



AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES

A METIRI GROUP COMPANY

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NELAP Certification Number: CA00046

DoD-ELAP Certification Number 4064.01

State Certification Number:

April 20, 2023

Watson Tanji
AECOM Honolulu
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

RE: Red Hill AFFF Assessment Sampling
23D0008

Enclosed are the results of analyses for samples received by our laboratory on 4/4/2023. If you have any questions concerning this report, please feel free to contact me.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or designee, as verified by the following signature.

Sincerely,

Karen Volpendesta
Project Manager

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AECOM Honolulu
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Project: Red Hill AFFF Assessment Sampling
Project Number: Red Hill AFFF Assessment Sampling / 60697810
Project Manager: Watson Tanji

Reported: 04/20/2023 19:24

Analysis Case Narrative

EPA 1633: Manual integrations were performed for this method in accordance with APPL's SOP. Chromatograms after manual integration are enclosed for specific samples and analytes. Abbreviated flags for technical justification are listed on the chromatogram.

Some extracted internal standards recovered outside of control limits in some samples; these samples were diluted and recovered in control, unless stated otherwise.

The analyte PFOS recovered above the upper control limit in the BCD0035-MRL1. The samples were reextracted and only the reextracted data has been provided.

The analyte PFOSA recovered above ½ the LOQ in the BCD0235-BLK1. Samples with hits less than ten times this have been flagged appropriately. No sample remains for reextraction. Data was compared to the original analysis and all results confirm well, with uncontaminated blanks.

The analyte NMeFOSAA recovered below the lower control limit in the SC01534-LCV1.

The SC01534-PEM2 was miss-acquired and no TDCA peak can be seen in the chromatogram. The retention time check cannot be provided showing TDCA and the most branched peak for PFOS are more than 1 minute apart. The next TDCA check analyzed has been provided in leu of SC01534-PEM2.

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
23D0008-01	AF-RHMW04-WGN01LF-2304W1	Water	04/03/2023 12:50	04/04/2023
23D0008-02	AF-RHMW06-WGN01LF-2304W1	Water	04/03/2023 11:05	04/04/2023
23D0008-03	AF-RHMW16-WGN01LF-2304W1	Water	04/03/2023 12:16	04/04/2023
23D0008-04	AF-RHMW12A-WGN01LF-2304W1	Water	04/03/2023 09:28	04/04/2023
23D0008-05	AF-RHMW12A-WGFD01LF-2304W1	Water	04/03/2023 09:28	04/04/2023

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Sample Results

Sample: AF-RHMW04-WGN01LF-2304W1
23D0008-01 (Water)

Per- and Polyfluoroalkyl Substances

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	0.74 U	1.5	0.74	0.19	ng/L	04/18/23	1	EPA 1633	BCD0235
PFPEA	0.37 U	0.74	0.37	0.060	ng/L	04/18/23	1	EPA 1633	BCD0235
PFHXA	0.18 U	0.37	0.18	0.051	ng/L	04/18/23	1	EPA 1633	BCD0235
PFHPA	0.18 U	0.37	0.18	0.038	ng/L	04/18/23	1	EPA 1633	BCD0235
PFOA	0.28 U	0.37	0.28	0.14	ng/L	04/18/23	1	EPA 1633	BCD0235
PFNA	0.18 U	0.37	0.18	0.075	ng/L	04/18/23	1	EPA 1633	BCD0235
PFDA	0.18 U	0.37	0.18	0.093	ng/L	04/18/23	1	EPA 1633	BCD0235
PFUnA	0.28 U	0.37	0.28	0.15	ng/L	04/18/23	1	EPA 1633	BCD0235
PFDOA	0.18 U	0.37	0.18	0.10	ng/L	04/18/23	1	EPA 1633	BCD0235
PFTRDA	0.28 U	0.37	0.28	0.19	ng/L	04/18/23	1	EPA 1633	BCD0235
PFTEDA	0.28 U	0.37	0.28	0.18	ng/L	04/18/23	1	EPA 1633	BCD0235
PFBS	0.18 U	0.37	0.18	0.034	ng/L	04/18/23	1	EPA 1633	BCD0235
PFPEs	0.18 U	0.37	0.18	0.058	ng/L	04/18/23	1	EPA 1633	BCD0235
PFHXS	0.18 U	0.37	0.18	0.029	ng/L	04/18/23	1	EPA 1633	BCD0235
PFHPS	0.18 U	0.37	0.18	0.047	ng/L	04/18/23	1	EPA 1633	BCD0235
PFOS	0.18 U	0.37	0.18	0.059	ng/L	04/18/23	1	EPA 1633	BCD0235
PFNS	0.18 U	0.37	0.18	0.11	ng/L	04/18/23	1	EPA 1633	BCD0235
PFDS	0.28 U	0.37	0.28	0.14	ng/L	04/18/23	1	EPA 1633	BCD0235
PFDOS	0.18 U	0.37	0.18	0.11	ng/L	04/18/23	1	EPA 1633	BCD0235
4:2FTS	0.74 U	1.5	0.74	0.27	ng/L	04/18/23	1	EPA 1633	BCD0235
6:2FTS	0.74 U	1.5	0.74	0.29	ng/L	04/18/23	1	EPA 1633	BCD0235
8:2FTS	0.74 U	1.5	0.74	0.076	ng/L	04/18/23	1	EPA 1633	BCD0235
PFOSA	0.18 U	0.37	0.18	0.096	ng/L	04/18/23	1	EPA 1633	BCD0235
NMeFOSA	0.74 U	1.5	0.74	0.44	ng/L	04/18/23	1	EPA 1633	BCD0235
NEtFOSA	0.74 U	1.5	0.74	0.38	ng/L	04/18/23	1	EPA 1633	BCD0235
NMeFOSAA	0.18 U	0.37	0.18	0.098	ng/L	04/18/23	1	EPA 1633	BCD0235
NEtFOSAA	0.18 U	0.37	0.18	0.11	ng/L	04/18/23	1	EPA 1633	BCD0235
NMeFOSE	1.1 U	1.5	1.1	0.93	ng/L	04/18/23	1	EPA 1633	BCD0235
NEtFOSE	1.1 U	1.5	1.1	0.97	ng/L	04/18/23	1	EPA 1633	BCD0235
HFPO-DA	0.37 U	0.74	0.37	0.16	ng/L	04/18/23	1	EPA 1633	BCD0235
ADONA	0.37 U	0.74	0.37	0.11	ng/L	04/18/23	1	EPA 1633	BCD0235
PFEESA	0.37 U	0.74	0.37	0.10	ng/L	04/18/23	1	EPA 1633	BCD0235
PFMPA	0.37 U	0.74	0.37	0.050	ng/L	04/18/23	1	EPA 1633	BCD0235
PFMBA	0.37 U	0.74	0.37	0.084	ng/L	04/18/23	1	EPA 1633	BCD0235
NFDHA	0.37 U	0.74	0.37	0.28	ng/L	04/18/23	1	EPA 1633	BCD0235
9CL-PF3ONS	0.37 U	0.74	0.37	0.19	ng/L	04/18/23	1	EPA 1633	BCD0235
11CL-PF3OUDS	0.37 U	0.74	0.37	0.19	ng/L	04/18/23	1	EPA 1633	BCD0235
3:3FTCA	0.74 U	1.5	0.74	0.53	ng/L	04/18/23	1	EPA 1633	BCD0235
5:3FTCA	0.74 U	1.5	0.74	0.41	ng/L	04/18/23	1	EPA 1633	BCD0235
7:3FTCA	0.74 U	1.5	0.74	0.51	ng/L	04/18/23	1	EPA 1633	BCD0235
Surrogate: 13C4-PFBA	95.8%		10-130			04/18/23	1	EPA 1633	BCD0235
Surrogate: 13C5-PFPEA	104%		35-150			04/18/23	1	EPA 1633	BCD0235
Surrogate: 13C5-PFHXA	102%		55-150			04/18/23	1	EPA 1633	BCD0235
Surrogate: 13C4-PFHPA	98.1%		55-150			04/18/23	1	EPA 1633	BCD0235

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Sample Results (Continued)

