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A Division of GZA

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MEMORANDUM

To: Abby Hendershott, EGLE

From: Leslie Nelson, Rose & Westra, a Division of GZA GeoEnvironmental, Inc.

Date: July 31, 2019

File No.: 16.0062335.02 Task 002

Re: Wolverine World Wide, Inc. (Wolverine) – Former Tannery
Monthly Progress Report

This Monthly Progress Report (MPR) is being provided at the request of EGLE to support the June 18, 2018 Source Investigation Task Summary (SITS) in response EGLE's request for regular progress updates.

This MPR summarizes the progress for the period June 25, 2019 through July 25, 2019. This includes actions performed, problems encountered, analytical data received during the reporting period, and anticipated developments during the next reporting period.

ACTIONS PERFORMED

During this period, June 25, 2019 through July 25, 2019, GZA has done the following:

- 1) Conducted groundwater sampling at newly installed well set at TA-MW-315.
- 2) Processed the pump test results and continued work on the pump and treat system design.
- 3) Obtained access to drill TA-PMW-314 and TA-PMW-317.
- 4) Conducted activities in response to EPA's April 29, 2019 letter.

ANALYTICAL DATA RECIEVED

The data was received for the 2nd quarter sampling event. This data is included in Table 1.

ANTICIPATED ACTIONS AND SCHEDULE FOR NEXT REPORTING PERIOD

During the next reporting period, July 25, 2019 through August 24, 2019, R&W/GZA anticipates completing and/or continuing to conduct the following tasks.

- 1) Conduct drilling activities at TA-PMW-314 and TA-PMW-317.
- 2) Complete boring logs for TA-MW-311, TA-MW-315, and TA-MW-316.



- 3) Continue to respond to the EPA's April 29, 2019, correspondence regarding CERCLA actions at the Wolverine Tannery and House Street sites.

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TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - PFAS
Former Tannery
Rockford, Kent County, Michigan

Sample Location	Part 201 Generic Groundwater Cleanup Criteria – Drinking Water	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface	U.S. EPA Residential Tap Water Regional Removal Management Levels	TA-GW-01	TA-GW-02	TA-GW-03	TA-GW-04	TA-GW-05	TA-GW-06	TA-GW-07	TA-GW-08	TA-GW-09	TA-MW-1	TA-MW-2	TA-MW-3	TA-MW-4
Sample Name				TA-GW-01	TA-GW-02	TA-GW-03	TA-GW-04	TA-GW-05	TA-GW-06	TA-GW-07	TA-GW-08	TA-GW-09	TA-MW-1	TA-MW-2	TA-MW-3	TA-MW-4
Laboratory Sample ID(s)				UF19007-005	UF08017-012	UF13013-007	UF19007-009	UF06020-010	UF13013-025	UF06020-012	UF06020-011	UF15001-001	UF08017-013	UF19007-002	UF08017-001	UF19007-007
Sample Date				06/17/2019	06/06/2019	06/11/2019	06/18/2019	06/05/2019	06/12/2019	06/05/2019	06/05/2019	06/13/2019	06/06/2019	06/17/2019	06/07/2019	06/18/2019
Parameter (µg/L)																
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	NCL	NCL	NCL	<0.017	<0.0035	<0.018	<0.036	<0.0034	<0.034	<0.0035	<0.0036	<0.0037	<0.0036	<0.69	<0.0035	<0.036
