

**Appendix I Laboratory Data
Groundwater
Range 30/ MATES PFAS SI Report
Camp Grayling, MI**

Area of Interest Sample ID Sample Date			AOI8																											
			AOI-8-1-GW-35-40				AOI-8-2-GW-15-20				AOI-8-3-GW-15-20				AOI-8-4-GW-30-35				AOI-8-5-GW-35-40				AOI-8-6-GW-45-50				AOI-8-7-GW-35-40			
			10/26/2018				10/25/2018				10/25/2018				10/24/2018				10/24/2018				10/23/2018				10/23/2018			
Analyte	EPA HA/RSL ^{a,b}	MDEQ ^c	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual
Water, PFAS EPA 537 Rev 1.1 Mod (ng/L)																														
6:2 FTS	-	-	<	3.85	9.62	U	1980	4.00	10.0		32.4	3.85	9.62		<	3.57	8.93	U	<	3.57	8.93	U	<	4.17	10.4	U	<	3.57	8.93	U
8:2 FTS	-	-	<	3.85	9.62	U	139	4.00	10.0		3.12	3.85	9.62	J	<	3.57	8.93	U	<	3.57	8.93	U	<	4.17	10.4	U	<	3.57	8.93	U
NEFOSAA	-	-	<	7.69	9.62	U	<	8.00	10.0	U	<	7.69	9.62	U	<	7.14	8.93	U	<	7.14	8.93	U	<	8.33	10.4	U	<	7.14	8.93	U
NMeFOSAA	-	-	<	7.69	9.62	U	<	8.00	10.0	U	<	7.69	9.62	U	<	7.14	8.93	U	<	7.14	8.93	U	<	8.33	10.4	U	<	7.14	8.93	U
PFBA	-	-	<	3.85	9.62	U	26.8	4.00	10.0		<	3.85	9.62	U	<	3.57	8.93	U	<	3.57	8.93	U	123	4.17	10.4		<	3.57	8.93	U
PFBS	400000	-	<	3.85	9.62	U	2.96	4.00	10.0	J	<	3.85	9.62	U	<	3.57	8.93	U	<	3.57	8.93	U	<	4.17	10.4	U	<	3.57	8.93	U
PFDA	-	-	<	3.85	9.62	U	<	4.00	10.0	U	<	3.85	9.62	U	<	3.57	8.93	U	<	3.57	8.93	U	<	4.17	10.4	U	<	3.57	8.93	U
PFDa	-	-	<	3.85	9.62	U	<	4.00	10.0	U	<	3.85	9.62	U	<	3.57	8.93	U	<	3.57	8.93	U	<	4.17	10.4	U	<	3.57	8.93	U
PFHpA	-	-	<	3.85	9.62	U	46.9	4.00	10.0		<	3.85	9.62	U	<	3.57	8.93	U	<	3.57	8.93	U	<	4.17	10.4	U	<	3.57	8.93	U
PFHxA	-	-	<	3.85	9.62	U	99.4	4.00	10.0		<	3.85	9.62	U	<	3.57	8.93	U	<	3.57	8.93	U	<	4.17	10.4	U	<	3.57	8.93	U
PFHxS	-	-	<	3.85	9.62	U	192	4.00	10.0		29.6	3.85	9.62		<	6.38	8.93	U	<	3.57	8.93	U	3.51	4.17	10.4	J	<	3.57	8.93	U
PFNA	-	-	<	3.85	9.62	U	9.71	4.00	10.0	J	<	3.85	9.62	U	<	3.57	8.93	U	<	3.57	8.93	U	<	4.17	10.4	U	<	3.57	8.93	U
PFOA	70	70	<	3.85	9.62	U	60.7	4.00	10.0		5.08	3.85	9.62	J	<	3.57	8.93	U	<	3.57	8.93	U	<	4.17	10.4	U	<	3.57	8.93	U
PFOS	70	70	<	6.47	9.62	U	7810	4.00	10.0		397	3.85	9.62		13.1	3.57	8.93		<	3.57	8.93	U	<	4.17	10.4	U	<	3.57	8.93	U
PFPeA	-	-	<	3.85	9.62	U	113	4.00	10.0		4.72	3.85	9.62	J	<	3.57	8.93	U	<	3.57	8.93	U	<	4.17	10.4	U	<	3.57	8.93	U
PFTeDA	-	-	<	3.85	9.62	UJ	<	4.00	10.0	U	<	3.33	8.33	U	<	3.57	8.93	U	<	3.57	8.93	U	<	4.17	10.4	UJ	<	3.57	8.93	U
PFTTrDA	-	-	<	3.85	9.62	U	<	4.00	10.0	U	<	3.33	8.33	U	<	3.57	8.93	U	<	3.57	8.93	U	<	4.17	10.4	U	<	3.57	8.93	U
PFUdA	-	-	<	3.85	9.62	U	<	4.00	10.0	U	<	3.85	9.62	U	<	3.57	8.93	U	<	3.57	8.93	U	<	4.17	10.4	U	<	3.57	8.93	U
PFOA+PFOS Total	70	70	<	6.47	9.62		7870	4.00	10.0		402	3.85	9.62		13.1	3.57	8.93		<	3.57	8.93		<	4.17	10.4		<	3.57	8.93	