Sample: AF-RHMW04-WGN01LF-2304W1 (Continued) 23D0008-01 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C8-PFOA	92.5%		60-140			04/18/23	1	EPA 1633	BCD0235
Surrogate: 13C9-PFNA	93.6%		55-140			04/18/23	1	EPA 1633	BCD0235
Surrogate: 13C6-PFDA	100%		50-140			04/18/23	1	EPA 1633	BCD0235
Surrogate: 13C7-PFUnA	99.8%		30-140			04/18/23	1	EPA 1633	BCD0235
Surrogate: 13C2-PFDOA	106%		10-150			04/18/23	1	EPA 1633	BCD0235
Surrogate: 13C2-PFTEDA	97.1%		10-130			04/18/23	1	EPA 1633	BCD0235
Surrogate: 13C3-PFBS	111%		55-150			04/18/23	1	EPA 1633	BCD0235
Surrogate: 13C3-PFHXS	109%		55-150			04/18/23	1	EPA 1633	BCD0235
Surrogate: 13C8-PFOS	107%		45-140			04/18/23	1	EPA 1633	BCD0235
Surrogate: 13C2-4:2FTS	120%		60-200			04/18/23	1	EPA 1633	BCD0235
Surrogate: 13C2-6:2FTS	115%		60-200			04/18/23	1	EPA 1633	BCD0235
Surrogate: 13C2-8:2FTS	217% S2		50-200			04/18/23	1	EPA 1633	BCD0235
Surrogate: 13C2-8:2FTS	123%		50-200			04/18/23	10	EPA 1633	BCD0235
Surrogate: 13C8-PFOA	84.7%		30-130			04/18/23	1	EPA 1633	BCD0235
Surrogate: D3-NMEFOA	54.3%		15-130			04/18/23	1	EPA 1633	BCD0235
Surrogate: D5-NETFOA	54.9%		10-130			04/18/23	1	EPA 1633	BCD0235
Surrogate: D3-NMEFOSAA	110%		45-200			04/18/23	1	EPA 1633	BCD0235
Surrogate: D5-NETFOSAA	109%		10-200			04/18/23	1	EPA 1633	BCD0235
Surrogate: D7-NMEFOSE	68.5%		10-150			04/18/23	1	EPA 1633	BCD0235
Surrogate: D9-NETFOSE	64.3%		10-150			04/18/23	1	EPA 1633	BCD0235
Surrogate: 13C3-HFPO-DA	101%		25-160			04/18/23	1	EPA 1633	BCD0235

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Sample Results (Continued)

**Sample: AF-RHMW06-WGN01LF-2304W1
23D0008-02 (Water)**

Per- and Polyfluoroalkyl Substances

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	0.32 J	1.5	0.76	0.20	ng/L	04/19/23	1	EPA 1633	BCD0235
PFPEA	0.89	0.76	0.38	0.062	ng/L	04/19/23	1	EPA 1633	BCD0235
PFHXA	0.40	0.38	0.19	0.052	ng/L	04/19/23	1	EPA 1633	BCD0235
PFHPA	0.41	0.38	0.19	0.039	ng/L	04/19/23	1	EPA 1633	BCD0235
PFOA	0.28 U	0.38	0.28	0.14	ng/L	04/19/23	1	EPA 1633	BCD0235
PFNA	0.19 U	0.38	0.19	0.078	ng/L	04/19/23	1	EPA 1633	BCD0235
PFDA	0.19 U	0.38	0.19	0.096	ng/L	04/19/23	1	EPA 1633	BCD0235
PFUnA	0.28 U	0.38	0.28	0.15	ng/L	04/19/23	1	EPA 1633	BCD0235
PFDOA	0.19 U	0.38	0.19	0.11	ng/L	04/19/23	1	EPA 1633	BCD0235
PFTRDA	0.28 U	0.38	0.28	0.19	ng/L	04/19/23	1	EPA 1633	BCD0235
PFTEDA	0.28 U	0.38	0.28	0.19	ng/L	04/19/23	1	EPA 1633	BCD0235
PFBS	0.053 J	0.38	0.19	0.035	ng/L	04/19/23	1	EPA 1633	BCD0235
PFPEs	0.19 U	0.38	0.19	0.059	ng/L	04/19/23	1	EPA 1633	BCD0235
PFHXS	0.19 U	0.38	0.19	0.030	ng/L	04/19/23	1	EPA 1633	BCD0235
PFHPS	0.19 U	0.38	0.19	0.049	ng/L	04/19/23	1	EPA 1633	BCD0235
PFOS	0.19 U	0.38	0.19	0.060	ng/L	04/19/23	1	EPA 1633	BCD0235
PFNS	0.19 U	0.38	0.19	0.12	ng/L	04/19/23	1	EPA 1633	BCD0235
PFDS	0.28 U	0.38	0.28	0.14	ng/L	04/19/23	1	EPA 1633	BCD0235
PFDOS	0.19 U	0.38	0.19	0.12	ng/L	04/19/23	1	EPA 1633	BCD0235
4:2FTS	0.76 U	1.5	0.76	0.28	ng/L	04/19/23	1	EPA 1633	BCD0235
6:2FTS	1.7	1.5	0.76	0.30	ng/L	04/19/23	1	EPA 1633	BCD0235
8:2FTS	0.76 U	1.5	0.76	0.078	ng/L	04/19/23	1	EPA 1633	BCD0235
PFOSA	0.19 U	0.38	0.19	0.099	ng/L	04/19/23	1	EPA 1633	BCD0235
NMeFOSA	0.76 U	1.5	0.76	0.45	ng/L	04/19/23	1	EPA 1633	BCD0235
NEtFOSA	0.76 U	1.5	0.76	0.39	ng/L	04/19/23	1	EPA 1633	BCD0235
NMeFOSAA	0.19 U	0.38	0.19	0.10	ng/L	04/19/23	1	EPA 1633	BCD0235
NEtFOSAA	0.19 U	0.38	0.19	0.11	ng/L	04/19/23	1	EPA 1633	BCD0235
NMeFOSE	1.1 U	1.5	1.1	0.96	ng/L	04/19/23	1	EPA 1633	BCD0235
NEtFOSE	1.1 U	1.5	1.1	0.99	ng/L	04/19/23	1	EPA 1633	BCD0235
HFPO-DA	0.38 U	0.76	0.38	0.17	ng/L	04/19/23	1	EPA 1633	BCD0235
ADONA	0.38 U	0.76	0.38	0.12	ng/L	04/19/23	1	EPA 1633	BCD0235
PFEESA	0.38 U	0.76	0.38	0.10	ng/L	04/19/23	1	EPA 1633	BCD0235
PFMPA	0.38 U	0.76	0.38	0.051	ng/L	04/19/23	1	EPA 1633	BCD0235
PFMBA	0.38 U	0.76	0.38	0.086	ng/L	04/19/23	1	EPA 1633	BCD0235
NFDHA	0.38 U	0.76	0.38	0.28	ng/L	04/19/23	1	EPA 1633	BCD0235
9CL-PF3ONS	0.38 U	0.76	0.38	0.20	ng/L	04/19/23	1	EPA 1633	BCD0235
11CL-PF3OUDS	0.38 U	0.76	0.38	0.20	ng/L	04/19/23	1	EPA 1633	BCD0235
3:3FTCA	0.76 U	1.5	0.76	0.54	ng/L	04/19/23	1	EPA 1633	BCD0235
5:3FTCA	0.76 U	1.5	0.76	0.42	ng/L	04/19/23	1	EPA 1633	BCD0235
7:3FTCA	0.76 U	1.5	0.76	0.52	ng/L	04/19/23	1	EPA 1633	BCD0235
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Surrogate: 13C4-PFBA	94.4%		10-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C5-PFPEA	93.4%		35-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C5-PFHXA	90.4%		55-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C4-PFHPA	89.2%		55-150			04/19/23	1	EPA 1633	BCD0235

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Sample Results (Continued)