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	NCL	NCL	NCL	0.024	<0.0035	<0.018	0.43	<0.0034	<0.034	<0.0035	<0.0036	<0.0037	<0.0036	<0.69	<0.0035	0.21
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	NCL	NCL	NCL	<0.017	<0.0035	<0.018	<0.036	<0.0034	<0.034	<0.0035	<0.0036	<0.0037	0.015	<0.69	<0.0035	0.25
N-Methyl perfluorooctane sulfonamide (MeFOSA)	NCL	NCL	NCL	<0.034	<0.007	<0.035	<0.072	<0.0069	<0.069	<0.007	<0.0071	<0.0073	<0.0073	<1.4	<0.0071	<0.071
Perfluorobutane sulfonic acid (PFBS)	NCL	NCL	1,200	4.3	0.66	1.6	7.9	0.15	2.3	0.19	0.09	3.5	1	0.82	0.21	6
Perfluorodecane sulfonic acid (PFDS)	NCL	NCL	NCL	<0.017	<0.0035	<0.018	<0.036	<0.0034	<0.034	<0.0035	<0.0036	<0.0037	0.0072	<0.69	<0.0035	<0.036
Perfluoroheptane sulfonic acid (PFHpS)	NCL	NCL	NCL	0.96	0.026	0.23	0.95	0.087	0.51	0.076	0.086	0.48	0.055	<0.69	0.029	0.68
Perfluorononane sulfonic acid (PFNS)	NCL	NCL	NCL	<0.034	<0.007	<0.035	<0.072	<0.0069	<0.069	<0.007	<0.0071	<0.0073	<0.0073	<1.4	<0.0071	<0.071
Perfluorooctane sulfonamide (FOSA)	NCL	NCL	NCL	0.027	<0.0035	0.19	<0.036	0.0098	0.31	0.0058	0.018	0.0079	0.22	0.95	0.17	3
Perfluoropentane sulfonic acid (PFPeS)	NCL	NCL	NCL	0.53	0.31	0.28	3	0.035	0.55	0.04	0.027	0.44	0.031	<0.69	0.028	0.97
Perfluorohexane sulfonic acid (PFHxS)	NCL	NCL	NCL	3.8	0.7	0.94	9	0.23	3.3	0.17	0.14	1.6	0.17	<0.69	0.2	3.5
Perfluorobutanoic acid (PFBA)	NCL	NCL	NCL	0.55	0.15	0.29	2.8	0.018	0.49	0.046	0.017	0.22	0.067	<0.69	0.028	2.8
Perfluorodecanoic acid (PFDA)	NCL	NCL	NCL	<0.017	<0.0035	0.3	<0.036	0.02	0.17	<0.0035	<0.0036	<0.0037	0.047	<0.69	0.0077	<0.036
Perfluorododecanoic acid (PFDoDA)	NCL	NCL	NCL	<0.017	<0.0035	<0.018	<0.036	<0.0034	<0.034	<0.0035	<0.0036	<0.0037	<0.0036	<0.69	<0.0035	<0.036
Perfluoroheptanoic acid (PFHpA)	NCL	NCL	NCL	0.93	0.68	0.73	6.7	0.051	1.2	0.1	0.053	0.74	0.06	<0.69	0.12	4
Perfluorohexanoic acid (PFHxA)	NCL	NCL	NCL	0.95	0.68	0.8	10	0.034	1.6	0.099	0.042	0.58	0.055	<0.69	0.076	7.3
Perfluorononanoic acid (PFNA)	NCL	NCL	NCL	0.08	<0.0035	0.11	0.28	0.023	0.27	0.023	0.023	0.058	0.028	<0.69	0.0091	0.24
Perfluorooctanoic acid (PFOA)	0.07 (U)	0.42 (X)	NCL	11	4.5	5.8	60	0.61	8	1.1	0.81	7.2	0.41	2.3	0.76	24
Perfluorooctane sulfonic acid (PFOS)	0.07 (U)	0.011 (X)	NCL	16	0.42	19	61	4.8	23	6.5	9.1	3.7	3	52	1.1	52
PFOA + PFOS (Calculated)	0.07	NCL	NCL	27	4.9	25	120	5.4	31	7.6	9.9	11	3.4	54	1.9	76
Perfluoropentanoic acid (PFPeA)	NCL	NCL	NCL	0.37	0.18	0.33	3.6	0.014	0.62	0.04	0.018	0.27	0.056	<0.69	0.026	2.3
Perfluorotetradecanoic acid (PFTeDA)	NCL	NCL	NCL	<0.017	<0.0035	<0.018	<0.036	<0.0034	<0.034	<0.0035	<0.0036	<0.0037	<0.0036	<0.69	<0.0035	<0.036
Perfluorotridecanoic acid (PFTrDA)	NCL	NCL	NCL	<0.017	<0.0035	<0.018	<0.036	<0.0034	<0.034	<0.0035	<0.0036	<0.0037	<0.0036	<0.69	<0.0035	<0.036
Perfluoroundecanoic acid (PFUnDA)	NCL	NCL	NCL	<0.017	<0.0035	<0.018	<0.036	<0.0034	<0.034	<0.0035	<0.0036	0.0037	<0.0036	<0.69	<0.0035	2.9
Total PFAS (Calculated)	NCL	NCL	NCL	40	8.3	31	170	6.1	42	8.4	10	19	5.2	56	2.8	110