Grey Fill Detected concentration exceeded EPA HA/RSL
Bold Font Detected concentration exceeded MDEQ Criteria

*Formats are combined for exceedances of multiple criteria

References

- United States Environmental Protection Agency (EPA). 2016. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA). Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-005. May 2016. / EPA. 2016. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS). Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-004. May 2016.
- Regional Screening Levels (RSL) for PFBS as presented in the USEPA RSL Summary Table (TR=1E-06, HQ=1) November 2014 through May 2018. As of November 2018, values for PFOA and PFOS calculated by the EPA RSL calculator using EPA Office of Water (OW) Reference Dose (RfDs), HQ of 1, and residential exposure assumptions. Note: RSL users screening sites with multiple contaminants should consult the USEPA (2018) RSL User's Guide and USEPA (1989) Risk Assessment Guidance.
- Michigan Department of Environmental Quality (MDEQ). 2018. Remediation and Redevelopment Division. Environmental Contamination Response Activity Rules. Table 1. Groundwater: Residential and Nonresidential, Part 201 Generic Cleanup Criteria and Screening Levels. Effective January 10, 2018.

Interpreted Qualifiers

J = Estimated concentration

U = The analyte was not detected at a level greater than or equal to the adjusted detection limit (DL)

**Appendix I Laboratory Data
Groundwater
Range 30/ MATES PFAS SI Report
Camp Grayling, MI**

Area of Interest			AOI8																											
Sample ID			AOI-8-8-GW-20-25				AOI-8-8-GW-20-25-Dup				AOI-8-9-GW-15-20				AOI-8-10-GW-15-20				AOI8-MATE-MW3-080218				AOI8-MATE-MW-3-101918				AOI8-MATE-MW4-080218			
Sample Date			10/23/2018				10/23/2018				10/29/2018				10/30/2018				8/2/2018				10/19/2018				8/2/2018			
Analyte	EPA HA/RSL ^{a,b}	MDEQ ^c	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual
Water, PFAS EPA 537 Rev 1.1 Mod (ng/L)																														
6:2 FTS	-	-	<	3.57	8.93	U	<	3.85	9.62	U	<	3.85	9.62	U	<	4.00	10.0	U	33.5	3.33	8.33		3.92	3.57	8.93	J	<	3.33	8.33	U
8:2 FTS	-	-	<	3.57	8.93	U	<	3.85	9.62	U	<	3.85	9.62	U	<	4.00	10.0	U	<	3.33	8.33	U	<	3.57	8.93	U	<	3.33	8.33	U
NEFOSAA	-	-	<	7.14	8.93	U	<	7.69	9.62	U	<	7.69	9.62	U	<	8.00	10.0	U	<	6.67	8.33	U	<	7.14	8.93	U	<	6.67	8.33	U
NMeFOSAA	-	-	<	7.14	8.93	U	<	7.69	9.62	U	<	7.69	9.62	U	<	8.00	10.0	U	<	6.67	8.33	U	<	7.14	8.93	U	<	6.67	8.33	U
PFBA	-	-	<	3.57	8.93	U	<	3.85	9.62	U	3.35	3.85	9.62	J	3.85	4.00	10.0	J	8.20	3.33	8.33	J	5.05	3.57	8.93	J	<	3.33	8.33	U
PFBS	400000	-	<	3.57	8.93	U	<	3.85	9.62	U	<	3.85	9.62	U	<	4.00	10.0	U	<	3.33	8.33	U	1.34	3.57	8.93	J	<	3.33	8.33	U
