Analytical Results for Per- and Poly-Fluoroalkyl Substances in Groundwater and Surface Water
Joint Base Lewis-McChord Public Works Environmental Division Site Inspection
U.S. Army Corps of Engineers, Seattle District

Potential Area of Concern / Well ID	Nearest Drinking Water Well	Figure Reference	Date Collected	Per- and Poly-Fluoroalkyl Substances (ng/L) NEtFOSAA	NMeFOSAA	PFBS	PFDA	PFDoA	PFHpA	PFHxS	PFHxA	PFNA	PFOS	PFOA	PFTA	PFTrDA	PFUnA	Sum of Six UCMR-3 PFAS Compounds [d]
			Project Action Limit[a]:	NE	NE	400,000[b]	NE	NE	NE	NE	NE	NE	70[c]	70[c]	NE	NE	NE	70
Clover Creek																		
CW-62	North Well	17-3	6/19/2018	0.88 U	0.88 U	**9.2**	0.88 U	0.26 U	**4.5**	**33**	**7.1**	**0.71 J**	**60**	**7.4**	0.53 U	0.53 U	0.35 U	114.81
Clover Creek and McChord Hangars																		
CW-64	North Well	17-2, 17-3	6/19/2018	0.86 U	0.86 U	**4.1**	0.86 U	0.26 U	**6.4**	**9.6**	**5.8**	**1.4 J**	**34**	**23**	0.51 U	0.51 U	0.34 U	78.50
IW-2	North Well	17-2, 17-3	6/8/2018	0.91 U	0.91 U	**23**	0.91 U	0.27 U	**2.0**	**8.7**	**2.3 J**	0.36 U	**3.1**	**5.7**	0.54 U	0.54 U	0.36 U	42.86
FT029																		
CW-12	East Well	17-5	6/7/2018	1.7 U	1.7 U	**3.9**	1.7 U	0.50 U	0.50 U	**4.2**	1.7 U	0.67 U	**24**	**7.1**	1.0 U	1.0 U	0.67 U	40.37
FT032																		
FTA-4a	East Well	17-6	6/7/2018	9.1 U	9.1 U	**81**	9.1 U	2.7 U	**290**	**2,000**	**390**	**88**	**19,000**	**630**	5.5 U	5.5 U	3.6 U	22089.00
FTA-4b	East Well	17-6	6/7/2018	9.1 U	9.1 U	**630**	**33**	2.7 U	**650**	**5,900**	**1,700**	**590**	**28,000**	**1,400**	5.5 U	5.5 U	**13 J**	37170.00
Historic waterproofing, laundry																		
01035-MW01	Well 17	17-12	6/18/2018	0.88 U	0.88 U	**5.7**	0.88 U	0.26 U	**12**	**40**	**31**	**3.6**	**82**	**26**	0.53 U	0.53 U	0.35 U	169.30
4131-MW04	Well 17	17-12	6/18/2018	0.88 U	0.88 U	**4.6**	0.88 U	0.27 U	**5.3**	**15**	**6.1**	**1.4 J**	**23**	**12**	0.53 U	0.53 U	0.35 U	61.30
			6/18/2018 (DUP)	0.90 U	0.90 U	**4.5**	0.90 U	0.27 U	**4.8**	**15**	**5.9**	**1.2 J**	**22**	**11**	0.54 U	0.54 U	0.36 U	58.50
Landfill #1/Gray Field Hangars/SWMU 47																		
84-CD-LF1-1	Well 14	17-10	6/26/2018	0.87 U	0.87 U	**0.80 J**	0.87 U	0.26 U	0.26 U	**1.7 J**	0.87 U	0.35 U	**1.4 J**	**0.27 J**	0.52 U	0.52 U	0.35 U	4.78
84-CD-LF1-4	Well 14	17-10	6/26/2018	0.89 U	0.89 U	**0.36 J**	0.89 U	0.27 U	0.27 U	**1.2 J**	0.89 U	0.36 U	**0.85 J**	**0.37 J**	0.54 U	0.54 U	0.36 U	3.41
Landfill #2																		