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - PFAS
Former Tannery
Rockford, Kent County, Michigan

Sample Location	Part 201 Generic Groundwater Cleanup Criteria – Drinking Water	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface	U.S. EPA Residential Tap Water Regional Removal Management Levels	TA-MW-5	TA-MW-301B	TA-MW-301C	TA-MW-301D	TA-MW-302A	TA-MW-302B	TA-MW-303A	TA-MW-303B	TA-MW-303C	TA-MW-303C	TA-MW-303D	TA-MW-303E	TA-MW-304A
Sample Name				TA-MW-5	TA-MW-301B	TA-MW-301C	TA-MW-301D	TA-MW-302A	TA-MW-302B	TA-MW-303A	TA-MW-303B	TA-MW-303C	TA-MW-303C DUP	TA-MW-303D	TA-MW-303E	TA-MW-304A
Laboratory Sample ID(s)				UF13013-015	UF13013-026	UF19007-010	UF05051-014	UF13013-013	UF13013-009	UF08017-014	UF19007-001	UF19007-003	UF19007-004	UF05051-015	UF05051-016	UF15001-004
Sample Date				06/10/2019	06/12/2019	06/18/2019	06/03/2019	06/10/2019	06/11/2019	06/06/2019	06/17/2019	06/17/2019	06/17/2019	06/03/2019	06/03/2019	06/13/2019
Parameter (µg/L)																
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	NCL	NCL	NCL	<0.0035	<0.017	<0.072	<0.0036	<0.0035	<0.0035	<0.035	<0.34	<0.17	<0.017	<0.0036	<0.0036	<0.036
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	NCL	NCL	NCL	<0.0035	<0.017	<0.072	<0.0036	<0.0035	0.013	<0.035	<0.34	<0.17	0.08	<0.0036	<0.0036	<0.036
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	NCL	NCL	NCL	<0.0035	<0.017	<0.072	<0.0036	<0.0035	<0.0035	<0.035	<0.34	<0.17	<0.017	<0.0036	<0.0036	<0.036
N-Methyl perfluorooctane sulfonamide (MeFOSA)	NCL	NCL	NCL	<0.007	<0.035	<0.14	<0.0072	<0.0071	<0.007	<0.07	<0.69	<0.34	<0.035	<0.0072	<0.0071	<0.073
Perfluorobutane sulfonic acid (PFBS)	NCL	NCL	1,200	0.061	0.59	1	<0.0036	1.1	2.1	11	9	8	7.9	0.048	<0.0036	1.1
Perfluorodecane sulfonic acid (PFDS)	NCL	NCL	NCL	0.014	<0.017	<0.072	<0.0036	0.011	<0.0035	<0.035	<0.34	<0.17	<0.017	<0.0036	<0.0036	<0.036
Perfluoroheptane sulfonic acid (PFHpS)	NCL	NCL	NCL	0.097	0.2	1.8	<0.0036	0.084	0.2	0.4	0.41	0.3	0.28	<0.0036	<0.0036	0.4
Perfluorononane sulfonic acid (PFNS)	NCL	NCL	NCL	0.018	<0.035	0.8	<0.0072	<0.0071	0.0082	<0.07	<0.69	<0.34	<0.035	<0.0072	<0.0071	<0.073
Perfluorooctane sulfonamide (FOSA)	NCL	NCL	NCL	1.6	0.078	0.072	<0.0036	0.34	0.83	0.79	<0.34	<0.17	0.11	<0.0036	<0.0036	0.24
Perfluoropentane sulfonic acid (PFPeS)	NCL	NCL	NCL	0.029	0.15	0.92	<0.0036	0.085	0.53	0.37	0.41	0.47	0.49	<0.0036	<0.0036	0.23
Perfluorohexane sulfonic acid (PFHxS)	NCL	NCL	NCL	0.36	0.68	8.6	<0.0036	0.31	1.2	1.1	1.6	1.8	1.8	0.0046	<0.0036	1.3
Perfluorobutanoic acid (PFBA)	NCL	NCL	NCL	0.022	0.16	0.99	<0.0036	0.095	0.54	0.4	0.49	1.5	1.5	0.0066	<0.0036	0.17
Perfluorodecanoic acid (PFDA)	NCL	NCL	NCL	0.032	0.056	0.1	<0.0036	0.052	0.016	0.056	<0.34	<0.17	<0.017	<0.0036	<0.0036	0.064
Perfluorododecanoic acid (PFDoDA)	NCL	NCL	NCL	<0.0035	<0.017	<0.072	<0.0036	<0.0035	<0.0035	<0.035	<0.34	<0.17	<0.017	<0.0036	<0.0036	<0.036
Perfluoroheptanoic acid (PFHpA)	NCL	NCL	NCL	0.1	0.52	14	<0.0036	0.12	0.87	0.52	0.67	1.3	1.2	0.0038	<0.0036	0.46
Perfluorohexanoic acid (PFHxA)	NCL	NCL	NCL	0.095	0.69	14	<0.0036	0.11	0.84	0.48	0.77	2.8	2.6	0.008	<0.0036	0.43
Perfluorononanoic acid (PFNA)	NCL	NCL	NCL	0.025	0.047	0.17	<0.0036	0.041	0.048	0.087	<0.34	<0.17	0.11	<0.0036	<0.0036	0.077
Perfluorooctanoic acid (PFOA)	0.07 (JJ)	0.42 (X)	NCL	1.2	8.5	220	0.0048	1	5.8	3.9	4.3	8.1	8.3	0.018	<0.0018	3.6
Perfluorooctane sulfonic acid (PFOS)	0.07 (JJ)	0.011 (X)	NCL	12	28	480	0.014	7.1	11	37	27	18	19	0.019	<0.0036	46
PFOA + PFOS (Calculated)	0.07	NCL	NCL	13	37	700	0.019	8.1	17	41	31	26	27	0.037	ND	50
Perfluoropentanoic acid (PFPeA)	NCL	NCL	NCL	0.023	0.23	2.5	<0.0036	0.086	0.36	0.32	0.35	0.93	0.86	0.0044	<0.0036	0.16
Perfluorotetradecanoic acid (PFTeDA)	NCL	NCL	NCL	<0.0035	<0.017	<0.072	<0.0036	<0.0035	<0.0035	<0.035	<0.34	<0.17	<0.017	<0.0036	<0.0036	<0.036
Perfluorotridecanoic acid (PFTrDA)	NCL	NCL	NCL	<0.0035	<0.017	<0.072	<0.0036	<0.0035	<0.0035	<0.035	<0.34	<0.17	<0.017	<0.0036	<0.0036	<0.036
Perfluoroundecanoic acid (PFUnDA)	NCL	NCL	NCL	<0.0035	<0.017	<0.072	<0.0036	<0.0035	<0.0035	<0.035	<0.34	<0.17	<0.017	<0.0036	<0.0036	<0.036
Total PFAS (Calculated)	NCL	NCL	NCL	16	40	740	0.019	11	24	56	45	43	44	0.11	ND	54