PFDA	-	-	<	3.57	8.93	U	<	3.85	9.62	U	<	3.85	9.62	U	<	4.00	10.0	U	<	3.33	8.33	U	<	3.57	8.93	U	<	3.33	8.33	U
PFDoA	-	-	<	3.57	8.93	U	<	3.85	9.62	U	<	3.85	9.62	U	<	4.00	10.0	U	<	3.33	8.33	U	<	3.57	8.93	U	<	3.33	8.33	U
PFHpA	-	-	<	3.57	8.93	U	<	3.85	9.62	U	5.31	3.85	9.62	J	<	4.00	10.0	U	12.9	3.33	8.33		5.61	3.57	8.93	J	<	3.33	8.33	U
PFHxA	-	-	<	3.57	8.93	U	<	3.85	9.62	U	8.72	3.85	9.62	J	<	4.00	10.0	U	26.4	3.33	8.33		6.27	3.57	8.93	J	<	3.33	8.33	U
PFHxS	-	-	3.47	3.57	8.93	J	3.46	3.85	9.62	J	21.5	3.85	9.62		1.77	4.00	10.0	J	116	3.33	8.33		35.3	3.57	8.93	<	3.33	8.33	U	
PFNA	-	-	<	3.57	8.93	U	<	3.85	9.62	U	<	3.85	9.62	U	<	4.00	10.0	U	<	3.33	8.33	U	<	3.57	8.93	U	<	3.33	8.33	U
PFOA	70	70	<	3.57	8.93	U	<	3.85	9.62	U	5.24	3.85	9.62	J	<	4.00	10.0	U	13.5	3.33	8.33		7.38	3.57	8.93	J	<	3.33	8.33	U
PFOS	70	70	<	5.76	8.93	U	<	5.35	9.62	U	41	3.85	9.62		18.3	4.00	10.0		137	3.33	8.33		142	3.57	8.93	<	3.33	8.33	U	
PFPeA	-	-	<	3.57	8.93	U	<	3.85	9.62	U	10.9	3.85	9.62		<	4.00	10.0	U	23.9	3.33	8.33		6.26	3.57	8.93	J	<	3.33	8.33	U
PFTeDA	-	-	<	3.57	8.93	U	<	3.85	9.62	U	<	3.85	9.62	U	<	4.00	10.0	U	<	3.33	8.33	U	<	3.57	8.93	UJ	<	3.33	8.33	U
PFTrDA	-	-	<	3.57	8.93	U	<	3.85	9.62	U	<	3.85	9.62	U	<	4.00	10.0	U	<	3.33	8.33	U	<	3.57	8.93	U	<	3.33	8.33	U
PFUdA	-	-	<	3.57	8.93	U	<	3.85	9.62	U	<	3.85	9.62	U	<	4.00	10.0	U	<	3.33	8.33	U	<	3.57	8.93	U	<	3.33	8.33	U
PFOA+PFOS Total	70	70	<	5.76	8.93		<	5.35	9.62		46	3.85	9.62		18.3	4.00	10.0		151	3.33	8.33		149	3.57	8.93	<	3.33	8.33		

Grey Fill Detected concentration exceeded EPA HA/RSL
Bold Font Detected concentration exceeded MDEQ Criteria

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References

- a. United States Environmental Protection Agency (EPA). 2016. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA). Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-005. May 2016. / EPA. 2016. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS). Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-004. May 2016.
- b. Regional Screening Levels (RSL) for PFBS as presented in the USEPA RSL Summary Table (TR=1E-06, HQ=1) November 2014 through May 2018. As of November 2018, values for PFOA and PFOS calculated by the EPA RSL calculator using EPA Office of Water (OW) Reference Dose (RfDs), HQ of 1, and residential exposure assumptions. Note: RSL users screening sites with multiple contaminants should consult the USEPA (2018) RSL User's Guide and USEPA (1989) Risk Assessment Guidance.
- c. Michigan Department of Environmental Quality (MDEQ). 2018. Remediation and Redevelopment Division. Environmental Contamination Response Activity Rules, Table 1. Groundwater: Residential and Nonresidential, Part 201 Generic Cleanup Criteria and Screening Levels. Effective January 10, 2018.

