return to customer	|X| Received with CoC
			|X| Dispose at 60 Days	| | Received with Custody Seals
Sampler(s): (Print names clearly)	Air bill/Carrier ID#:		| | Archive for ____ Days	[ ] Seals Required | | Seals Intact
			| | Contact before disposal	|X| Labels and CoC agree

Remarks: Laboratory must be certified by the Hawaii State DOH or USEPA.

Relinquished By: (Print clearly & Sign)	Date	Time	Received By: (Print clearly & Sign)	Date	Time
Jacob M. Bahr	12/12/23	934	Taylor Tashiro	12/12/23	0934

LFE/052-24
Enclosure 1