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - PFAS
Former Tannery
Rockford, Kent County, Michigan

Sample Location	Part 201 Generic Groundwater Cleanup Criteria – Drinking Water	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface	U.S. EPA Residential Tap Water Regional Removal Management Levels	TA-MW-304B	TA-MW-305B	TA-MW-305C	TA-MW-306A	TA-MW-306A	TA-MW-306B	TA-MW-307A	TA-MW-307B	TA-MW-308A	TA-MW-309A	TA-MW-309B	TA-MW-309C	TA-MW-309D
Sample Name				TA-MW-304B	TA-MW-305B	TA-MW-305C	TA-MW-306A	TA-MW-306A DUP	TA-MW-306B	TA-MW-307A	TA-MW-307B	TA-MW-308A	TA-MW-309A	TA-MW-309B	TA-MW-309C	TA-MW-309D
Laboratory Sample ID(s)				UF06020-009	UF19007-008	UF19007-011	UF13013-004	UF13013-005	UF13013-014	UF13013-010	UF13013-012	UF19007-012	UF08017-017	UF13013-006	UF13013-003	UF13013-024
Sample Date				06/05/2019	06/18/2019	06/18/2019	06/11/2019	06/11/2019	06/10/2019	06/10/2019	06/10/2019	06/18/2019	06/06/2019	06/11/2019	06/11/2019	06/12/2019
Parameter (µg/L)																
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	NCL	NCL	NCL	<0.0035	<0.019	<0.036	<0.0034	<0.0034	<0.0036	<0.0035	<0.0035	<0.0036	<0.0034	<0.0035	<0.017	<0.035
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	NCL	NCL	NCL	0.0076	0.2	0.38	0.006	0.0049	0.041	<0.0035	<0.0035	0.012	<0.0034	<0.0035	<0.017	<0.035
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	NCL	NCL	NCL	<0.0035	<0.019	<0.036	<0.0034	<0.0034	<0.0036	<0.0035	<0.0035	<0.0036	<0.0034	<0.0035	<0.017	<0.035
N-Methyl perfluorooctane sulfonamide (MeFOSA)	NCL	NCL	NCL	<0.007	<0.037	<0.072	<0.0069	<0.0069	<0.0073	<0.007	<0.007	<0.0072	<0.0069	<0.007	<0.035	<0.069
Perfluorobutane sulfonic acid (PFBS)	NCL	NCL	1,200	0.45	14	13	0.28	0.26	1.9	0.52	0.21	1	0.37	0.23	0.34	0.55
Perfluorodecane sulfonic acid (PFDS)	NCL	NCL	NCL	<0.0035	<0.019	<0.036	<0.0034	<0.0034	<0.0036	<0.0035	<0.0035	<0.0036	<0.0034	<0.0035	<0.017	<0.035
Perfluoroheptane sulfonic acid (PFHpS)	NCL	NCL	NCL	0.037	0.51	0.8	0.097	0.11	0.16	0.26	<0.0035	0.23	0.2	0.17	0.22	0.33
Perfluorononane sulfonic acid (PFNS)	NCL	NCL	NCL	<0.007	<0.037	<0.072	<0.0069	<0.0069	<0.0073	<0.007	<0.007	<0.0072	0.0075	<0.007	<0.035	<0.069
Perfluorooctane sulfonamide (FOSA)	NCL	NCL	NCL	0.0071	<0.019	<0.036	0.23	0.22	0.038	<0.0035	<0.0035	0.016	0.12	0.028	<0.017	<0.035
Perfluoropentane sulfonic acid (PFPeS)	NCL	NCL	NCL	0.12	1.9	2.3	0.052	0.048	0.31	0.23	0.022	0.21	0.084	0.081	0.12	0.16
Perfluorohexane sulfonic acid (PFHxS)	NCL	NCL	NCL	0.4	5	5.7	0.27	0.29	1	0.9	0.045	1	0.39	0.37	0.55	0.8
Perfluorobutanoic acid (PFBA)	NCL	NCL	NCL	0.26	4.8	5.5	0.069	0.067	0.6	0.08	0.083	0.4	0.057	0.055	0.076	0.13
Perfluorodecanoic acid (PFDA)	NCL	NCL	NCL	0.0038	<0.019	0.088	0.08	0.08	0.023	<0.0035	<0.0035	0.012	<0.0034	0.004	<0.017	0.038
Perfluorododecanoic acid (PFDoDA)	NCL	NCL	NCL	<0.0035	<0.019	<0.036	<0.0034	<0.0034	<0.0036	<0.0035	<0.0035	<0.0036	<0.0034	<0.0035	<0.017	<0.035
Perfluoroheptanoic acid (PFHpA)	NCL	NCL	NCL	0.22	8.3	8.1	0.12	0.12	0.9	0.41	0.081	1	0.16	0.13	0.22	0.42
Perfluorohexanoic acid (PFHxA)	NCL	NCL	NCL	0.59	23	21	0.14	0.14	1.1	0.32	0.18	1.2	0.14	0.13	0.24	0.48
Perfluorononanoic acid (PFNA)	NCL	NCL	NCL	0.013	0.094	0.24	0.062	0.062	0.064	0.039	<0.0035	0.091	0.046	0.043	0.055	0.079
Perfluorooctanoic acid (PFOA)	0.07 (JJ)	0.42 (X)	NCL	0.8	32	42	1	1.1	6.6	3.4	0.29	9.6	2	2.1	3.5	6
Perfluorooctane sulfonic acid (PFOS)	0.07 (JJ)	0.011 (X)	NCL	1.1	23	32	8.6	9.1	7.1	4.3	0.011	10	7.2	9.2	17	35
PFOA + PFOS (Calculated)	0.07	NCL	NCL	1.9	55	74	9.6	10	14	7.7	0.3	20	9.2	11	21	41
Perfluoropentanoic acid (PFPeA)	NCL	NCL	NCL	0.13	5.1	4.8	0.066	0.069	0.47	0.12	0.072	0.9	0.077	0.068	0.1	0.16
Perfluorotetradecanoic acid (PFTeDA)	NCL	NCL	NCL	<0.0035	<0.019	<0.036	<0.0034	<0.0034	<0.0036	<0.0035	<0.0035	<0.0036	<0.0034	<0.0035	<0.017	<0.035
Perfluorotridecanoic acid (PFTrDA)	NCL	NCL	NCL	<0.0035	<0.019	<0.036	<0.0034	<0.0034	<0.0036	<0.0035	<0.0035	<0.0036	<0.0034	<0.0035	<0.017	<0.035
Perfluoroundecanoic acid (PFUnDA)	NCL	NCL	NCL	<0.0035	<0.019	<0.036	<0.0034	<0.0034	<0.0036	<0.0035	<0.0035	<0.0036	<0.0034	<0.0035	<0.017	<0.035
Total PFAS (Calculated)	NCL	NCL	NCL	4.1	120	140	11	12	20	11	0.99	26	11	13	22	44

