

Table X-X
AFFF Assessment Sampling GW 2022 December
Chemistry Results - Non-Approved
RH Fire Suppression System

Location ID:	HDMW2253-03	HDMW2253-03	RHMW02	RHMW02	RHMW03	RHMW03	RHMW04	RHMW06	RHMW10	RHMW12A		
Field Sample ID:	AF-HDMW225303-WGN01B-2212W2	AF-HDMW225303-WGN01B-2212W2	AF-RHMW02-WGN01LF-2212W2	AF-RHMW02-WGN01LF-2212W2	AF-RHMW03-WGN01LF-2212W2	AF-RHMW03-WGN01LF-2212W2	AF-RHMW04-WGN01B-2212W2	AF-RHMW06-WGN01B-2212W2	AF-RHMW10-WGN01B-2212W2	AF-RHMW12A-WGN01B-2212W2		
Lab Sample ID:	22L0083-01	580-121299-4	22L0083-03	580-121299-2	22L0083-02	580-121299-3	22L0127-01	22L0110-02	22L0127-02	22L0110-01		
Sample Date:	12/12/2022	12/12/2022	12/12/2022	12/12/2022	12/12/2022	12/12/2022	12/15/2022	12/14/2022	12/15/2022	12/14/2022		
Sample Type:	N	N	N	N	N	N	N	N	N	N		
		Hawaii Department of Health Ground Water Environmental Action Levels (Table A) PFAS										
PFAS (NG/L)	2022 Nov EPA Tapwater (THQ 0.1)											
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	NA	NA	4.10 U	NA	0.340 U	NA	0.350 U	NA	0.360 U	0.380 U	0.370 U	0.370 U
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)	NA	NA	8.20 U	NA	0.680 U	NA	0.700 U	NA	0.720 U	0.760 U	0.740 U	0.740 U
3-Perfluoroheptyl propanoic acid (7:3FTCA)	NA	NA	8.20 U	NA	0.680 U	NA	0.700 U	NA	0.720 U	0.760 U	0.740 U	0.740 U
3-Perfluoropropyl propanoic acid (3:3FTCA)	NA	NA	8.20 U	NA	0.680 U	NA	0.700 U	NA	0.720 U	0.760 U	0.740 U	0.740 U
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NA	NA	4.10 U	NA	0.340 U	NA	0.350 U	NA	0.360 U	0.380 U	0.370 U	0.370 U
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	NA	NA	8.20 U	NA	0.680 U	NA	0.700 U	NA	0.720 U	0.760 U	0.530 J	0.740 U
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	NA	NA	7.10 J	NA	2.10	NA	5.20	NA	9.60	2.10	130	18.0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	NA	NA	8.20 U	NA	0.680 U	NA	0.700 U	NA	0.720 U	0.760 U	0.310 J	0.740 U
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	NA	NA	4.10 U	NA	0.340 U	NA	0.350 U	NA	0.360 U	0.380 U	0.370 U	0.370 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	6	160.44	4.10 U	NA	0.340 U	NA	0.350 U	NA	0.360 U	0.380 U	0.370 U	0.370 U
N-Ethyl perfluorooctanesulfonamide (NEtFOSA)	NA	NA	8.20 U	NA	0.680 U	NA	0.700 U	NA	0.720 U	0.760 U	0.740 U	0.740 U
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	NA	NA	2.00 U	NA	0.170 U	NA	0.170 U	NA	0.180 U	0.190 U	0.180 U	0.190 U
N-Ethyl perfluorooctanesulfonamidoethanol (NEtFOSE)	NA	NA	12.0 U	NA	1.00 U	NA	1.00 U	NA	1.10 U	1.10 U	1.10 U	1.10 U
N-Methyl heptafluorooctanesulfonamide (NMeFOSA)	NA	NA	8.20 U	NA	0.680 U	NA	0.700 U	NA	0.720 U	0.760 U	0.740 U	0.740 U
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	NA	NA	2.00 U	NA	0.170 U	NA	0.170 U	NA	0.180 U	0.190 UJ	0.180 U	0.190 UJ
N-Methyl perfluorooctanesulfonamidoethanol (NMeFOSE)	NA	NA	12.0 U	NA	1.00 U	NA	1.00 U	NA	1.10 U	1.10 U	1.10 U	1.10 U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NA	NA	4.10 U	NA	0.340 U	NA	0.350 U	NA	0.360 U	0.380 UJ	0.370 U	0.370 UJ
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	NA	NA	4.10 U	NA	0.340 U	NA	0.350 U	NA	0.360 U	0.380 U	0.370 U	0.370 U
Perfluoro-3-methoxypropanoic acid (PFMPA)	NA	NA	4.10 U	NA	0.340 U	NA	0.350 U	NA	0.360 U	0.380 U	0.300 J	0.370 U