Interpreted Qualifiers

- J = Estimated concentration
- U = The analyte was not detected at a level greater than or equal to the adjusted detection limit (DL)

**Appendix I Laboratory Data
Groundwater
Range 30/ MATES PFAS SI Report
Camp Grayling, MI**

Area of Interest		AOI8																												
Sample ID		AOI8-MATE-MW-4-101818				AOI8-MATE-MW-4-101818 DU				AOI8-MATE-MW8-080218				AOI8-MATE-MW-8-101918				AOI8-MATE-MW11-080218				AOI8-MATE-MW-11-101818				AOI8-RG30-MW1-080118				
Sample Date		10/18/2018				10/18/2018				8/2/2018				10/19/2018				8/2/2018				10/18/2018				8/1/2018				
Analyte	EPA HA/RSL ^{a,b}	MDEQ ^c	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual
Water, PFAS EPA 537 Rev 1.1 Mod (ng/L)																														
6:2 FTS	-	-	<	3.57	8.93	U	<	3.57	8.93	U	<	3.33	8.33	U	<	3.57	8.93	U	13.8	3.57	8.93		<	3.57	8.93	U	<	3.33	8.33	U
8:2 FTS	-	-	<	3.57	8.93	U	<	3.57	8.93	U	<	3.33	8.33	U	<	3.57	8.93	U	<	3.57	8.93	U	<	3.57	8.93	UJ	<	3.33	8.33	U
NEFOSAA	-	-	<	7.14	8.93	U	<	7.14	8.93	U	<	6.67	8.33	U	<	7.14	8.93	U	<	7.14	8.93	U	<	7.14	8.93	U	<	6.67	8.33	U
NMeFOSAA	-	-	<	7.14	8.93	U	<	7.14	8.93	U	<	6.67	8.33	U	<	7.14	8.93	U	<	7.14	8.93	U	<	7.14	8.93	U	<	6.67	8.33	U
PFBA	-	-	<	3.57	8.93	U	<	3.57	8.93	U	2.20	3.33	8.33	J	6.07	3.57	8.93	J	7.24	3.57	8.93	J	<	3.57	8.93	U	6.53	3.33	8.33	J
PFBS	400000	-	<	3.57	8.93	U	<	3.57	8.93	U	<	3.33	8.33	U	<	3.57	8.93	U	<	3.57	8.93	U	<	3.57	8.93	U	<	3.33	8.33	U
PFDA	-	-	<	3.57	8.93	U	<	3.57	8.93	U	<	3.33	8.33	U	<	3.57	8.93	U	<	3.57	8.93	U	<	3.57	8.93	U	<	3.33	8.33	U
PFDoA	-	-	<	3.57	8.93	U	<	3.57	8.93	U	<	3.33	8.33	U	<	3.57	8.93	U	<	3.57	8.93	U	<	3.57	8.93	UJ	<	3.33	8.33	U
PFHpA	-	-	<	3.57	8.93	U	<	3.57	8.93	U	3.01	3.33	8.33	J	8.98	3.57	8.93		4.39	3.57	8.93	J	<	3.57	8.93	U	<	3.33	8.33	U
PFHxA	-	-	<	3.57	8.93	U	<	3.57	8.93	U	5.42	3.33	8.33	J	14.1	3.57	8.93		3.44	3.57	8.93	J	<	3.57	8.93	U	<	3.33	8.33	U
PFHxS	-	-	<	3.57	8.93	U	<	3.57	8.93	U	27.6	3.33	8.33		48.6	3.57	8.93		11.9	3.57	8.93		4.17	3.57	8.93	J	<	3.33	8.33	U
PFNA	-	-	<	3.57	8.93	U	<	3.57	8.93	U	<	3.33	8.33	U	<	3.57	8.93	U	<	3.57	8.93	U	<	3.57	8.93	U	<	3.33	8.33	U
PFOA	70	70	<	3.57	8.93	U	<	3.57	8.93	U	2.58	3.33	8.33	J	6.36	3.57	8.93	J	2.24	3.57	8.93	J	<	3.57	8.93	U	<	3.33	8.33	U
PFOS	70	70	<	3.57	8.93	U	<	3.57	8.93	U	17.3	3.33	8.33		32.0	3.57	8.93		<	3.57	8.93	U	<	3.57	8.93	U	<	3.33	8.33	U
PFPeA	-	-	<	3.57	8.93	U	<	3.57	8.93	U	5.65	3.33	8.33	J	22.6	3.57	8.93		<	3.57	8.93	U	<	3.57	8.93	U	<	3.33	8.33	U
PFTeDA	-	-	<	3.57	8.93	UJ	<	3.57	8.93	U	<	3.33	8.33	U	<	3.57	8.93	UJ	<	3.57	8.93	U	<	3.57	8.93	UJ	<	3.33	8.33	U
PFTrDA	-	-	<	3.57	8.93	U	<	3.57	8.93	U	<	3.33	8.33	U	<	3.57	8.93	U	<	3.57	8.93	U	<	3.57	8.93	U	<	3.33	8.33	U
PFUdA	-	-	<	3.57	8.93	U	<	3.57	8.93	U	<	3.33	8.33	U	<	3.57	8.93	U	<	3.57	8.93	U	<	3.57	8.93	U	<	3.33	8.33	U
PFOA+PFOS Total	70	70	<	3.57	8.93		<	3.57	8.93		19.9	3.33	8.33		38	3.57	8.93		2.24	3.57	8.93		<	3.57	8.93		<	3.33	8.33	