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - PFAS
Former Tannery
Rockford, Kent County, Michigan

Sample Location	Part 201 Generic Residential Groundwater Cleanup Criteria – Drinking Water	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface	U.S. EPA Residential Tap Water Regional Removal Management Levels	TA-MW-310A	TA-MW-310B	TA-MW-310C	TA-MW-311A	TA-MW-311B	TA-MW-311C	TA-MW-312	TA-MW-313A	TA-MW-313B	TA-MW-313C	TA-MW-313C	TA-MW-315D	TA-MW-315S
Sample Name				TA-MW-310A	TA-MW-310B	TA-MW-310C	TA-MW-311A	TA-MW-311B	TA-MW-311C	TA-MW-312	TA-MW-313A	TA-MW-313B	TA-MW-313C	TA-MW-313C DUP	TA-MW-315D	TA-MW-315S
Laboratory Sample ID(s)				UF06020-004	UF06020-006	UF06020-005	UF06020-003	UF06020-002	UF06020-001	UF05051-017	UF06020-008	UF05051-018	UF05051-019	UF05051-020	UF22013-001	UF22013-002
Sample Date				06/04/2019	06/04/2019	06/04/2019	06/04/2019	06/04/2019	06/04/2019	06/03/2019	06/05/2019	06/03/2019	06/03/2019	06/03/2019	06/21/2019	06/21/2019
Parameter (µg/L)																
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	NCL	NCL	NCL	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.018	<0.0035	<0.0036	<0.0036	<0.0036	<0.0035	<0.0034
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	NCL	NCL	NCL	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.018	<0.0035	<0.0036	<0.0036	<0.0036	<0.0035	<0.0034
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	NCL	NCL	NCL	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.018	<0.0035	<0.0036	<0.0036	<0.0036	<0.0035	<0.0034
N-Methyl perfluorooctane sulfonamide (MeFOSA)	NCL	NCL	NCL	<0.0072	<0.0071	<0.0072	<0.0071	<0.0073	<0.0071	<0.035	<0.007	<0.0071	<0.0072	<0.0072	<0.0071	<0.0069
Perfluorobutane sulfonic acid (PFBS)	NCL	NCL	1,200	0.1	0.097	0.17	0.034	<0.0036	<0.0036	0.14	0.14	0.077	0.028	0.026	<0.0035	0.079
Perfluorodecane sulfonic acid (PFDS)	NCL	NCL	NCL	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.018	<0.0035	<0.0036	<0.0036	<0.0036	<0.0035	<0.0034
Perfluoroheptane sulfonic acid (PFHpS)	NCL	NCL	NCL	0.021	0.031	<0.0036	0.026	<0.0036	<0.0036	0.13	0.081	0.0081	0.0036	<0.0036	<0.0035	0.084
Perfluorononane sulfonic acid (PFNS)	NCL	NCL	NCL	<0.0072	<0.0071	<0.0072	<0.0071	<0.0073	<0.0071	<0.035	<0.007	<0.0071	<0.0072	<0.0072	<0.0071	<0.0069
Perfluorooctane sulfonamide (FOSA)	NCL	NCL	NCL	0.56	0.7	<0.0036	<0.0036	<0.0036	<0.0036	0.031	<0.0035	<0.0036	<0.0036	<0.0036	<0.0035	<0.0034
Perfluoropentane sulfonic acid (PFPeS)	NCL	NCL	NCL	0.032	0.035	0.063	0.0061	<0.0036	<0.0036	0.02	0.15	0.03	0.0095	0.0097	<0.0035	0.014
Perfluorohexane sulfonic acid (PFHxS)	NCL	NCL	NCL	0.096	0.14	0.027	0.044	<0.0036	<0.0036	0.14	0.6	0.12	0.021	0.021	<0.0035	0.092
Perfluorobutanoic acid (PFBA)	NCL	NCL	NCL	0.024	0.024	0.15	0.011	<0.0036	<0.0036	0.028	0.066	0.024	0.013	0.013	<0.0035	0.021
Perfluorodecanoic acid (PFDA)	NCL	NCL	NCL	0.023	0.045	<0.0036	<0.0036	<0.0036	<0.0036	<0.018	<0.0035	<0.0036	<0.0036	<0.0036	<0.0035	<0.0034
Perfluorododecanoic acid (PFDoDA)	NCL	NCL	NCL	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.018	<0.0035	<0.0036	<0.0036	<0.0036	<0.0035	<0.0034
Perfluoroheptanoic acid (PFHpA)	NCL	NCL	NCL	0.05	0.059	0.15	0.016	<0.0036	<0.0036	0.058	0.25	0.037	0.018	0.018	<0.0035	0.039
Perfluorohexanoic acid (PFHxA)	NCL	NCL	NCL	0.048	0.055	0.27	0.022	<0.0036	<0.0036	0.066	0.21	0.047	0.03	0.03	<0.0035	0.047
Perfluorononanoic acid (PFNA)	NCL	NCL	NCL	0.0063	0.011	<0.0036	0.0042	<0.0036	<0.0036	0.023	<0.0035	<0.0036	<0.0036	<0.0036	<0.0035	0.0092
Perfluorooctanoic acid (PFOA)	0.07 (JJ)	0.42 (X)	NCL	0.44	0.63	0.18	0.17	<0.0018	<0.0018	0.71	2.3	0.34	0.07	0.067	0.0077	0.43
Perfluorooctane sulfonic acid (PFOS)	0.07 (JJ)	0.011 (X)	NCL	1.1	2.1	0.0044	1.2	0.0038	<0.0036	7.7	0.5	0.048	0.036	0.034	0.0069	2.4
PFOA + PFOS (Calculated)	0.07	NCL	NCL	1.5	2.7	0.18	1.4	0.0038	ND	8.4	2.8	0.39	0.11	0.1	0.015	2.8
Perfluoropentanoic acid (PFPeA)	NCL	NCL	NCL	0.039	0.041	0.18	0.012	<0.0036	<0.0036	0.038	0.14	0.029	0.022	0.022	<0.0035	0.028
Perfluorotetradecanoic acid (PFTeDA)	NCL	NCL	NCL	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.018	<0.0035	<0.0036	<0.0036	<0.0036	<0.0035	<0.0034
Perfluorotridecanoic acid (PFTrDA)	NCL	NCL	NCL	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.018	<0.0035	<0.0036	<0.0036	<0.0036	<0.0035	<0.0034
Perfluoroundecanoic acid (PFUnDA)	NCL	NCL	NCL	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.0036	<0.018	<0.0035	<0.0036	<0.0036	<0.0036	<0.0035	<0.0034
Total PFAS (Calculated)	NCL	NCL	NCL	2.5	4	1.2	1.5	0.0038	ND	9.1	4.4	0.76	0.25	0.24	0.015	3.2