I-5 P&T Effluent	MAMC-04	17-11	6/18/2018	0.86 U	0.86 U	**2.1**	0.86 U	0.26 U	**1.7**	**20**	**4.1**	**0.56 J**	**31**	**10**	0.51 U	0.51 U	0.34 U	65.36
I-5 P&T Influent	MAMC-04	17-11	6/18/2018	0.87 U	0.87 U	**2.1**	0.87 U	0.26 U	**1.7 J**	**20**	**3.9**	**0.52 J**	**29**	**10**	0.52 U	0.52 U	0.35 U	63.32
LC-153	MAMC-04/Sage Well II	17-9	6/26/2018	0.88 U	0.88 U	0.26 U	0.88 U	0.26 U	0.26 U	0.35 U	0.88 U	0.35 U	0.53 U	**0.73 J**	0.53 U	0.53 U	0.35 U	2.48
LC-230	MAMC-04/Sage Well II	17-9	6/15/2018	0.90 U	0.90 U	**3.0**	0.90 U	0.27 U	**0.66 J**	**4.6**	**6.4**	0.36 U	0.54 U	**0.38 J**	0.54 U	0.54 U	0.36 U	9.54
LF-2 P&T Effluent	MAMC-04	17-9	6/18/2018	0.88 U	0.88 U	0.26 U	0.88 U	0.26 U	0.26 U	**0.59 J**	0.88 U	0.35 U	0.53 U	**0.36 J**	0.53 U	0.53 U	0.35 U	2.35
LF-2 P&T Influent	MAMC-04	17-9	6/18/2018	0.85 U	0.85 U	**1.0 J**	**5.6**	**0.27 J**	**1.6 J**	**3.9**	**2.8**	**3.0**	**9.1**	**9.9**	0.51 U	0.51 U	**2.1**	28.50
SLA P&T Effluent	MAMC-04	17-11	6/18/2018	0.85 U	0.85 U	**0.74 J**	0.85 U	0.26 U	**0.42 J**	**4.1**	**1.1 J**	0.34 U	**4.8**	**4.7**	0.51 U	0.51 U	0.34 U	15.10
SLA P&T Influent	MAMC-04	17-11	6/18/2018	0.88 U	0.88 U	**0.80 J**	0.88 U	0.26 U	**0.48 J**	**4.4**	**1.2 J**	0.35 U	**5.7**	**5.0**	0.53 U	0.53 U	0.35 U	16.73
Landfill #4																		
LF4-01	Sequalitchew Springs/Well 12B	17-13	6/20/2018	0.91 U	0.91 U	**3.5**	0.91 U	0.27 U	**0.32 J**	**3.9**	0.91 U	0.36 U	**5.3**	**5.9**	0.54 U	0.54 U	0.36 U	19.28
LF4-MW-10	Sequalitchew Springs/Well 12B	17-13	6/20/2018	1.3 U	1.3 U	**3.7**	1.3 U	0.38 U	0.38 U	**3.0**	1.3 U	0.50 U	**4.0**	**2.3 J**	0.75 U	0.75 U	0.50 U	13.88
LF4-PNL1	Sequalitchew Springs/Well 12B	17-13	6/26/2018	0.90 U	0.90 U	**2.4**	0.90 U	0.27 U	**0.34 J**	**3.1**	0.90 U	0.36 U	**3.6**	**2.7**	0.54 U	0.54 U	0.36 U	12.50
Landfill 005																		
DA-21a	MARS Hill	17-8	6/14/2018	0.90 U	0.90 U	**2.6**	0.90 U	0.27 U	**1.2 J**	**14**	**2.2 J**	**0.56 J**	**20**	**2.9**	0.54 U	0.54 U	0.36 U	41.26
DA-7e	MARS Hill	17-8	6/14/2018	2.5 U	2.5 U	0.74 U	2.5 U	0.74 U	0.74 U	0.99 U	2.5 U	0.99 U	1.5 U	0.74 U	1.5 U	1.5 U	0.99 U	ND
DO-2	Housing Well I	17-8	6/14/2018	0.91 U	0.91 U	**2.9**	0.91 U	0.27 U	**2.2**	**16**	**4.4**	0.36 U	**17**	**4.0**	0.55 U	0.55 U	0.36 U	42.46
DO-5b	Housing Well I	17-8	6/14/2018	0.91 U	0.91 U	**4.1**	0.91 U	0.27 U	**3.6**	**29**	**7.4**	**0.56 J**	**38**	**5.6**	0.54 U	0.54 U	0.36 U	80.86
Landfill 005/006																		