Grey Fill Detected concentration exceeded EPA HA/RSL
Bold Font Detected concentration exceeded MDEQ Criteria

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References

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Range 30/ MATES PFAS SI Report
Camp Grayling, MI**

Area of Interest Sample ID Sample Date			AOI8																															
			AOI8-RG30-MW2-080318				AOI8-RG30-MW2-080318DU#				AOI8-RG30-MW3-073118				AOI8-RG30-MW3-073118 DU#				AOI8-RG30-MW4-080118				AOI8-RG30-MW5-073118				AOI8-RG30-MW6-073118							
			8/3/2018				8/3/2018				7/31/2018				7/31/2018				8/1/2018				7/31/2018				7/31/2018							
Analyte	EPA HA/RSL ^{a,b}	MDEQ ^c	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual				
Water, PFAS EPA 537 Rev 1.1 Mod (ng/L)																																		
6:2 FTS	-	-	<	3.33	8.33	U	<	3.33	8.33	U	2.49	3.33	8.33	J	3.73	3.33	8.33	J	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U
8:2 FTS	-	-	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U
NEtFOSAA	-	-	<	6.67	8.33	U	<	6.67	8.33	U	<	6.67	8.33	U	<	6.67	8.33	U	<	6.67	8.33	U	<	6.67	8.33	U	<	6.67	8.33	U	<	6.67	8.33	U
NMeFOSAA	-	-	<	6.67	8.33	U	<	6.67	8.33	U	<	6.67	8.33	U	<	6.67	8.33	U	<	6.67	8.33	U	<	6.67	8.33	U	<	6.67	8.33	U	<	6.67	8.33	U
PFBA	-	-	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	12.8	3.33	8.33	
PFBS	400000	-	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U
PFDA	-	-	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U
PFDoA	-	-	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U
PFHpA	-	-	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U
PFHxA	-	-	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U
PFHxS	-	-	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U
PFNA	-	-	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U
PFOA	70	70	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U
PFOS	70	70	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U
PFPeA	-	-	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U
PFTeDA	-	-	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U
PFTrDA	-	-	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U
PFUdA	-	-	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U
PFOA+PFOS Total	70	70	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U	<	3.33	8.33	U

Grey Fill Detected concentration exceeded EPA HA/RSL
Bold Font Detected concentration exceeded MDEQ Criteria
 *Formats are combined for exceedances of multiple criteria