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - PFAS
Former Tannery
Rockford, Kent County, Michigan

Sample Location	Part 201 Generic Residential Groundwater Cleanup Criteria – Drinking Water	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface	U.S. EPA Residential Tap Water Regional Removal Management Levels	TA-MW-316D	TA-MW-316M	TA-MW-316S	TA-P-1	TA-P-2	TA-P-3	TA-P-4	TA-P-5	TA-PMW-01	TA-PMW-02	TA-PMW-03	TA-TMW-101	TA-TMW-102
Sample Name				TA-MW-316D	TA-MW-316M	TA-MW-316S	TA-P-1	TA-P-2	TA-P-3	TA-P-4	TA-P-5	TA-PMW-01	TA-PMW-02	TA-PMW-03	TA-TMW-101	TA-TMW-102
Laboratory Sample ID(s)				UF13013-022	UF13013-023	UF13013-021	UF13013-002	UF15001-003	UF15001-002	UF13013-008	UF13013-001	UF08017-002	UF13013-011	UF13013-020	UF19007-006	UF08017-006
Sample Date				06/12/2019	06/12/2019	06/12/2019	06/11/2019	06/13/2019	06/13/2019	06/11/2019	06/11/2019	06/07/2019	06/10/2019	06/12/2019	06/18/2019	06/07/2019
Parameter (µg/L)																
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	NCL	NCL	NCL	<0.0035	<0.0035	<0.0035	<0.0035	<0.0038	<0.0038	0.01	0.039	<0.0036	0.012	<0.0035	<0.036	<0.0038
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	NCL	NCL	NCL	<0.0035	<0.0035	<0.0035	0.012	0.015	0.045	0.011	0.046	0.023	<0.0035	0.035	<0.036	<0.0038
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	NCL	NCL	NCL	<0.0035	<0.0035	<0.0035	<0.0035	<0.0038	<0.0038	<0.0036	<0.037	<0.0036	<0.0035	<0.0035	<0.036	<0.0038
N-Methyl perfluorooctane sulfonamide (MeFOSA)	NCL	NCL	NCL	<0.007	<0.007	<0.0071	<0.0071	<0.0076	<0.0075	<0.0072	<0.074	<0.0072	<0.007	<0.0069	<0.072	<0.0075
Perfluorobutane sulfonic acid (PFBS)	NCL	NCL	1,200	<0.0035	0.048	0.0074	2.2	3	6.1	0.92	2	2	0.69	2.9	0.54	0.6
Perfluorodecane sulfonic acid (PFDS)	NCL	NCL	NCL	<0.0035	<0.0035	<0.0035	0.0067	<0.0038	<0.0038	0.0099	<0.037	<0.0036	0.0043	<0.0035	<0.036	<0.0038
Perfluoroheptane sulfonic acid (PFHpS)	NCL	NCL	NCL	<0.0035	0.0085	0.0088	0.23	0.54	0.32	0.22	1.1	0.19	0.13	0.25	0.52	0.3
Perfluorononane sulfonic acid (PFNS)	NCL	NCL	NCL	<0.007	<0.007	<0.0071	<0.0071	<0.0076	<0.0075	0.12	0.081	<0.0072	0.014	<0.0069	0.24	<0.0075
Perfluorooctane sulfonamide (FOSA)	NCL	NCL	NCL	<0.0035	<0.0035	<0.0035	0.33	0.055	0.035	1.2	0.74	0.026	1.8	0.098	0.048	<0.0038
Perfluoropentane sulfonic acid (PFPeS)	NCL	NCL	NCL	<0.0035	0.0072	<0.0035	0.58	0.41	0.7	0.14	0.29	0.18	0.2	0.41	0.33	0.28
Perfluorohexane sulfonic acid (PFHxS)	NCL	NCL	NCL	<0.0035	0.036	0.0082	1.3	2	3.3	0.71	1.8	0.92	0.71	1.3	1.9	1.1
Perfluorobutanoic acid (PFBA)	NCL	NCL	NCL	<0.0035	0.014	0.011	0.49	0.39	1.1	0.18	0.3	0.44	0.12	1	0.38	0.11
Perfluorodecanoic acid (PFDA)	NCL	NCL	NCL	<0.0035	<0.0035	<0.0035	0.012	0.014	0.011	0.15	0.11	0.0063	0.095	0.038	0.043	0.0096
Perfluorododecanoic acid (PFDoDA)	NCL	NCL	NCL	<0.0035	<0.0035	<0.0035	<0.0035	<0.0038	<0.0038	<0.0036	<0.037	<0.0036	<0.0035	<0.0035	<0.036	<0.0038
Perfluoroheptanoic acid (PFHpA)	NCL	NCL	NCL	<0.0035	0.021	0.013	0.85	0.52	1.4	0.29	0.58	0.37	0.24	1.5	3.4	0.43
Perfluorohexanoic acid (PFHxA)	NCL	NCL	NCL	<0.0035	0.036	0.021	1.1	0.62	2.1	0.34	0.96	0.86	0.24	2.2	3	0.37
Perfluorononanoic acid (PFNA)	NCL	NCL	NCL	<0.0035	<0.0035	<0.0035	0.042	0.058	0.087	0.064	0.11	0.016	0.037	0.1	0.065	0.046
Perfluorooctanoic acid (PFOA)	0.07 (JJ)	0.42 (X)	NCL	<0.0018	0.16	0.059	6.2	6	8	2.5	6.3	1.9	2.6	8.4	61	4
Perfluorooctane sulfonic acid (PFOS)	0.07 (JJ)	0.011 (X)	NCL	<0.0035	0.041	0.32	6.7	9.5	13	26	56	9.3	8.8	13	130	5.6
PFOA + PFOS (Calculated)	0.07	NCL	NCL	ND	0.2	0.38	13	16	21	29	62	11	11	21	190	9.6
Perfluoropentanoic acid (PFPeA)	NCL	NCL	NCL	<0.0035	0.029	0.022	0.45	0.24	0.84	0.15	0.51	0.22	0.11	0.69	0.76	0.13
Perfluorotetradecanoic acid (PFTeDA)	NCL	NCL	NCL	<0.0035	<0.0035	<0.0035	<0.0035	<0.0038	<0.0038	<0.0036	<0.037	<0.0036	<0.0035	<0.0035	<0.036	<0.0038
Perfluorotridecanoic acid (PFTrDA)	NCL	NCL	NCL	<0.0035	<0.0035	<0.0035	<0.0035	0.0086	<0.0038	<0.0036	<0.037	<0.0036	<0.0035	<0.0035	<0.036	<0.0038
Perfluoroundecanoic acid (PFUnDA)	NCL	NCL	NCL	<0.0035	<0.0035	<0.0035	<0.0035	<0.0038	0.14	<0.0036	<0.037	<0.0036	<0.0035	<0.0035	0.11	<0.0038
Total PFAS (Calculated)	NCL	NCL	NCL	ND	0.4	0.47	21	23	37	33	71	16	16	32	200	13

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - PFAS
Former Tannery
Rockford, Kent County, Michigan