DA-4a	Sage Well I	17-14	6/13/2018	0.90 U	0.90 U	**0.68 J**	0.90 U	0.27 U	**0.94 J**	**3.7**	**1.9 J**	0.36 U	**7.1**	**1.9**	0.54 U	0.54 U	0.36 U	14.68
DA-4b	Sage Well I	17-14	6/13/2018	0.91 U	0.91 U	**0.74 J**	0.91 U	0.27 U	0.27 U	**4.0**	0.91 U	0.36 U	**3.4**	0.27 U	0.54 U	0.54 U	0.36 U	9.04
Landfill 013																		
IH-1a	East Well	17-6	6/7/2018	0.91 U	0.91 U	0.27 U	0.91 U	0.27 U	0.27 U	0.36 U	0.91 U	0.36 U	0.55 U	0.27 U	0.55 U	0.55 U	0.36 U	ND
IH-1b	East Well	17-6	6/7/2018	0.92 U	0.92 U	**0.30 J**	0.92 U	0.27 U	0.27 U	**0.47 J**	0.92 U	0.37 U	**2.0 J**	0.27 U	0.55 U	0.55 U	0.37 U	3.68
IH-3b	East Well	17-6	6/12/2018	0.89 U	0.89 U	**51**	0.89 U	0.27 U	**57**	**930**	**280**	**30**	**1,200**	**210**	0.54 U	0.54 U	0.36 U	2478.00
IH-3c	East Well	17-6	6/26/2018	0.85 U	0.85 U	**62**	0.85 U	0.26 U	**70**	**1,000**	**360**	**21**	**740**	**760**	0.51 U	0.51 U	0.34 U	2653.00
			6/26/2018 (DUP)	0.86 U	0.86 U	**61**	0.86 U	0.26 U	**64**	**1,000**	**340**	**20**	**720**	**720**	0.52 U	0.52 U	0.35 U	2585.00
Landfill 013/FT032																		
CW-33c	Prime Beef Replacement Well I	17-7	6/12/2018	0.91 U	0.91 U	**2.9**	0.91 U	0.27 U	**0.33 J**	**9.3**	**1.0 J**	0.36 U	**11**	**0.59 J**	0.54 U	0.54 U	0.36 U	24.48
McChord Hangars, Runways and Clover Creek																		
CR-01	North Well	17-2	6/11/2018	0.89 U	0.89 U	**5.5**	**1.1 J**	0.27 U	**6.5**	**45**	**14**	**1.1 J**	**57**	**7.6**	0.53 U	0.53 U	0.36 U	122.70
CW-14a	South Well	17-4	6/6/2018	0.92 U	0.92 U	**10**	**1.5 J**	0.28 U	**14**	**54**	**37**	**1.5 J**	**44**	**16**	0.55 U	0.55 U	0.37 U	139.50
CW-14c	South Well	17-4	6/11/2018	1.7 U	1.7 U	**17**	1.7 U	0.50 U	**17**	**88**	**27**	**2.0 J**	**200**	**16**	1.0 U	1.0 U	0.67 U	340.00
CW-14d	South Well	17-4	6/11/2018	0.89 U	0.89 U	**9.1**	0.89 U	0.27 U	**6.3**	**42**	**12**	**0.60 J**	**95**	**6.6**	0.54 U	0.54 U	0.36 U	159.60
			6/11/2018 (DUP)	0.90 U	0.90 U	**8.4**	0.90 U	0.27 U	**6.4**	**42**	**12**	**0.60 J**	**96**	**6.5**	0.54 U	0.54 U	0.36 U	159.90
CW-15c	North Well	17-4	6/6/2018	0.91 U	0.91 U	**29**	0.91 U	0.27 U	**48**	**210**	**91**	**3.3**	**640**	**43**	0.54 U	0.54 U	0.36 U	973.30
CW-15d	North Well	17-4	6/6/2018	0.91 U	0.91 U	0.27 U	0.91 U	0.27 U	0.27 U	**0.69 J**	0.91 U	0.36 U	**1.0 J**	0.27 U	0.54 U	0.54 U	0.36 U	2.86
			6/6/2018 (DUP)	0.91 U	0.91 U	0.27 U	0.91 U	0.27 U	0.27 U	**0.57 J**	0.91 U	0.37 U	**0.85 J**	**0.29 J**	0.55 U	0.55 U	0.37 U	2.62