Sample: AF-RHMW06-WGN01LF-2304W1 (Continued) 23D0008-02 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C8-PFOA	94.4%		60-140			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C9-PFNA	89.6%		55-140			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C6-PFDA	93.2%		50-140			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C7-PFUnA	84.1%		30-140			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-PFDOA	84.8%		10-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-PFTEDA	87.5%		10-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C3-PFBS	99.4%		55-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C3-PFHXS	94.4%		55-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C8-PFOS	93.6%		45-140			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-4:2FTS	105%		60-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-6:2FTS	95.3%		60-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-8:2FTS	202% S2		50-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-8:2FTS	103%		50-200			04/19/23	10	EPA 1633	BCD0235
Surrogate: 13C8-PFOA	82.4%		30-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: D3-NMEFOA	56.4%		15-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: D5-NETFOA	54.0%		10-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: D3-NMEFOSAA	104%		45-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: D5-NETFOSAA	95.2%		10-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: D7-NMEFOSE	60.6%		10-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: D9-NETFOSE	60.6%		10-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C3-HFPO-DA	92.0%		25-160			04/19/23	1	EPA 1633	BCD0235

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Project Manager: Watson Tanji

Reported: 04/20/2023 19:24

Sample Results (Continued)

**Sample: AF-RHMW16-WGN01LF-2304W1
23D0008-03 (Water)**

Per- and Polyfluoroalkyl Substances

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	0.74 U	1.5	0.74	0.19	ng/L	04/19/23	1	EPA 1633	BCD0235
PFPEA	0.37 U	0.74	0.37	0.060	ng/L	04/19/23	1	EPA 1633	BCD0235
PFHXA	0.18 U	0.37	0.18	0.051	ng/L	04/19/23	1	EPA 1633	BCD0235
PFHPA	0.18 U	0.37	0.18	0.038	ng/L	04/19/23	1	EPA 1633	BCD0235
PFOA	0.28 U	0.37	0.28	0.14	ng/L	04/19/23	1	EPA 1633	BCD0235
PFNA	0.18 U	0.37	0.18	0.076	ng/L	04/19/23	1	EPA 1633	BCD0235
PFDA	0.18 U	0.37	0.18	0.094	ng/L	04/19/23	1	EPA 1633	BCD0235
PFUnA	0.28 U	0.37	0.28	0.15	ng/L	04/19/23	1	EPA 1633	BCD0235
PFDOA	0.18 U	0.37	0.18	0.10	ng/L	04/19/23	1	EPA 1633	BCD0235
PFTRDA	0.28 U	0.37	0.28	0.19	ng/L	04/19/23	1	EPA 1633	BCD0235
PFTEDA	0.28 U	0.37	0.28	0.18	ng/L	04/19/23	1	EPA 1633	BCD0235
PFBS	0.18 U	0.37	0.18	0.034	ng/L	04/19/23	1	EPA 1633	BCD0235
PFPEs	0.18 U	0.37	0.18	0.058	ng/L	04/19/23	1	EPA 1633	BCD0235
PFHXS	0.18 U	0.37	0.18	0.029	ng/L	04/19/23	1	EPA 1633	BCD0235
PFHPS	0.18 U	0.37	0.18	0.047	ng/L	04/19/23	1	EPA 1633	BCD0235
PFOS	0.18 U	0.37	0.18	0.059	ng/L	04/19/23	1	EPA 1633	BCD0235
PFNS	0.18 U	0.37	0.18	0.11	ng/L	04/19/23	1	EPA 1633	BCD0235
PFDS	0.28 U	0.37	0.28	0.14	ng/L	04/19/23	1	EPA 1633	BCD0235
PFDOS	0.18 U	0.37	0.18	0.11	ng/L	04/19/23	1	EPA 1633	BCD0235
4:2FTS	0.74 U	1.5	0.74	0.27	ng/L	04/19/23	1	EPA 1633	BCD0235
6:2FTS	0.74 U	1.5	0.74	0.29	ng/L	04/19/23	1	EPA 1633	BCD0235
8:2FTS	0.74 U	1.5	0.74	0.076	ng/L	04/19/23	1	EPA 1633	BCD0235
PFOSA	0.18 U	0.37	0.18	0.096	ng/L	04/19/23	1	EPA 1633	BCD0235
NMeFOSA	0.74 U	1.5	0.74	0.44	ng/L	04/19/23	1	EPA 1633	BCD0235
NEtFOSA	0.74 U	1.5	0.74	0.38	ng/L	04/19/23	1	EPA 1633	BCD0235
NMeFOSAA	0.18 U	0.37	0.18	0.098	ng/L	04/19/23	1	EPA 1633	BCD0235
NEtFOSAA	0.18 U	0.37	0.18	0.11	ng/L	04/19/23	1	EPA 1633	BCD0235
NMeFOSE	1.1 U	1.5	1.1	0.93	ng/L	04/19/23	1	EPA 1633	BCD0235
NEtFOSE	1.1 U	1.5	1.1	0.97	ng/L	04/19/23	1	EPA 1633	BCD0235
HFPO-DA	0.37 U	0.74	0.37	0.16	ng/L	04/19/23	1	EPA 1633	BCD0235
ADONA	0.37 U	0.74	0.37	0.11	ng/L	04/19/23	1	EPA 1633	BCD0235
PFEESA	0.37 U	0.74	0.37	0.10	ng/L	04/19/23	1	EPA 1633	BCD0235
PFMPA	0.37 U	0.74	0.37	0.050	ng/L	04/19/23	1	EPA 1633	BCD0235
PFMBA	0.37 U	0.74	0.37	0.084	ng/L	04/19/23	1	EPA 1633	BCD0235
NFDHA	0.37 U	0.74	0.37	0.28	ng/L	04/19/23	1	EPA 1633	BCD0235
9CL-PF3ONS	0.37 U	0.74	0.37	0.19	ng/L	04/19/23	1	EPA 1633	BCD0235
11CL-PF3OUDS	0.37 U	0.74	0.37	0.19	ng/L	04/19/23	1	EPA 1633	BCD0235
3:3FTCA	0.74 U	1.5	0.74	0.53	ng/L	04/19/23	1	EPA 1633	BCD0235
5:3FTCA	0.74 U	1.5	0.74	0.41	ng/L	04/19/23	1	EPA 1633	BCD0235
7:3FTCA	0.74 U	1.5	0.74	0.51	ng/L	04/19/23	1	EPA 1633	BCD0235
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Surrogate: 13C4-PFBA	98.9%		10-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C5-PFPEA	99.0%		35-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C5-PFHXA	101%		55-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C4-PFHPA	92.8%		55-150			04/19/23	1	EPA 1633	BCD0235

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Project: Red Hill AFFF Assessment Sampling
 Project Number: Red Hill AFFF Assessment Sampling / 60697810
 Project Manager: Watson Tanji

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Sample Results
 (Continued)

Sample: AF-RHMW16-WGN01LF-2304W1 (Continued)
23D0008-03 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C8-PFOA	99.8%		60-140			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C9-PFNA	92.1%		55-140			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C6-PFDA	107%		50-140			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C7-PFUnA	101%		30-140			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-PFDOA	90.6%		10-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-PFTEDA	95.7%		10-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C3-PFBS	105%		55-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C3-PFHXS	100%		55-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C8-PFOS	103%		45-140			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-4:2FTS	107%		60-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-6:2FTS	93.7%		60-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-8:2FTS	228% S2		50-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-8:2FTS	116%		50-200			04/19/23	10	EPA 1633	BCD0235
Surrogate: 13C8-PFOA	87.4%		30-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: D3-NMEFOA	60.2%		15-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: D5-NETFOA	60.8%		10-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: D3-NMEFOSAA	110%		45-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: D5-NETFOSAA	106%		10-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: D7-NMEFOSE	66.3%		10-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: D9-NETFOSE	66.9%		10-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C3-HFPO-DA	94.5%		25-160			04/19/23	1	EPA 1633	BCD0235

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Project: Red Hill AFFF Assessment Sampling
Project Number: Red Hill AFFF Assessment Sampling / 60697810
Project Manager: Watson Tanji

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Sample Results (Continued)