Sample Location	Part 201 Generic Residential Groundwater Cleanup Criteria – Drinking Water	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface	U.S. EPA Residential Tap Water Regional Removal Management Levels	TA-TMW-103	TA-TMW-104	TA-TMW-105	TA-TMW-108	TA-TMW-108	TA-TMW-109	TA-TMW-110	TA-TMW-111	TA-PMW-311B	TA-PMW-311B	TA-PMW-311B	TA-PMW-311B	TA-PMW-315
Sample Name				TA-TMW-103	TA-TMW-104	TA-TMW-105	TA-TMW-108	TA-TMW-108 DUP	TA-TMW-109	TA-TMW-110	TA-TMW-111	TA-MW-311B (20- 25)	TA-MW-311B (115- 120)	TA-MW-311B (125- 130)	TA-MW-311B (133- 138)	TA-MW-315 (10- 15)
Laboratory Sample ID(s)				UF08017-015	UF08017-016	UF15001-005	UF08017-005	UF08017-007	UF08017-004	UF15001-006	UF08017-003	UE10009-001	UE10009-003	UE10009-005	UE10009-006	UF10005-001
Sample Date				06/06/2019	06/06/2019	06/13/2019	06/07/2019	06/07/2019	06/07/2019	06/14/2019	06/07/2019	05/02/2019	05/08/2019	05/08/2019	05/09/2019	05/28/2019
Parameter (µg/L)																
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	NCL	NCL	NCL	<0.0035	<0.017	<0.038	<0.0034	<0.0034	<0.0038	<0.037	<0.0034	<0.0037	<0.0036	<0.0036	<0.0035	<0.0035
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	NCL	NCL	NCL	<0.0035	<0.017	<0.038	<0.0034	<0.0034	<0.0038	<0.037	<0.0034	<0.0037	<0.0036	<0.0036	<0.0035	<0.0035
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	NCL	NCL	NCL	<0.0035	<0.017	<0.038	<0.0034	<0.0034	<0.0038	<0.037	<0.0034	<0.0037	<0.0036	<0.0036	<0.0035	<0.0035
N-Methyl perfluorooctane sulfonamide (MeFOSA)	NCL	NCL	NCL	<0.0069	<0.034	<0.076	<0.0068	<0.0068	<0.0076	<0.074	<0.0069	<0.0075	<0.0071	<0.0071	<0.0071	<0.007
Perfluorobutane sulfonic acid (PFBS)	NCL	NCL	1,200	0.22	0.56	1.3	0.52	0.51	0.34	0.22	0.65	<0.0037	<0.0036	<0.0036	<0.0035	0.067
Perfluorodecane sulfonic acid (PFDS)	NCL	NCL	NCL	<0.0035	<0.017	<0.038	<0.0034	<0.0034	<0.0038	<0.037	<0.0034	<0.0037	<0.0036	<0.0036	<0.0035	<0.0035
Perfluoroheptane sulfonic acid (PFHpS)	NCL	NCL	NCL	0.12	0.22	0.32	0.27	0.23	0.066	0.56	0.19	<0.0037	<0.0036	<0.0036	<0.0035	0.056
Perfluorononane sulfonic acid (PFNS)	NCL	NCL	NCL	<0.0069	<0.034	<0.076	<0.0068	<0.0068	<0.0076	<0.074	<0.0069	<0.0075	<0.0071	<0.0071	<0.0071	<0.007
Perfluorooctane sulfonamide (FOSA)	NCL	NCL	NCL	0.21	<0.017	0.59	<0.0034	<0.0034	0.05	<0.037	<0.0034	<0.0037	<0.0036	<0.0036	<0.0035	<0.0035
Perfluoropentane sulfonic acid (PFPeS)	NCL	NCL	NCL	0.11	0.2	0.22	0.24	0.24	0.048	0.22	0.28	<0.0037	<0.0036	<0.0036	<0.0035	0.011
Perfluorohexane sulfonic acid (PFHxS)	NCL	NCL	NCL	0.42	0.73	1.1	0.93	0.94	0.26	1.5	1	<0.0037	<0.0036	<0.0036	<0.0035	0.062
Perfluorobutanoic acid (PFBA)	NCL	NCL	NCL	0.032	0.065	0.25	0.081	0.079	0.055	<0.037	0.11	<0.0037	<0.0036	<0.0036	<0.0035	0.015
Perfluorodecanoic acid (PFDA)	NCL	NCL	NCL	0.017	0.029	0.18	0.011	0.011	<0.0038	<0.037	<0.0034	<0.0037	<0.0036	<0.0036	<0.0035	<0.0035
Perfluorododecanoic acid (PFDoDA)	NCL	NCL	NCL	<0.0035	<0.017	<0.038	<0.0034	<0.0034	<0.0038	<0.037	<0.0034	<0.0037	<0.0036	<0.0036	<0.0035	<0.0035
Perfluoroheptanoic acid (PFHpA)	NCL	NCL	NCL	0.15	0.24	0.5	0.39	0.38	0.13	0.5	0.45	<0.0037	<0.0036	<0.0036	<0.0035	0.029
Perfluorohexanoic acid (PFHxA)	NCL	NCL	NCL	0.13	0.21	0.52	0.29	0.33	0.13	0.3	0.33	<0.0037	<0.0036	<0.0036	<0.0035	0.032
Perfluorononanoic acid (PFNA)	NCL	NCL	NCL	0.027	0.057	0.083	0.04	0.042	0.019	0.062	0.026	<0.0037	<0.0036	<0.0036	<0.0035	0.0072
Perfluorooctanoic acid (PFOA)	0.07 (JJ)	0.42 (X)	NCL	1.5	3.4	4	3.5	3.4	0.94	6.4	4.1	<0.0019	<0.0018	<0.0018	<0.0018	0.3
Perfluorooctane sulfonic acid (PFOS)	0.07 (JJ)	0.011 (X)	NCL	4.7	14	28	5.4	5.3	4	47	3.4	<0.0037	<0.0036	<0.0036	<0.0035	1.6
PFOA + PFOS (Calculated)	0.07	NCL	NCL	6.2	17	32	8.9	8.7	4.9	53	7.5	ND	ND	ND	ND	1.9
Perfluoropentanoic acid (PFPeA)	NCL	NCL	NCL	0.048	0.086	0.26	0.11	0.11	0.073	0.07	0.13	<0.0037	<0.0036	<0.0036	<0.0035	0.019
Perfluorotetradecanoic acid (PFTeDA)	NCL	NCL	NCL	<0.0035	<0.017	<0.038	<0.0034	<0.0034	<0.0038	<0.037	<0.0034	<0.0037	<0.0036	<0.0036	<0.0035	<0.0035
Perfluorotridecanoic acid (PFTrDA)	NCL	NCL	NCL	<0.0035	<0.017	<0.038	<0.0034	<0.0034	<0.0038	<0.037	<0.0034	<0.0037	<0.0036	<0.0036	<0.0035	<0.0035
Perfluoroundecanoic acid (PFUnDA)	NCL	NCL	NCL	<0.0035	<0.017	<0.038	<0.0034	<0.0034	<0.0038	<0.037	<0.0034	<0.0037	<0.0036	<0.0036	<0.0035	<0.0035
Total PFAS (Calculated)	NCL	NCL	NCL	7.7	20	37	12	12	6.1	57	11	ND	ND	ND	ND	2.2

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - PFAS
Former Tannery
Rockford, Kent County, Michigan