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Location ID:	RHMW2254-01	RHMW2254-01
Field Sample ID:	AF-RHMW225401-WGN01B-2212W1	AF-RHMW225401-WGN01B-2212W2
Lab Sample ID:	22L0023-10	580-121299-1
Sample Date:	12/2/2022	12/13/2022
Sample Type:	N	N

PFAS (NG/L)	2022 Nov EPA Tapwater (THQ 0.1)	Hawaii Department of Health Ground Water Environmental Action Levels (Table A) PFAS		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	NA	NA	0.370 U	NA
2H,2H,3H,3H-Perfluorooctanoic acid (5:3FTCA)	NA	NA	0.730 U	NA
3-Perfluoroheptyl propanoic acid (7:3FTCA)	NA	NA	0.730 U	NA
3-Perfluoropropyl propanoic acid (3:3FTCA)	NA	NA	0.730 U	NA
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	NA	NA	0.370 U	NA
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	NA	NA	0.730 U	NA
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	NA	NA	0.470 J	NA
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	NA	NA	0.730 U	NA
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	NA	NA	0.370 U	NA
Hexafluoropropylene oxide dimer acid (HFPO-DA)	6	160.44	0.370 U	NA
N-Ethyl perfluorooctanesulfonamide (NEtFOSA)	NA	NA	0.730 U	NA
N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	NA	NA	0.180 U	NA
N-Ethyl perfluorooctanesulfonamidoethanol (NEtFOSE)	NA	NA	1.10 U	NA
N-Methyl heptafluorooctanesulfonamide (NMeFOSA)	NA	NA	0.730 U	NA
N-Methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	NA	NA	0.180 U	NA
N-Methyl perfluorooctanesulfonamidoethanol (NMeFOSE)	NA	NA	1.10 U	NA
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NA	NA	0.370 U	NA
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	NA	NA	0.370 U	NA
Perfluoro-3-methoxypropanoic acid (PFMPA)	NA	NA	0.370 X	NA

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AFFF Assessment Sampling GW 2022 December
Chemistry Results - Non-Approved
RH Fire Suppression System

Location ID:	HDMW2253-03	HDMW2253-03	RHMW02	RHMW02	RHMW03	RHMW03	RHMW04	RHMW06	RHMW10	RHMW12A
Field Sample ID:	AF-HDMW225303-WGN01B-2212W2	AF-HDMW225303-WGN01B-2212W2	AF-RHMW02-WGN01LF-2212W2	AF-RHMW02-WGN01LF-2212W2	AF-RHMW03-WGN01LF-2212W2	AF-RHMW03-WGN01LF-2212W2	AF-RHMW04-WGN01B-2212W2	AF-RHMW06-WGN01B-2212W2	AF-RHMW10-WGN01B-2212W2	AF-RHMW12A-WGN01B-2212W2
Lab Sample ID:	22L0083-01	580-121299-4	22L0083-03	580-121299-2	22L0083-02	580-121299-3	22L0127-01	22L0110-02	22L0127-02	22L0110-01
Sample Date:	12/12/2022	12/12/2022	12/12/2022	12/12/2022	12/12/2022	12/12/2022	12/15/2022	12/14/2022	12/15/2022	12/14/2022
Sample Type:	N	N	N	N	N	N	N	N	N	N