References
 a. United States Environmental Protection Agency (EPA). 2016. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA). Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-005. May 2016. / EPA. 2016. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS). Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-004. May 2016.
 b. Regional Screening Levels (RSL) for PFBS as presented in the USEPA RSL Summary Table (TR-1E-06, HQ-1) November 2014 through May 2018. As of November 2018, values for PFOA and PFOS calculated by the EPA RSL calculator using EPA Office of Water (OW) Reference Dose (RfDs), HQ of 1, and residential exposure assumptions. Note: RSL users screening sites with multiple contaminants should consult the USEPA (2018) RSL User's Guide and USEPA (1989) Risk Assessment Guidance.
 c. Michigan Department of Environmental Quality (MDEQ). 2018. Remediation and Redevelopment Division. Environmental Contamination Response Activity Rules. Table 1. Groundwater: Residential and Nonresidential, Part 201 Generic Cleanup Criteria and Screening Levels. Effective January 10, 2018.

Interpreted Qualifiers
 J = Estimated concentration
 U = The analyte was not detected at a level greater than or equal to the adjusted detection limit (DL)

Appendix I Laboratory Data
Groundwater
Range 30/ MATES PFAS SI Report
Camp Grayling, MI

Area of Interest			AOI8								
			Sample ID			AOI8-RG30-MW7-073118					
Sample Date			7/31/2018			8/1/2018					
Analyte	EPA HA/RSL ^{a,b}	MDEQ ^c	Result	LOD	LOQ	Qual	Result	LOD	LOQ	Qual	
Water, PFAS EPA 537 Rev 1.1 Mod (ng/L)											
6:2 FTS	-	-	<	3.33	8.33	U	<	3.33	8.33	U	
8:2 FTS	-	-	<	3.33	8.33	U	<	3.33	8.33	U	
NEFOSAA	-	-	<	6.67	8.33	U	<	6.67	8.33	U	
NMeFOSAA	-	-	<	6.67	8.33	U	<	6.67	8.33	U	
PFBA	-	-	2.85	3.33	8.33	J	11.7	3.33	8.33		
PFBS	400000	-	<	3.33	8.33	U	<	3.33	8.33	U	
PFDA	-	-	<	3.33	8.33	U	<	3.33	8.33	U	
PFDoA	-	-	<	3.33	8.33	U	<	3.33	8.33	U	
PFHpA	-	-	<	3.33	8.33	U	2.13	3.33	8.33	J	
PFHxA	-	-	<	3.33	8.33	U	2.85	3.33	8.33	J	
PFHxS	-	-	<	3.33	8.33	U	<	3.33	8.33	U	
PFNA	-	-	<	3.33	8.33	U	<	3.33	8.33	U	
PFOA	70	70	<	3.33	8.33	U	<	3.33	8.33	U	
PFOS	70	70	<	3.33	8.33	U	<	3.33	8.33	U	
PFPeA	-	-	<	3.33	8.33	U	13.6	3.33	8.33		
PFTeDA	-	-	<	3.33	8.33	U	<	3.33	8.33	U	
PFTrDA	-	-	<	3.33	8.33	U	<	3.33	8.33	U	
PFUdA	-	-	<	3.33	8.33	U	<	3.33	8.33	U	
PFOA+PFOS Total	70	70	<	3.33	8.33		<	3.33	8.33		

Grey Fill	Detected concentration exceeded EPA HA/RSL
Bold Font	Detected concentration exceeded MDEQ Criteria

*Formats are combined for exceedances of multiple criteria

References

a. United States Environmental Protection Agency (EPA). 2016. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA). Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-005. May 2016. / EPA. 2016. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS). Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-004. May 2016.

b. Regional Screening Levels (RSL) for PFBS as presented in the USEPA RSL Summary Table (TR=1E-06, HQ=1) November 2014 through May 2018. As of November 2018, values for PFOA and PFOS calculated by the EPA RSL calculator using EPA Office of Water (OW) Reference Dose (RfDs), HQ of 1, and residential exposure assumptions. Note: RSL users screening sites with multiple contaminants should consult the USEPA (2018) RSL User's Guide and USEPA (1989) Risk Assessment Guidance.

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Interpreted Qualifiers

J = Estimated concentration

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