Sample Location	Part 201 Generic Residential Groundwater Cleanup Criteria – Drinking Water	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface	U.S. EPA Residential Tap Water Regional Removal Management Levels	TA-PMW-315	TA-PMW-315	TA-PMW-316	TA-PMW-316	TA-PMW-316	TA-PMW-316	TA-RW-1	TA-RW-2	TA-RW-3	TA-RW-3
Sample Name				TA-MW-315 (20-25)	TA-MW-315 (29-34)	TA-MW-316 (35-45)	TA-MW-316 (45-55)	TA-MW-316 (55-65)	TA-MW-316 (89-94)	TA-RW-1	TA-RW-2	TA-RW-3	TA-RW-3 DUP
Laboratory Sample ID(s)				UF10005-002	UF10005-004	UE16025-001	UE16025-002	UE16025-003	UE24054-001	UE09030-001	UE16023-001	UE24051-001	UE24051-002
Sample Date				05/28/2019	05/29/2019	05/15/2019	05/16/2019	05/16/2019	05/20/2019	05/08/2019	05/15/2019	05/22/2019	05/22/2019
Parameter (µg/L)													
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	NCL	NCL	NCL	<0.0036	<0.0035	<0.0036	<0.0036	<0.0037	<0.0034	<0.0037	<0.0035	<0.0038	<0.0039
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	NCL	NCL	NCL	<0.0036	<0.0035	<0.0036	<0.0036	<0.0037	<0.0034	0.0038	<0.0035	0.033	0.038
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	NCL	NCL	NCL	<0.0036	<0.0035	<0.0036	<0.0036	<0.0037	<0.0034	0.0049	<0.0035	<0.0038	<0.0039
N-Methyl perfluorooctane sulfonamide (MeFOSA)	NCL	NCL	NCL	<0.0072	<0.0069	<0.0072	<0.0072	<0.0073	<0.0068	<0.0074	<0.0071	<0.0076	<0.0078
Perfluorobutane sulfonic acid (PFBS)	NCL	NCL	1,200	0.073	0.11	0.048	0.027	0.011	<0.0034	0.28	0.23	2.6	2.7
Perfluorodecane sulfonic acid (PFDS)	NCL	NCL	NCL	<0.0036	<0.0035	<0.0036	<0.0036	<0.0037	<0.0034	<0.0037	<0.0035	<0.0038	<0.0039
Perfluoroheptane sulfonic acid (PFHpS)	NCL	NCL	NCL	0.063	0.013	0.0098	0.0052	<0.0037	<0.0034	0.023	0.048	0.27	0.25
Perfluorononane sulfonic acid (PFNS)	NCL	NCL	NCL	<0.0072	<0.0069	<0.0072	<0.0072	<0.0073	<0.0068	<0.0074	<0.0071	0.0092	0.0094
Perfluorooctane sulfonamide (FOSA)	NCL	NCL	NCL	<0.0036	<0.0035	<0.0036	<0.0036	<0.0037	<0.0034	0.17	0.2	0.16	0.17
Perfluoropentane sulfonic acid (PFPeS)	NCL	NCL	NCL	0.012	0.013	0.0073	0.0073	<0.0037	<0.0034	0.025	0.035	0.38	0.38
Perfluorohexane sulfonic acid (PFHxS)	NCL	NCL	NCL	0.068	0.044	0.036	0.026	0.0088	<0.0034	0.1	0.14	1.3	1.4
Perfluorobutanoic acid (PFBA)	NCL	NCL	NCL	0.015	0.018	0.013	0.0068	<0.0037	<0.0034	0.054	0.05	0.77	0.76
Perfluorodecanoic acid (PFDA)	NCL	NCL	NCL	<0.0036	<0.0035	<0.0036	<0.0036	<0.0037	<0.0034	0.016	0.038	0.031	0.034
Perfluorododecanoic acid (PFDoDA)	NCL	NCL	NCL	<0.0036	<0.0035	<0.0036	<0.0036	<0.0037	<0.0034	<0.0037	<0.0035	<0.0038	<0.0039
Perfluoroheptanoic acid (PFHpA)	NCL	NCL	NCL	0.029	0.028	0.022	0.01	0.0042	<0.0034	0.059	0.061	1.5	1.6
Perfluorohexanoic acid (PFHxA)	NCL	NCL	NCL	0.034	0.043	0.036	0.015	0.0061	<0.0034	0.1	0.063	2.3	2.3
Perfluorononanoic acid (PFNA)	NCL	NCL	NCL	0.0073	<0.0035	<0.0036	<0.0036	<0.0037	<0.0034	0.0088	0.017	0.091	0.092
Perfluorooctanoic acid (PFOA)	0.07 (JJ)	0.42 (X)	NCL	0.31	0.19	0.13	0.072	0.03	<0.0017	0.4	0.46	8.2	9.7
Perfluorooctane sulfonic acid (PFOS)	0.07 (JJ)	0.011 (X)	NCL	1.5	0.17	0.056	0.049	0.018	<0.0034	1.7	2.1	14	17
PFOA + PFOS (Calculated)	0.07	NCL	NCL	1.8	0.36	0.19	0.12	0.048	ND	2.1	2.6	22	27
Perfluoropentanoic acid (PFPeA)	NCL	NCL	NCL	0.019	0.024	0.029	0.0098	0.0048	<0.0034	0.036	0.035	0.68	0.74
Perfluorotetradecanoic acid (PFTeDA)	NCL	NCL	NCL	<0.0036	<0.0035	<0.0036	<0.0036	<0.0037	<0.0034	<0.0037	<0.0035	<0.0038	<0.0039
Perfluorotridecanoic acid (PFTrDA)	NCL	NCL	NCL	<0.0036	<0.0035	<0.0036	<0.0036	<0.0037	<0.0034	<0.0037	<0.0035	<0.0038	<0.0039
Perfluoroundecanoic acid (PFUnDA)	NCL	NCL	NCL	<0.0036	<0.0035	<0.0036	<0.0036	<0.0037	<0.0034	<0.0037	0.018	<0.0038	<0.0039
Total PFAS (Calculated)	NCL	NCL	NCL	2.1	0.65	0.39	0.23	0.083	ND	3	3.5	32	37

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - PFAS
Former Tannery
Rockford, Kent County, Michigan

NOTES:

1. Concentration and criteria units are micrograms per Liter (µg/L) or parts per billion (ppb). Calculated criteria and concentrations are rounded to two significant digits.
2. Michigan Part 201 Groundwater Cleanup Criteria are based on "Table 1, Groundwater: Residential and Nonresidential Part 201 Generic Cleanup Criteria and Screening Levels/Part 213 Tier I Risk Based Screening Levels," Michigan Administrative Code, Cleanup Criteria Requirements for Response Activity, Rules 299.44 and 299.49, effective December 30, 2013; updated June 25, 2018.
Abbreviations Include:
"NCL" indicates no criterion listed in Michigan Department of Environment, Great Lakes, and Energy (EGLE) Table 1.
"NLV" indicates the substance is not likely to volatilize under most conditions.
Footnotes Include:
(X) - For groundwater discharge to the Great Lakes and their connecting waters or discharge in close proximity to a water supply intake in inland surface waters, the generic GSI criterion shall be the surface water human drinking water value (HDV) listed in the table of this footnote except for those HDV indicated with an asterisk. For HDV with an asterisk, the generic GSI criterion shall be the lowest of the HDV, the wildlife value (WV), and the calculated final chronic value (FCV). Criterion listed have been updated to the HDV, WV, or FCV.
(JJ) - Compliance with the drinking water criteria shall require comparing the sum of the PFOA and PFOS groundwater concentrations to the drinking water criterion of 0.07 µg/L.
3. U.S. EPA Residential Tap Water Regional Removal Management Levels (RMLs) were based on "Generic RML Tables," updated November 2018.
4. Bold, italic number with thick line border or italic parameter name indicates that parameter was detected above the Michigan Part 201 Groundwater Cleanup Criteria or Media-Specific Interim Action Screening Levels. U.S. EPA RMLs are provided for reference only and results detected above the EPA RMLs are not bolded or italicized.
5. Abbreviation includes:
"< RL" indicates the parameter was analyzed for but not detected above the method detection limit; RL = Reporting Limit.