CW-29b	North Well	17-2	6/12/2018	0.90 U	0.90 U	**9.5**	**2.8**	0.27 U	**7.0**	**65**	**15**	**1.7 J**	**89**	**11**	0.54 U	0.54 U	0.36 U	183.20
CW-4	North Well	17-3	6/19/2018	0.89 U	0.89 U	**0.36 J**	0.89 U	0.27 U	0.27 U	**1.1 J**	0.89 U	0.36 U	0.53 U	0.27 U	0.53 U	0.53 U	0.36 U	2.89
MF-1	North Well	17-2	6/19/2018	1.7 U	1.7 U	**17**	**2.1 J**	0.50 U	**49**	**200**	**96**	**5.2**	**310**	**37**	1.0 U	1.0 U	0.67 U	618.20
Surface Water 1	North Well	17-2	6/8/2018	0.92 U	0.92 U	**4.5**	0.92 U	0.27 U	**1.3 J**	**6.2**	**2.6 J**	**0.49 J**	**19**	**4.2**	0.55 U	0.55 U	0.37 U	35.69
			6/8/2018 (DUP)	0.90 U	0.90 U	**4.2**	0.90 U	0.27 U	**1.2 J**	**5.5**	**2.5 J**	**0.47 J**	**18**	**3.8**	0.54 U	0.54 U	0.36 U	33.17
North McChord Hangars and Runways																		
1168-MW01	North Well	17-1	6/12/2018	0.89 U	0.89 U	**3.0**	**6.9**	0.27 U	**190**	**56**	**220**	**13**	**50**	**71**	0.54 U	0.54 U	0.36 U	383.00
LT-4	North Well	17-1	6/13/2018	0.90 U	0.90 U	**3.1**	0.90 U	0.27 U	**1.1 J**	**11**	**1.5 J**	0.36 U	**17**	**1.6 J**	0.54 U	0.54 U	0.36 U	34.16
SMWU 47																		
98-IA-MW-08	Well 20	17-10	6/18/2018	0.87 U	0.87 U	0.26 U	0.87 U	0.26 U	**1.9**	**2.3**	**1.2 J**	0.35 U	**15**	**1.7 J**	0.52 U	0.52 U	0.35 U	21.51
Statistical Summary																		
Number of Analyses				50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Number of Detections above reporting limit				0	0	43	7	1	37	47	35	26	44	44	0	0	2	48
Maximum Detection				0	0	630	33	0.27	650	5,900	1,700	590	28,000	1,400	0	0	13	37,170
Minimum Detection				0	0	0.3	1.1	0.27	0.32	0.47	1	0.47	0.85	0.27	0	0	2.1	2.35
Average Detection				0	0	25.5	7.6	0.27	41.4	253.9	105.6	30.5	1,176.2	93.3	0	0	7.6	1,483.9
																	Number of Detections with Sum of Six UCMR-3 PFAS Compounds Greater than 70 ppt	18
Water Source for Drilling																		
Holtwell			6/15/2018	0.90 U	0.90 U	**0.38 J**	0.90 U	0.27 U	0.27 U	**0.65 J**	0.90 U	0.36 U	**1.3 J**	0.27 U	0.54 U	0.54 U	0.36 U	3.23
Field Rinsate Blanks																		
FRB1			6/6/2018	0.91 U	0.91 U	0.27 U	0.91 U	0.27 U	0.27 U	0.36 U	0.91 U	0.36 U	0.55 U	0.27 U	0.55 U	0.55 U	0.36 U	ND
FRB2			6/7/2018	0.92 U	0.92 U	0.28 U	0.92 U	0.28 U	0.28 U	0.37 U	0.92 U	0.37 U	0.55 U	0.28 U	0.55 U	0.55 U	0.37 U	ND
FRB3			6/8/2018	0.90 U	0.90 U	0.27 U	0.90 U	0.27 U	0.27 U	0.36 U	0.90 U	0.36 U	0.54 U	0.27 U	0.54 U	0.54 U	0.36 U	ND
FRB4			6/11/2018	0.89 U	0.89 U	0.27 U	0.89 U	0.27 U	0.27 U	0.36 U	0.89 U	0.36 U	0.53 U	0.27 U	0.53 U	0.53 U	0.36 U	ND