**Sample: AF-RHMW12A-WGN01LF-2304W1
23D0008-04 (Water)**

Per- and Polyfluoroalkyl Substances

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	1.4 J	1.5	0.76	0.20	ng/L	04/19/23	1	EPA 1633	BCD0235
PFPEA	5.0	0.76	0.38	0.062	ng/L	04/19/23	1	EPA 1633	BCD0235
PFHXA	1.4	0.38	0.19	0.052	ng/L	04/19/23	1	EPA 1633	BCD0235
PFHPA	0.32 J	0.38	0.19	0.039	ng/L	04/19/23	1	EPA 1633	BCD0235
PFOA	0.28 U	0.38	0.28	0.14	ng/L	04/19/23	1	EPA 1633	BCD0235
PFNA	0.19 U	0.38	0.19	0.078	ng/L	04/19/23	1	EPA 1633	BCD0235
PFDA	0.19 U	0.38	0.19	0.096	ng/L	04/19/23	1	EPA 1633	BCD0235
PFUnA	0.28 U	0.38	0.28	0.15	ng/L	04/19/23	1	EPA 1633	BCD0235
PFDOA	0.19 U	0.38	0.19	0.11	ng/L	04/19/23	1	EPA 1633	BCD0235
PFTRDA	0.28 U	0.38	0.28	0.19	ng/L	04/19/23	1	EPA 1633	BCD0235
PFTEDA	0.28 U	0.38	0.28	0.19	ng/L	04/19/23	1	EPA 1633	BCD0235
PFBS	0.19 U	0.38	0.19	0.035	ng/L	04/19/23	1	EPA 1633	BCD0235
PFPEs	0.19 U	0.38	0.19	0.059	ng/L	04/19/23	1	EPA 1633	BCD0235
PFHXS	0.19 U	0.38	0.19	0.030	ng/L	04/19/23	1	EPA 1633	BCD0235
PFHPS	0.19 U	0.38	0.19	0.049	ng/L	04/19/23	1	EPA 1633	BCD0235
PFOS	0.19 U	0.38	0.19	0.060	ng/L	04/19/23	1	EPA 1633	BCD0235
PFNS	0.19 U	0.38	0.19	0.12	ng/L	04/19/23	1	EPA 1633	BCD0235
PFDS	0.28 U	0.38	0.28	0.14	ng/L	04/19/23	1	EPA 1633	BCD0235
PFDOS	0.19 U	0.38	0.19	0.12	ng/L	04/19/23	1	EPA 1633	BCD0235
4:2FTS	0.76 U	1.5	0.76	0.28	ng/L	04/19/23	1	EPA 1633	BCD0235
6:2FTS	0.92 J	1.5	0.76	0.30	ng/L	04/19/23	1	EPA 1633	BCD0235
8:2FTS	0.76 U	1.5	0.76	0.078	ng/L	04/19/23	1	EPA 1633	BCD0235
PFOSA	0.13 J B,	0.38	0.19	0.099	ng/L	04/19/23	1	EPA 1633	BCD0235
NMeFOSA	0.76 U	1.5	0.76	0.45	ng/L	04/19/23	1	EPA 1633	BCD0235
NEtFOSA	0.76 U	1.5	0.76	0.39	ng/L	04/19/23	1	EPA 1633	BCD0235
NMeFOSAA	0.19 U	0.38	0.19	0.10	ng/L	04/19/23	1	EPA 1633	BCD0235
NEtFOSAA	0.19 U	0.38	0.19	0.11	ng/L	04/19/23	1	EPA 1633	BCD0235
NMeFOSE	1.1 U	1.5	1.1	0.96	ng/L	04/19/23	1	EPA 1633	BCD0235
NEtFOSE	1.1 U	1.5	1.1	0.99	ng/L	04/19/23	1	EPA 1633	BCD0235
HFPO-DA	0.38 U	0.76	0.38	0.17	ng/L	04/19/23	1	EPA 1633	BCD0235
ADONA	0.38 U	0.76	0.38	0.12	ng/L	04/19/23	1	EPA 1633	BCD0235
PFEESA	0.38 U	0.76	0.38	0.10	ng/L	04/19/23	1	EPA 1633	BCD0235
PFMPA	0.38 U	0.76	0.38	0.051	ng/L	04/19/23	1	EPA 1633	BCD0235
PFMBA	0.38 U	0.76	0.38	0.086	ng/L	04/19/23	1	EPA 1633	BCD0235
NFDHA	0.38 U	0.76	0.38	0.29	ng/L	04/19/23	1	EPA 1633	BCD0235
9CL-PF3ONS	0.38 U	0.76	0.38	0.20	ng/L	04/19/23	1	EPA 1633	BCD0235
11CL-PF3OUDS	0.38 U	0.76	0.38	0.20	ng/L	04/19/23	1	EPA 1633	BCD0235
3:3FTCA	0.76 U	1.5	0.76	0.54	ng/L	04/19/23	1	EPA 1633	BCD0235
5:3FTCA	0.76 U	1.5	0.76	0.42	ng/L	04/19/23	1	EPA 1633	BCD0235
7:3FTCA	0.76 U	1.5	0.76	0.52	ng/L	04/19/23	1	EPA 1633	BCD0235
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Surrogate: 13C4-PFBA	91.4%		10-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C5-PFPEA	91.6%		35-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C5-PFHXA	94.2%		55-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C4-PFHPA	93.1%		55-150			04/19/23	1	EPA 1633	BCD0235

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Project: Red Hill AFFF Assessment Sampling
Project Number: Red Hill AFFF Assessment Sampling / 60697810
Project Manager: Watson Tanji

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Sample Results (Continued)

Sample: AF-RHMW12A-WGN01LF-2304W1 (Continued)
23D0008-04 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C8-PFOA	95.5%		60-140			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C9-PFNA	94.7%		55-140			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C6-PFDA	87.5%		50-140			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C7-PFUnA	82.2%		30-140			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-PFDOA	77.9%		10-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-PFTEDA	77.5%		10-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C3-PFBS	96.3%		55-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C3-PFHXS	96.0%		55-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C8-PFOS	92.6%		45-140			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-4:2FTS	105%		60-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-6:2FTS	90.7%		60-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-8:2FTS	229% S2		50-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-8:2FTS	110%		50-200			04/19/23	10	EPA 1633	BCD0235
Surrogate: 13C8-PFOA	80.5%		30-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: D3-NMEFOA	56.5%		15-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: D5-NETFOA	53.8%		10-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: D3-NMEFOSAA	107%		45-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: D5-NETFOSAA	103%		10-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: D7-NMEFOSE	63.2%		10-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: D9-NETFOSE	63.6%		10-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C3-HFPO-DA	92.0%		25-160			04/19/23	1	EPA 1633	BCD0235

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Project: Red Hill AFFF Assessment Sampling
Project Number: Red Hill AFFF Assessment Sampling / 60697810
Project Manager: Watson Tanji

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Sample Results (Continued)