PFAS (NG/L)	Hawaii Department of Health Ground Water Environmental Action Levels (Table A) PFAS		2022 Nov EPA Tapwater (THQ 0.1)									
	NA	NA	4.10 U	NA	0.340 U	NA	0.350 U	NA	0.360 U	0.380 U	0.370 U	0.370 U
Perfluoro-4-methoxybutanoic acid (PFMBA)	NA	NA	4.10 U	NA	0.340 U	NA	0.350 U	NA	0.360 U	0.380 U	0.370 U	0.370 U
Perfluorobutanesulfonic acid	600	601.65	2.00 U	NA	0.170 U	NA	0.170 U	NA	0.180 U	0.190 U	0.180 U	0.0510 J
Perfluorobutanoic acid (PFBA)	NA	7,620.88	8.20 U	NA	0.680 U	NA	2.80	NA	2.20	1.00 J	36.0	13.0
Perfluorodecanesulfonic acid (PFDS)	NA	20.05	2.00 U	NA	0.170 U	NA	0.170 U	NA	0.180 U	0.190 U	0.180 U	0.190 U
Perfluorodecanoic acid (PFDA)	NA	4.01	2.00 U	NA	0.170 U	NA	0.160 J	NA	0.180 U	0.170 J	0.310 J	0.190 U
Perfluorododecanesulfonic acid (PFDoS)	NA	NA	2.00 U	NA	0.170 U	NA	0.170 U	NA	0.180 U	0.190 U	0.180 U	0.190 U
Perfluorododecanoic acid (PFDoA)	NA	13.37	2.00 U	NA	0.170 U	NA	0.170 U	NA	0.180 U	0.190 U	0.200 J	0.190 U
Perfluoroheptanesulfonic acid (PFHpS)	NA	20.05	2.00 U	NA	0.170 U	NA	0.170 U	NA	0.180 U	0.190 U	0.180 U	0.190 U
Perfluoroheptanoic acid (PFHpA)	NA	40.11	2.00 U	NA	0.160 J	NA	0.870	NA	0.450	4.90	2.00	1.20
Perfluorohexanesulfonic acid	39	19.45	0.650 J	NA	0.170 U	NA	0.170 U	NA	0.180 U	0.190 U	0.180 U	0.190 U
Perfluorohexanoic acid (PFHxA)	NA	4,010.99	2.00 U	NA	0.210 J	NA	1.50	NA	0.460	0.730	7.10	5.50
Perfluorononanesulfonic acid (PFNS)	NA	NA	2.00 U	NA	0.170 U	NA	0.170 U	NA	0.180 U	0.190 U	0.180 U	0.190 U
Perfluorononanoic acid (PFNA)	5.9	4.41	2.00 U	NA	0.170 U	NA	0.170 J	NA	0.180 U	0.230 J	0.680	0.190 U
Perfluorooctanesulfonamide (PFOSA)	NA	24.07	2.00 U	NA	0.170 U	NA	0.170 U	NA	0.180 U	0.190 U	0.180 U	0.190 U
Perfluorooctanesulfonic acid (PFOS)	4	40.11	2.10 U	NA	0.180 U	NA	0.180 U	NA	0.180 U	0.200 J	0.180 U	0.190 U
Perfluorooctanoic acid (PFOA)	6	40.11	1.70 J	NA	0.170 U	NA	0.300 J	NA	0.140 J	0.410 J	0.750	0.350 J
Perfluoropentanesulfonic acid (PFPeS)	NA	NA	2.00 U	NA	0.170 U	NA	0.170 U	NA	0.180 U	0.190 U	0.180 U	0.190 U
Perfluoropentanoic acid (PFPeA)	NA	802.2	4.10 U	NA	0.480 J	NA	3.80	NA	1.10	2.00	30.0	22.0
Perfluorotetradecanoic acid (PFTeDA)	NA	133.7	2.00 U	NA	0.170 U	NA	0.170 U	NA	0.180 U	0.190 U	0.180 U	0.190 U
Perfluorotridecanoic acid (PFTTrDA)	NA	13.37	3.10 U	NA	0.260 U	NA	0.260 U	NA	0.270 U	0.290 U	0.480	0.280 U
Perfluoroundecanoic acid (PFUnA)	NA	10.03	2.00 U	NA	0.170 U	NA	0.150 J	NA	0.180 U	0.420 J	0.580	0.190 UJ