FRB5			6/12/2018	0.89 U	0.89 U	0.27 U	0.89 U	0.27 U	0.27 U	0.36 U	0.89 U	0.36 U	0.53 U	0.27 U	0.53 U	0.53 U	0.36 U	ND
FRB6			6/13/2018	0.91 U	0.91 U	0.27 U	0.91 U	0.27 U	0.27 U	0.36 U	0.91 U	0.36 U	0.54 U	0.27 U	0.54 U	0.54 U	0.36 U	ND
FRB7			6/14/2018	0.91 U	0.91 U	0.27 U	0.91 U	0.27 U	0.27 U	0.36 U	0.91 U	0.36 U	0.54 U	0.27 U	0.54 U	0.54 U	0.36 U	ND
FRB8			6/18/2018	0.90 U	0.90 U	0.27 U	0.90 U	0.27 U	0.27 U	0.36 U	0.90 U	0.36 U	0.54 U	0.27 U	0.54 U	0.54 U	0.36 U	ND
FRB9			6/19/2018	0.85 U	0.85 U	0.26 U	0.85 U	0.26 U	0.26 U	0.34 U	0.85 U	0.34 U	0.51 U	0.26 U	0.51 U	0.51 U	0.34 U	ND
FRB10			6/20/2018	0.89 U	0.89 U	0.27 U	0.89 U	0.27 U	0.27 U	0.35 U	0.89 U	0.35 U	0.53 U	0.27 U	0.53 U	0.53 U	0.35 U	ND
FRB11			6/26/2018	0.89 U	0.89 U	0.27 U	0.89 U	0.27 U	0.27 U	0.35 U	0.89 U	0.35 U	0.53 U	0.27 U	0.53 U	0.53 U	0.35 U	ND

Notes:

[a]Fact Sheet PFOA & PFOS Drinking Water Health Advisories. EPA 800-F-16-003, November 2016 (US EPA 2016c). Guidance provides a health advisory level of 70 ppt for PFOS and PFOA. If both PFOS and PFOA are found to be present, the concentrations of both PFAS combined will be compared to the value of 70 ppt.
[b]Based on US EPA Regional Screening Levels (RSLs) (US EPA, 2017).
[c]EPA Health Advisory Level
[d]Sum of detections for PFOS, PFOA, PFBS, PFHpA, PFHxS, and PFNA.
Values in **bold** font indicate the compound was reported as detected.
Indicates the concentration is at or exceeds the project action limit.
Sum of Six UCMR-3 PFAS compounds greater than 70 ppt
UCMR Compound

DUP - Field duplicate
J - Estimated value
ND - Not detected
NE - Not established
ng/L - nanogram per liter
NMeFOSAA - N-methyl perfluorooctanesulfonamidoacetic acid
PFAS - Per- and polyflouralkyl substances
PFBS - Perfluorobutanesulfonate
PFDA - Perfluorodecanoic acid
PFDoA - Perfluorododecanoic acid
PFHpA - Perfluoroheptanoic acid
PFHxA - Perfluorohexanoic acid
PFHxS - Perfluorohexanesulfonate
PFNA - Perfluorononanoic acid
PFOA - Perfluorooctanoic acid
PFOS - Perfluoro-octanesulfonate
PFTA - Perfluorotetradecanoic acid
PFTrDA - Perfluorotridecanoic acid
PFUnA - Perfluoroundecanoic acid
U - Analyte was not detected above the practical quantitation limit shown.
UCMR - Unregulated Contaminant Monitoring Rule
UJ - Analyte was not detected above the practical quantitation limit shown. The practical quantitation limit is an estimated value.

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