**Sample: AF-RHMW12A-WGFD01LF-2304W1
23D0008-05 (Water)**

Per- and Polyfluoroalkyl Substances

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	1.3 J	1.5	0.76	0.20	ng/L	04/19/23	1	EPA 1633	BCD0235
PFPEA	4.6	0.76	0.38	0.062	ng/L	04/19/23	1	EPA 1633	BCD0235
PFHXA	1.4	0.38	0.19	0.052	ng/L	04/19/23	1	EPA 1633	BCD0235
PFHPA	0.32 J	0.38	0.19	0.039	ng/L	04/19/23	1	EPA 1633	BCD0235
PFOA	0.28 U	0.38	0.28	0.14	ng/L	04/19/23	1	EPA 1633	BCD0235
PFNA	0.19 U	0.38	0.19	0.078	ng/L	04/19/23	1	EPA 1633	BCD0235
PFDA	0.19 U	0.38	0.19	0.096	ng/L	04/19/23	1	EPA 1633	BCD0235
PFUnA	0.28 U	0.38	0.28	0.15	ng/L	04/19/23	1	EPA 1633	BCD0235
PFDOA	0.19 U	0.38	0.19	0.11	ng/L	04/19/23	1	EPA 1633	BCD0235
PFTRDA	0.28 U	0.38	0.28	0.19	ng/L	04/19/23	1	EPA 1633	BCD0235
PFTEDA	0.28 U	0.38	0.28	0.19	ng/L	04/19/23	1	EPA 1633	BCD0235
PFBS	0.19 U	0.38	0.19	0.035	ng/L	04/19/23	1	EPA 1633	BCD0235
PFPEs	0.19 U	0.38	0.19	0.060	ng/L	04/19/23	1	EPA 1633	BCD0235
PFHXS	0.19 U	0.38	0.19	0.030	ng/L	04/19/23	1	EPA 1633	BCD0235
PFHPS	0.19 U	0.38	0.19	0.049	ng/L	04/19/23	1	EPA 1633	BCD0235
PFOS	0.13 J IR2, MI4,	0.38	0.19	0.060	ng/L	04/19/23	1	EPA 1633	BCD0235
PFNS	0.19 U	0.38	0.19	0.12	ng/L	04/19/23	1	EPA 1633	BCD0235
PFDS	0.28 U	0.38	0.28	0.14	ng/L	04/19/23	1	EPA 1633	BCD0235
PFDOS	0.19 U	0.38	0.19	0.12	ng/L	04/19/23	1	EPA 1633	BCD0235
4:2FTS	0.76 U	1.5	0.76	0.28	ng/L	04/19/23	1	EPA 1633	BCD0235
6:2FTS	1.4 J	1.5	0.76	0.30	ng/L	04/19/23	1	EPA 1633	BCD0235
8:2FTS	0.76 U	1.5	0.76	0.078	ng/L	04/19/23	1	EPA 1633	BCD0235
PFOSA	0.13 J B,	0.38	0.19	0.099	ng/L	04/19/23	1	EPA 1633	BCD0235
NMeFOSA	0.76 U	1.5	0.76	0.45	ng/L	04/19/23	1	EPA 1633	BCD0235
NEtFOSA	0.76 U	1.5	0.76	0.39	ng/L	04/19/23	1	EPA 1633	BCD0235
NMeFOSAA	0.19 U	0.38	0.19	0.10	ng/L	04/19/23	1	EPA 1633	BCD0235
NEtFOSAA	0.19 U	0.38	0.19	0.11	ng/L	04/19/23	1	EPA 1633	BCD0235
NMeFOSE	1.1 U	1.5	1.1	0.96	ng/L	04/19/23	1	EPA 1633	BCD0235
NEtFOSE	1.1 U	1.5	1.1	0.99	ng/L	04/19/23	1	EPA 1633	BCD0235
HFPO-DA	0.38 U	0.76	0.38	0.17	ng/L	04/19/23	1	EPA 1633	BCD0235
ADONA	0.38 U	0.76	0.38	0.12	ng/L	04/19/23	1	EPA 1633	BCD0235
PFEESA	0.38 U	0.76	0.38	0.10	ng/L	04/19/23	1	EPA 1633	BCD0235
PFMPA	0.38 U	0.76	0.38	0.051	ng/L	04/19/23	1	EPA 1633	BCD0235
PFMBA	0.38 U	0.76	0.38	0.086	ng/L	04/19/23	1	EPA 1633	BCD0235
NFDHA	0.38 U	0.76	0.38	0.29	ng/L	04/19/23	1	EPA 1633	BCD0235
9CL-PF3ONS	0.38 U	0.76	0.38	0.20	ng/L	04/19/23	1	EPA 1633	BCD0235
11CL-PF3OUDS	0.38 U	0.76	0.38	0.20	ng/L	04/19/23	1	EPA 1633	BCD0235
3:3FTCA	0.76 U	1.5	0.76	0.55	ng/L	04/19/23	1	EPA 1633	BCD0235
5:3FTCA	0.76 U	1.5	0.76	0.42	ng/L	04/19/23	1	EPA 1633	BCD0235
7:3FTCA	0.76 U	1.5	0.76	0.53	ng/L	04/19/23	1	EPA 1633	BCD0235
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Surrogate: 13C4-PFBA	91.2%		10-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C5-PFPEA	99.5%		35-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C5-PFHXA	97.5%		55-150			04/19/23	1	EPA 1633	BCD0235

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Project: Red Hill AFFF Assessment Sampling
Project Number: Red Hill AFFF Assessment Sampling / 60697810
Project Manager: Watson Tanji

Reported: 04/20/2023 19:24

Sample Results (Continued)

Sample: AF-RHMW12A-WGFD01LF-2304W1 (Continued) 23D0008-05 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result /Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C4-PFHFA	96.8%		55-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C8-PFOA	92.2%		60-140			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C9-PFNA	101%		55-140			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C6-PFDA	101%		50-140			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C7-PFUnA	91.9%		30-140			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-PFDOA	83.0%		10-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-PFTEDA	84.7%		10-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C3-PFBS	117%		55-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C3-PFHXS	99.9%		55-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C8-PFOS	93.9%		45-140			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-4:2FTS	118%		60-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-6:2FTS	111%		60-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-8:2FTS	275% S2		50-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C2-8:2FTS	88.3%		50-200			04/19/23	10	EPA 1633	BCD0235
Surrogate: 13C8-PFOA	69.4%		30-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: D3-NMEFOA	53.1%		15-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: D5-NETFOA	52.7%		10-130			04/19/23	1	EPA 1633	BCD0235
Surrogate: D3-NMEFOSAA	107%		45-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: D5-NETFOSAA	99.6%		10-200			04/19/23	1	EPA 1633	BCD0235
Surrogate: D7-NMEFOSE	54.7%		10-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: D9-NETFOSE	50.1%		10-150			04/19/23	1	EPA 1633	BCD0235
Surrogate: 13C3-HFPO-DA	96.1%		25-160			04/19/23	1	EPA 1633	BCD0235

AECOM Honolulu
 1001 Bishop Street, Suite 1600
 Honolulu, HI 96813

Project: Red Hill AFFF Assessment Sampling
 Project Number: Red Hill AFFF Assessment Sampling / 60697810
 Project Manager: Watson Tanji

Reported: 04/20/2023 19:24

PREPARATION BATCH SUMMARY

EPA 1633

Laboratory: APPL, LLC
 Client: AECOM
 Batch: BCD0235 Batch Matrix: Water Preparation: EPA 1633

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT mL	FINAL VOL. mL
AF-RHMW04-WGN01LF-2304W1	23D0008-01RE2	04/17/23 11:15	542.31	2.00
AF-RHMW04-WGN01LF-2304W1	23D0008-01RE3	04/17/23 11:15	542.31	2.00
AF-RHMW06-WGN01LF-2304W1	23D0008-02RE2	04/17/23 11:15	528.05	2.00
AF-RHMW06-WGN01LF-2304W1	23D0008-02RE3	04/17/23 11:15	528.05	2.00
AF-RHMW16-WGN01LF-2304W1	23D0008-03RE2	04/17/23 11:15	541.78	2.00
AF-RHMW16-WGN01LF-2304W1	23D0008-03RE3	04/17/23 11:15	541.78	2.00
AF-RHMW12A-WGN01LF-2304W1	23D0008-04RE2	04/17/23 11:15	527.67	2.00
AF-RHMW12A-WGN01LF-2304W1	23D0008-04RE3	04/17/23 11:15	527.67	2.00
AF-RHMW12A-WGFD01LF-2304W1	23D0008-05RE2	04/17/23 11:15	526.48	2.00
AF-RHMW12A-WGFD01LF-2304W1	23D0008-05RE3	04/17/23 11:15	526.48	2.00
Blank	BCD0235-BLK1	04/17/23 11:15	500.00	2.00
LCS	BCD0235-BS1	04/17/23 11:15	500.00	2.00
MRL Check	BCD0235-MRL1	04/17/23 11:15	500.00	2.00

AECOM Honolulu 1001 Bishop Street, Suite 1600 Honolulu, HI 96813	Project: Red Hill AFFF Assessment Sampling Project Number: Red Hill AFFF Assessment Sampling / 60697810 Project Manager: Watson Tanji	Reported: 04/20/2023 19:24
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Quality Control