SVOC (MG/L)	Hawaii Department of Health Ground Water Environmental Action Levels (Table A) PFAS		2022 Nov EPA Tapwater (THQ 0.1)									
	NA	NA	NA	3.00 U	NA	3.00 U	NA	3.00 U	NA	NA	NA	NA
2-(2-Butoxyethoxy)ethanol	NA	NA	NA	3.00 U	NA	3.00 U	NA	3.00 U	NA	NA	NA	NA

Notes:
Results highlighted blue exceed the first selected limit.
Results highlighted pink exceed the second selected limit.
Results highlighted purple exceed both limits.

NG/L = Nanograms per Liter

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RH Fire Suppression System

Location ID:	RHMW2254-01	RHMW2254-01
Field Sample ID:	AF-RHMW225401-WGN01B-2212W1	AF-RHMW225401-WGN01B-2212W2
Lab Sample ID:	22L0023-10	580-121299-1
Sample Date:	12/2/2022	12/13/2022
Sample Type:	N	N

PFAS (NG/L)	2022 Nov EPA Tapwater (THQ 0.1)	Hawaii Department of Health Ground Water Environmental Action Levels (Table A) PFAS		
		2022 Nov EPA Tapwater (THQ 0.1)	2022 Nov EPA Tapwater (THQ 0.1)	2022 Nov EPA Tapwater (THQ 0.1)
Perfluoro-4-methoxybutanoic acid (PFMBA)	NA	NA	0.370 U	NA
Perfluorobutanesulfonic acid	600	601.65	0.660	NA
Perfluorobutanoic acid (PFBA)	NA	7,620.88	0.540 J	NA
Perfluorodecanesulfonic acid (PFDS)	NA	20.05	0.180 U	NA
Perfluorodecanoic acid (PFDA)	NA	4.01	0.180 U	NA
Perfluorododecanesulfonic acid (PFDoS)	NA	NA	0.180 U	NA
Perfluorododecanoic acid (PFDoA)	NA	13.37	0.180 U	NA
Perfluoroheptanesulfonic acid (PFHpS)	NA	20.05	0.0550 J	NA
Perfluoroheptanoic acid (PFHpA)	NA	40.11	0.820	NA
Perfluorohexanesulfonic acid	39	19.45	1.10	NA
Perfluorohexanoic acid (PFHxA)	NA	4,010.99	0.950	NA
Perfluorononanesulfonic acid (PFNS)	NA	NA	0.180 U	NA
Perfluorononanoic acid (PFNA)	5.9	4.41	0.150 J	NA
Perfluorooctanesulfonamide (PFOSA)	NA	24.07	0.180 U	NA
Perfluorooctanesulfonic acid (PFOS)	4	40.11	1.10	NA
Perfluorooctanoic acid (PFOA)	6	40.11	1.20	NA
Perfluoropentanesulfonic acid (PFPeS)	NA	NA	0.130 J	NA
Perfluoropentanoic acid (PFPeA)	NA	802.2	1.20	NA
Perfluorotetradecanoic acid (PFTeDA)	NA	133.7	0.180 U	NA
Perfluorotridecanoic acid (PFTrDA)	NA	13.37	0.270 U	NA
Perfluoroundecanoic acid (PFUnA)	NA	10.03	0.180 U	NA

SVOC (MG/L)	2022 Nov EPA Tapwater (THQ 0.1)	Hawaii Department of Health Ground Water Environmental Action Levels (Table A) PFAS		
		2022 Nov EPA Tapwater (THQ 0.1)	2022 Nov EPA Tapwater (THQ 0.1)	2022 Nov EPA Tapwater (THQ 0.1)
2-(2-Butoxyethoxy)ethanol	NA	NA	NA	3.00 U