Per- and Polyfluoroalkyl Substances

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Method: EPA 1633

Batch: BCD0235 - EPA 1633

	ng/L								
Blank (BCD0235-BLK1)									
									Prepared: 04/17/23 11:15 Analyzed: 04/18/23 22:56
PFBA	0.80 U	1.6	0.80	0.21					
PFPEA	0.40 U	0.80	0.40	0.065					
PFHXA	0.20 U	0.40	0.20	0.055					
PFHPA	0.20 U	0.40	0.20	0.041					
PFOA	0.30 U	0.40	0.30	0.15					
PFNA	0.20 U	0.40	0.20	0.082					
PFDA	0.20 U	0.40	0.20	0.10					
PFUnA	0.30 U	0.40	0.30	0.16					
PFDOA	0.20 U	0.40	0.20	0.11					
PFTRDA	0.30 U	0.40	0.30	0.20					
PFTEDA	0.30 U	0.40	0.30	0.20					
PFBS	0.20 U	0.40	0.20	0.037					
PFPEs	0.20 U	0.40	0.20	0.063					
PFHXS	0.20 U	0.40	0.20	0.032					
PFHPS	0.20 U	0.40	0.20	0.051					
PFOS	0.20 U	0.40	0.20	0.064					
PFNS	0.20 U	0.40	0.20	0.12					
PFDS	0.30 U	0.40	0.30	0.15					
PFDOS	0.20 U	0.40	0.20	0.12					
4:2FTS	0.80 U	1.6	0.80	0.29					
6:2FTS	0.80 U	1.6	0.80	0.31					
8:2FTS	0.80 U	1.6	0.80	0.082					
PFOSA	0.246 J B,	0.40	0.20	0.10					
NMeFOSA	0.80 U	1.6	0.80	0.47					
NEtFOSA	0.80 U	1.6	0.80	0.41					
NMeFOSAA	0.20 U	0.40	0.20	0.11					
NEtFOSAA	0.20 U	0.40	0.20	0.11					
NMeFOSE	1.2 U	1.6	1.2	1.0					
NEtFOSE	1.2 U	1.6	1.2	1.0					
HFPO-DA	0.40 U	0.80	0.40	0.17					
ADONA	0.40 U	0.80	0.40	0.12					
PFEESA	0.40 U	0.80	0.40	0.11					
PFMPA	0.40 U	0.80	0.40	0.054					
PFMBA	0.40 U	0.80	0.40	0.091					
NFDHA	0.40 U	0.80	0.40	0.30					
9CL-PF3ONS	0.40 U	0.80	0.40	0.21					
11CL-PF3OUDS	0.40 U	0.80	0.40	0.21					
3:3FTCA	0.80 U	1.6	0.80	0.57					
5:3FTCA	0.80 U	1.6	0.80	0.44					
7:3FTCA	0.80 U	1.6	0.80	0.55					

Surrogates

13C4-PFBA	30.3		32.0	94.7	10-130
13C5-PFPEA	15.2		16.0	95.0	35-150
13C5-PFHXA	7.58		8.00	94.8	55-150

AECOM Honolulu
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Project: Red Hill AFFF Assessment Sampling
Project Number: Red Hill AFFF Assessment Sampling / 60697810
Project Manager: Watson Tanji

Reported: 04/20/2023 19:24

Quality Control (Continued)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Blank (BCD0235-BLK1)										
Prepared: 04/17/23 11:15 Analyzed: 04/18/23 22:56										
<i>Surrogates</i>										
13C4-PFHPA	6.93				8.00		86.7	55-150		
13C8-PFOA	7.16				8.00		89.6	60-140		
13C9-PFNA	3.53				4.00		88.3	55-140		
13C6-PFDA	3.42				4.00		85.5	50-140		
13C7-PFUnA	3.48				4.00		87.0	30-140		
13C2-PFDOA	3.31				4.00		82.8	10-150		
13C2-PFTEDA	3.19				4.00		79.7	10-130		
13C3-PFBS	8.51				8.00		106	55-150		
13C3-PFHXS	7.80				8.00		97.5	55-150		
13C8-PFOS	7.30				8.00		91.3	45-140		
13C2-4:2FTS	16.8				16.0		105	60-200		
13C2-6:2FTS	15.6				16.0		97.6	60-200		
13C2-8:2FTS	28.5				16.0		178	50-200		
13C8-PFOA	5.56				8.00		69.5	30-130		
D3-NMEFOA	3.12				8.00		39.0	15-130		
D5-NETFOA	3.07				8.00		38.4	10-130		
D3-NMEFOSAA	14.7				16.0		91.9	45-200		
D5-NETFOSAA	13.7				16.0		85.6	10-200		
D7-NMEFOSE	40.2				80.0		50.3	10-150		
D9-NETFOSE	39.0				80.0		48.8	10-150		
13C3-HFPO-DA	29.5				32.0		92.2	25-160		
LCS (BCD0235-BS1)										
Prepared: 04/17/23 11:15 Analyzed: 04/18/23 23:12										
PFBA	16.3				16.0		102	58-148		
PFPEA	8.13				8.00		102	54-152		
PFHXA	4.24				4.00		106	55-152		
PFHPA	3.81				4.00		95.2	54-154		
PFOA	3.95				4.00		98.8	52-161		
PFNA	4.16				4.00		104	59-149		
PFDA	4.11				4.00		103	52-147		
PFUnA	3.79				4.00		94.8	48-159		
PFDOA	4.03				4.00		101	64-142		
PFTRDA	4.07				4.00		102	49-148		
PFTEDA	4.19				4.00		105	47-161		
PFBS	3.46				3.54		97.7	62-144		
PFPEA	3.82				3.76		102	59-151		
PFHXS	3.80 MI4				3.66		104	57-146		
PFHPS	4.42				3.82		116	55-152		
PFOS	4.07				3.72		109	58-149		
PFNS	3.95				3.84		103	52-148		
PFDS	4.13				3.86		107	51-147		
PFDOS	3.69				3.88		95.0	36-145		
4:2FTS	14.8				15.0		98.8	67-146		
6:2FTS	16.5				15.2		109	61-151		
8:2FTS	15.5				15.4		101	63-152		
PFOSA	4.20				4.00		105	61-148		

AECOM Honolulu
 1001 Bishop Street, Suite 1600
 Honolulu, HI 96813

Project: Red Hill AFFF Assessment Sampling
 Project Number: Red Hill AFFF Assessment Sampling / 60697810
 Project Manager: Watson Tanji

Reported: 04/20/2023 19:24

Quality Control
 (Continued)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
LCS (BCD0235-BS1)		ng/L		Prepared: 04/17/23 11:15 Analyzed: 04/18/23 23:12						
NMeFOSA	16.2				16.0		101	63-145		
NETFOSA	16.1				16.0		101	65-139		
NMeFOSAA	3.97				4.00		99.1	58-144		
NETFOSAA	3.85				4.00		96.3	59-146		
NMeFOSE	15.5				16.0		96.8	71-136		
NETFOSE	15.7				16.0		98.2	69-137		
HFPO-DA	7.54				8.00		94.2	63-144		
ADONA	7.94				7.56		105	68-146		
PFEESA	7.29				7.12		102	56-151		
PFMPA	7.46				8.00		93.3	51-145		
PFMBA	8.33				8.00		104	55-148		
NFDHA	7.97				8.00		99.7	48-161		
9CL-PF3ONS	8.09				7.48		108	56-156		
11CL-PF3OUDS	8.37				7.56		111	46-156		
3:3FTCA	14.4				16.0		89.9	62-129		
5:3FTCA	16.5				16.0		103	63-134		
7:3FTCA	15.3				16.0		95.4	50-138		
Surrogates										
13C4-PFBA	32.8				32.0		103	10-130		
13C5-PFPEA	16.2				16.0		101	35-150		
13C5-PFHXA	7.80				8.00		97.5	55-150		
13C4-PFHFA	8.16				8.00		102	55-150		
13C8-PFOA	8.27				8.00		103	60-140		
13C9-PFNA	4.34				4.00		108	55-140		
13C6-PFDA	3.87				4.00		96.7	50-140		
13C7-PFUnA	4.11				4.00		103	30-140		
13C2-PFDOA	3.63				4.00		90.8	10-150		
13C2-PFTEDA	3.87				4.00		96.6	10-130		
13C3-PFBS	8.24				8.00		103	55-150		
13C3-PFHXS	7.93				8.00		99.1	55-150		
13C8-PFOS	7.76				8.00		96.9	45-140		
13C2-4:2FTS	16.2				16.0		102	60-200		
13C2-6:2FTS	15.4				16.0		96.3	60-200		
13C2-8:2FTS	27.0				16.0		169	50-200		
13C8-PFOA	6.41				8.00		80.1	30-130		
D3-NMEFOSA	3.65				8.00		45.6	15-130		
D5-NETFOSA	3.72				8.00		46.5	10-130		
D3-NMEFOSAA	16.3				16.0		102	45-200		
D5-NETFOSAA	15.3				16.0		95.6	10-200		
D7-NMEFOSE	50.4				80.0		63.0	10-150		
D9-NETFOSE	50.2				80.0		62.8	10-150		
13C3-HFPO-DA	31.8				32.0		99.3	25-160		

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Project: Red Hill AFFF Assessment Sampling
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Project Manager: Watson Tanji

Reported: 04/20/2023 19:24

Quality Control (Continued)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MRL Check (BCD0235-MRL1)		ng/L		Prepared: 04/17/23 11:15 Analyzed: 04/18/23 23:28						
PFBA	2.94				3.20		91.7	44-157		
PFPEA	1.41				1.60		88.3	57-148		
PFHXA	0.797				0.800		99.6	62-149		
PFHPA	0.652				0.800		81.5	56-150		
PFOA	0.762				0.800		95.3	57-161		
PFNA	0.738				0.800		92.2	53-157		
PFDA	0.772				0.800		96.5	43-158		
PFUnA	0.714				0.800		89.2	50-155		
PFDOA	0.755				0.800		94.4	60-141		
PFTRDA	0.685				0.800		85.7	52-140		
PFTEDA	0.722 IR2				0.800		90.3	52-156		
PFBS	0.696				0.708		98.4	63-145		
PFPEs	0.730				0.752		97.1	58-144		
PFHXS	0.731 MI4				0.732		99.9	44-158		
PFHPS	0.880				0.764		115	51-150		
PFOS	0.694				0.744		93.3	43-162		
PFNS	0.780				0.768		102	46-151		
PFDS	0.808				0.772		105	50-144		
PFDOS	0.617				0.776		79.5	30-138		
4:2FTS	3.14				3.00		105	52-158		
6:2FTS	2.96				3.04		97.5	48-158		
8:2FTS	3.08				3.07		100	46-165		
PFOSA	0.850				0.800		106	47-163		
NMeFOSA	2.76				3.20		86.1	54-155		
NETFOSA	2.93				3.20		91.5	49-156		
NMeFOSAA	0.471 MI4				0.800		58.9	32-160		
NETFOSAA	0.681 MI4				0.800		85.1	51-154		
NMeFOSE	3.12				3.20		97.4	56-151		
NETFOSE	3.12				3.20		97.5	60-147		
HFPO-DA	1.66				1.60		103	58-154		
ADONA	1.57				1.51		104	61-148		
PFEESA	1.23				1.42		86.6	56-144		
PFMPA	1.37				1.60		85.5	48-150		
PFMBA	1.49				1.60		93.2	49-154		
NFDHA	1.46				1.60		91.1	47-160		
9CL-PF3ONS	1.43				1.50		95.9	44-167		
11CL-PF3OUDS	1.36				1.51		90.0	36-158		
3:3FTCA	2.49				3.20		77.7	32-161		
5:3FTCA	3.39				3.20		106	39-156		
7:3FTCA	2.93				3.20		91.5	36-149		
Surrogates										
13C4-PFBA	32.7				32.0		102	10-130		
13C5-PFPEA	15.7				16.0		98.3	35-150		
13C5-PFHXA	7.66				8.00		95.8	55-150		
13C4-PFHPA	7.67				8.00		95.8	55-150		
13C8-PFOA	8.17				8.00		102	60-140		
13C9-PFNA	3.97				4.00		99.3	55-140		

AECOM Honolulu
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Project: Red Hill AFFF Assessment Sampling
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 Project Manager: Watson Tanji

Reported: 04/20/2023 19:24

Quality Control
 (Continued)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
ng/L										
MRL Check (BCD0235-MRL1)					Prepared: 04/17/23 11:15 Analyzed: 04/18/23 23:28					
Surrogates										
13C6-PFDA	3.91				4.00		97.8	50-140		
13C7-PFUnA	3.61				4.00		90.3	30-140		
13C2-PFDOA	3.51				4.00		87.9	10-150		
13C2-PFTEDA	3.53				4.00		88.2	10-130		
13C3-PFBS	8.51				8.00		106	55-150		
13C3-PFHXS	7.81				8.00		97.6	55-150		
13C8-PFOS	7.87				8.00		98.4	45-140		
13C2-4:2FTS	16.3				16.0		102	60-200		
13C2-6:2FTS	15.5				16.0		96.7	60-200		
13C2-8:2FTS	31.7				16.0		198	50-200		
13C8-PFOA	6.57				8.00		82.2	30-130		
D3-NMEFOA	4.86				8.00		60.7	15-130		
D5-NETFOA	4.81				8.00		60.2	10-130		
D3-NMEFOSAA	16.2				16.0		101	45-200		
D5-NETFOSAA	15.5				16.0		97.2	10-200		
D7-NMEFOSE	49.2				80.0		61.4	10-150		
D9-NETFOSE	47.3				80.0		59.1	10-150		
13C3-HFPO-DA	29.7				32.0		92.7	25-160		

AECOM Honolulu
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 Honolulu, HI 96813

Project: Red Hill AFFF Assessment Sampling
 Project Number: Red Hill AFFF Assessment Sampling / 60697810
 Project Manager: Watson Tanji

Reported: 04/20/2023 19:24

Notes and Definitions

Item	Definition
B	Blank contamination
CV1	Calibration verification recovered below the lower control limit
IR1	Ion ratio below the lower control limit
IR2	Ion ratio above the upper control limit
IS1	Internal standard recovered below the lower control limit
J	Estimated value
MI2	Manual integration, non-target peak interference
MI4	Manual integration, peak unsplit
MI5	Manual integration, whole peak was not integrated
S2	Surrogate recovered above the upper control limit
U	Not detected
Dry	Sample results reported on a dry weight basis.
DF	Dilution Factor
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
RPD	Relative Percent Difference
%REC	Percent Recovery
Source	Sample that was matrix spiked or duplicated.
LOQ, Limit of Quantitation = Method Reporting Limit (MRL).	

AECOM Honolulu
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Project: Red Hill AFFF Assessment Sampling
Project Number: Red Hill AFFF Assessment Sampling / 60697810
Project Manager: Watson Tanji

Reported: 04/20/2023 19:24



AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES

A METIRI GROUP COMPANY

WORK ORDER

23D0008

Printed: 04/20/2023 7:25 pm

Project: Red Hill AFFF Assessment Sampling
Project Number: Red Hill AFFF Assessment Sampling / 60697810
Project Manager: Karen Volpendesta
PO Number: 150712

Report To:
AECOM Honolulu
Watson Tanji
1001 Bishop Street, Suite 1600
Honolulu, HI 96813
Phone: (808) 954-4512
Fax: (808) 523-8950

Invoice To:
AECOM Honolulu
Watson Tanji
1001 Bishop Street, Suite 1600
Honolulu, HI 96813
Phone: (808) 954-4512
Fax: (808) 523-8950

Date Received: 04/04/2023 09:45 AM
Date Due: 04/11/2023 (5.00 day TAT)

Logged In By: Megan Horne
Received By: Megan Horne

Analysis	Comments
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AECOM Honolulu
 1001 Bishop Street, Suite 1600
 Honolulu, HI 96813

Project: Red Hill AFFF Assessment Sampling
 Project Number: Red Hill AFFF Assessment Sampling / 60697810
 Project Manager: Watson Tanji

Reported: 04/20/2023 19:24

23D0008

Sample Receipt Log

Default Cooler

Samples Received at: **1.0°C**

Custody Seals	Yes	Were all containers sealed in separate bags?	Yes
Containers Intact	Yes	Did all containers arrive in good condition?	Yes
COC/Labels Agree	Yes	Correct containers/preserv. for tests indicated?	Yes
Preservation Confirmed	No	Sufficient volume sent for tests requested?	Yes
Received On Ice	Yes	Were bubbles absent in volatile samples?	No
Was a chain of custody received?	Yes	Sufficient remaining holding time for analyses?	Yes
COCs complete/signed in the appropriate places?	Yes	pH of non-VOA preserved containers documented?	No
Sample labels complete? Sample ID, date/time, etc.	Yes	Unpreserved vials received for VOA analysis?	No
Did all container labels agree with COCs?	Yes	If "yes", are unpreserved VOA vials noted on ARF?	No



APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
www.applinc.com

ELECTRONIC CHAIN OF CUSTODY RECORD
Phone: (559) 275-2175
Fax: (559) 275-4422
coc@applinc.com C.O.C. 2304W1AFAL08

23D0008

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-954-4512 / 303-796-4624
Address: 1001 Bishop St ste1600
Honolulu, HI 96813 Fax: _____
Attn: Watson Tanji / Katie Abbott
Email: watson.tanji@aecom.com/katie.abbott@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: _____
Address: _____ Fax: _____
Attn: Sheree Smith
Email: USAPimaging@aecom.com

Project Name/Number		Sampler (Print)		Analysis Requested/Method Number		Date Shipped:	
CTO N6274223F0104 / 60697810		GABRIEL ALEN		PFAS EPA Draft 1633		Carrier:	
Purchase Order Number		Sampler (Signature)		Matrix		Waybill No.:	
				Aq	Sed.	Soil	Comments: EDMS upload database: JBPHE EDMS Coverage: AFFF Assessment Sampling GW
Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers		
AF-RHMW04-WGN01LF-2304W1	RED Hill	04/03/23	1250	HST	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Shuttle Temperature: R1: 2/10c Turnaround Requested: Check one
 Standard 2-3 wk One week 3 days 24/48 Hrs. Other: 5 day TAT Sample Disposal:
 Return to client Disposal by Lab (30-day retention)

Relinquished by sampler: GABRIEL ALEN Date: 04/03/24 Time: 1A00 Received by: Miranda DeGarmo
 Relinquished by: _____ Date: _____ Time: _____ Received by: _____

Relinquished by: _____ Date: 4/14/23 Time: 945 Received at lab by: mgj/llw

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.



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 908 N Temperance Ave
 Clovis, CA 93611
 www.applinc.com

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 Fax: (559) 275-4422
 coc@applinc.com C.O.C. 2304W1AFAL09

Report to: PLEASE PRINT
 Company Name: AECOM Phone: 808-954-4512 / 303-796-4624
 Address: 1001 Bishop St ste1600
Honolulu, HI 96813 Fax: _____
 Attn: Watson Tanji / Katie Abbott
 Email: watson.tanji@aecom.com/katie.abbott@aecom.com

Invoice to: PLEASE PRINT
 Company Name: AECOM Phone: _____
 Address: _____ Fax: _____
 Attn: Sheree Smith
 Email: USAPimaging@aecom.com

Project Name/Number		Sampler (Print)					No. of Containers	Matrix			PFAS EPA Draft 1633	Analysis Requested/Method Number										Date Shipped: <u>1/3/23</u>					
Purchase Order Number		Sampler (Signature)						Aq	Sed.	Soil												Carrier: <u>FEDEX</u>					
Sample Identification		Location		Date Collected	Time Collected	Time Zone											Waybill No.: <u>NA</u>										
<u>CTO N6274223F0104 / 60697810</u>		<u>GABRIEL ALLEN</u>					<u>2</u>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<u>[Handwritten scribbles]</u>										Comments: <u>EDMS upload database: JBPHE</u>					
<u>AF-RHMW06-WGN01LF-2304W1</u>		<u>RED Hill</u>		<u>04/03/23</u>	<u>1105</u>	<u>HST</u>																				EDMS Coverage: <u>AFFF Assessment Sampling GW</u>	
		<u>[Handwritten signature]</u>																									
		<u>[Handwritten signature]</u>																									
		<u>[Handwritten signature]</u>																									
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		<u>[Handwritten signature]</u>																									

Shuttle Temperature: _____ Turnaround Requested: Check one
 Standard 2-3 wk One week 3 days 24/48 Hrs. Other: 5 day TAT
 Relinquished by sampler: GABRIEL ALLEN Date: 04/03/23 Time: 1400
 Received by: Miranda Debramo Date: 4/3/23 Time: 1405
 Relinquished by: _____ Date: _____ Time: _____
 Received by: _____ Date: 4/4/23 Time: 0945

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.



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Report to: PLEASE PRINT Company Name: <u>AECOM</u> Phone: <u>808-954-4512 / 303-796-4624</u> Address: <u>1001 Bishop St ste1600</u> <u>Honolulu, HI 96813</u> Fax: _____ Attn: <u>Watson Tanji / Katie Abbott</u> Email: <u>watson.tanji@aecom.com/katie.abbott@aecom.com</u>	Invoice to: PLEASE PRINT Company Name: <u>AECOM</u> Phone: _____ Address: _____ Fax: _____ Attn: <u>Sheree Smith</u> Email: <u>USAPimaging@aecom.com</u>
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Project Name/Number	Sampler (Print)	Analysis Requested/Method Number										Date Shipped:																																																								
CTO N6274223F0104 / 60697810	<u>JOSE VILARDO</u>	 <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td rowspan="3" style="writing-mode: vertical-rl; transform: rotate(180deg);">No. of Containers</td> <td colspan="3">Matrix</td> <td rowspan="3" style="writing-mode: vertical-rl; transform: rotate(180deg);">PFAS EPA Draft 1633</td> <td colspan="10" rowspan="3" style="text-align:center; vertical-align:middle;"> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:5%;">Ag</td> <td style="width:5%;">Sed.</td> <td style="width:5%;">Soil</td> <td colspan="10" style="text-align:center;">JMM 4/13/23</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td colspan="10" rowspan="2" style="text-align:center;"> [Grid of 10 columns x 2 rows for analysis methods] </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td colspan="10" rowspan="2" style="text-align:center;"> [Grid of 10 columns x 2 rows for analysis methods] </td> </tr> </table> 										No. of Containers	Matrix			PFAS EPA Draft 1633	 <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:5%;">Ag</td> <td style="width:5%;">Sed.</td> <td style="width:5%;">Soil</td> <td colspan="10" style="text-align:center;">JMM 4/13/23</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td colspan="10" rowspan="2" style="text-align:center;"> [Grid of 10 columns x 2 rows for analysis methods] </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table> 										Ag	Sed.	Soil	JMM 4/13/23													[Grid of 10 columns x 2 rows for analysis methods]																[Grid of 10 columns x 2 rows for analysis methods]									
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Shuttle Temperature:	Turnaround Requested: Check one <input type="checkbox"/> Standard 2-3 wk <input type="checkbox"/> One week <input type="checkbox"/> 3 days <input type="checkbox"/> 24/48 Hrs. <input checked="" type="checkbox"/> Other: <u>5 day TAT</u>	Sample Disposal: <input type="checkbox"/> Return to client <input type="checkbox"/> Disposal by Lab (30-day retention)
Relinquished by sampler:	Date: <u>4/1/23</u> Time: <u>1340</u> Received by: <u>James Mason</u>	Relinquished by: <u>James Mason</u> Date: <u>4/13/23</u> Time: <u>1400</u> Received by: _____
Relinquished by:	Date: _____ Time: _____ Received by: _____	Relinquished by: _____ Date: <u>4/4/23</u> Time: <u>945</u> Received at lab by: <u>Meytane</u>

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.



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Email: USAPimaging@aecom.com

Project Name/Number		Sampler (Print)				No. of Containers	Matrix					Analysis Requested/Method Number								Date Shipped:	
Purchase Order Number		Sampler (Signature)					Aq	Sed.	Soil	PFAS EPA Draft 1633								Carrier:			
Sample Identification		Location	Date Collected	Time Collected	Time Zone		JMM 4/13/23								Waybill No.:						
CTO N6274223F0104 / 60697810		JONAS WILSON				2	✓													Comments: EDMS upload database: JBPHE	
AF-RHMW12A-WGN01LF-2304W1		RHMW12A	4/13/23	0928	HST	2	✓												EDMS Coverage: AFFF Assessment Sampling GW		
AF-RHMW12A-WGFD01LF-2304W1		RHMW12A	4/13/23	0928	HST	2	✓														

Shuttle Temperature: _____ Turnaround Requested: Check one
 Standard 2-3 wk One week 3 days 24/48 Hrs. Other: 5 day TAT
 Sample Disposal: Return to client Disposal by Lab (30-day retention)

Relinquished by sampler: <u>[Signature]</u>	Date: <u>4/13/23</u>	Time: <u>1340</u>	Received by: <u>James Mason</u>	Relinquished by: <u>James Mason</u>	Date: <u>4/13/23</u>	Time: <u>1400</u>	Received by: _____
Relinquished by: _____	Date: _____	Time: _____	Received by: _____	Relinquished by: _____	Date: <u>4/14/23</u>	Time: <u>945</u>	Received at lab by: <u>[Signature]</u>

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

CUSTODY SEAL

AECOM (808)-521-3051

Initials: JMM Date 4/3/23
1405