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## MEMORANDUM

To: Abby Hendershott, MDEQ

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

Date: January 31, 2019

File No.: 16.0062335.02 Task 002

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

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

This MPR summarizes the progress for the period of December 29, 2018 to January 24, 2019. This includes actions performed, problems encountered, analytical data received during the reporting period, and anticipated developments during the next reporting period.

## ACTIONS PERFORMED

- 1) December 29, 2018 to January 11, 2019 - Prepare revisions to the draft Summary Report based on EPA comments.
- 2) January 11, 2019 – Submit Final Summary Report to EPA.
- 3) January 21, 2019 – Submit PFAS data and figures along with boring logs from the Final Summary Report to DEQ.
- 4) January 22 to January 25, 2019 – Begin groundwater sampling for five new monitoring wells along with other on-Site wells.
- 5) January 23, 2019 – Submit Tannery IR system description to DEQ.

## ANALYTICAL DATA RECEIVED

Vertical aquifer profile data for the TA-MW-311, TA-MW-312, and TA-MW-313 locations is attached as Table 1.

## ANTICIPATED ACTIONS AND SCHEDULE FOR NEXT REPORTING PERIOD

During the next reporting period, January 26 through February 22, 2019, R&W/GZA anticipates completing and/or continuing to conduct the following tasks.

- 1) Complete groundwater sampling activities as weather permits.
- 2) Install three extraction wells for the IR system.



## **IDENTIFIED PROBLEMS AND RESOLUTIONS**

None.

## **APPROVED SCOPE MODIFICATIONS**

None.

J:\62000\623xx\62335.02 - WWW Tannery 2017\_2018 Work\002 - Implementation of 2018 Work Plan\MDEQ Monthly Progress Reports\January 31, 2019 Report\Tannery-DEQ-MonthlyUpdate-013119.DOCX

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

Sample Location	Part 201 Generic Residential Groundwater Cleanup Criteria – Drinking Water	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface	SB-311	SB-312	SB-313	SB-313	SB-313	SB-313	SB-313
Sample Name			SB-311 7.5-12.5	SB-312 9.5-14.5	SB-313 39-44	SB-313 49-54	SB-313 59-64	SB-313 69-74	SB-313 79-84
Laboratory Sample ID			TK10008-001	TK10008-004	TL20033-001	TL20033-002	TL20033-003	TL20033-004	TL20033-005
Sample Date			11/07/2018	11/08/2018	12/14/2018	12/17/2018	12/17/2018	12/17/2018	12/18/2018
Parameter (µg/L)									
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	NCL	NCL	<0.0036	<0.0036	<0.0035	<0.0035	<0.0036	<0.0036	<0.0036
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	NCL	NCL	<0.0036	<0.0036	<0.0035	<0.0035	<0.0036	<0.0036	<0.0036
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	NCL	NCL	<0.0036	<0.0036	<0.0035	<0.0035	<0.0036	<0.0036	<0.0036
N-Methyl perfluorooctane sulfonamide (MeFOSA)	NCL	NCL	<0.0071	<0.0073	<0.0071	<0.007	<0.0072	<0.0072	<0.0071
Perfluorobutane sulfonic acid (PFBS)	NCL	NCL	0.037	0.11	0.049	0.042	0.082	0.16	0.037
Perfluorobutanoic acid (PFBA)	NCL	NCL	0.012	0.02	0.011	0.0088	0.024	0.06	0.015
Perfluorodecane sulfonic acid (PFDS)	NCL	NCL	<0.0036	<0.0036	<0.0035	<0.0035	<0.0036	<0.0036	<0.0036
Perfluorodecanoic acid (PFDA)	NCL	NCL	<0.0036	0.0048	<0.0035	<0.0035	<0.0036	<0.0036	<0.0036
Perfluorododecanoic acid (PFDoDA)	NCL	NCL	<0.0036	<0.0036	<0.0035	<0.0035	<0.0036	<0.0036	<0.0036
Perfluoroheptane sulfonic acid (PFHpS)	NCL	NCL	0.022	0.1	0.0069	0.012	0.027	0.01	0.0059
Perfluoroheptanoic acid (PFHpA)	NCL	NCL	0.016	0.043	0.022	0.016	0.025	0.072	0.049
Perfluorohexane sulfonic acid (PFHxS)	NCL	NCL	0.035	0.13	0.052	0.04	0.068	0.068	0.071
Perfluorohexanoic acid (PFHxA)	NCL	NCL	0.025	0.044	0.026	0.019	0.037	0.19	0.053
Perfluorononanoic acid (PFNA)	NCL	NCL	0.0036	0.016	<0.0035	<0.0035	<0.0036	<0.0036	<0.0036
Perfluorooctane sulfonamide (FOSA)	NCL	NCL	<0.0036	0.048	<0.0035	<0.0035	<0.0036	<0.0036	<0.0036
<b>Perfluorooctane sulfonic acid (PFOS)</b>	0.07	0.011	<b>0.87</b>	<b>5.5</b>	<b>0.046</b>	<b>0.078</b>	<b>0.26</b>	<b>0.13</b>	<b>0.032</b>
<b>Perfluorooctanoic acid (PFOA)</b>	0.07	0.42	<b>0.14</b>	<b>0.54</b>	<b>0.19</b>	<b>0.14</b>	<b>0.21</b>	<b>0.24</b>	<b>0.23</b>
<b>PFOA + PFOS (Calculated)</b>	0.07	NCL	<b>1.0</b>	<b>6.0</b>	<b>0.24</b>	<b>0.22</b>	<b>0.47</b>	<b>0.37</b>	<b>0.26</b>
Perfluoropentanoic acid (PFPeA)	NCL	NCL	0.013	0.024	0.014	0.011	0.019	0.069	0.018
Perfluorotetradecanoic acid (PFTeDA)	NCL	NCL	<0.0036	<0.0036	<0.0035	<0.0035	<0.0036	<0.0036	<0.0036
Perfluorotridecanoic acid (PFTrDA)	NCL	NCL	<0.0036	<0.0036	<0.0035	<0.0035	<0.0036	<0.0036	<0.0036
Perfluoroundecanoic acid (PFUnDA)	NCL	NCL	<0.0036	<0.0036	<0.0035	<0.0035	<0.0036	<0.0036	<0.0036
Perfluorononane sulfonic acid (PFNS)	NCL	NCL	<0.0071	<0.0073	<0.0071	<0.007	<0.0072	<0.0072	<0.0071
Perfluoropentane sulfonic acid (PFPeS)	NCL	NCL	0.0065	0.025	0.014	0.0099	0.015	0.034	0.03
Total PFAS (Calculated)	NCL	NCL	1.2	6.6	0.43	0.38	0.77	1.0	0.54

**TABLE 1 NOTES**  
Former Tannery  
Rockford, Kent County, MI

**NOTES:**

1. Concentration and criteria units are micrograms per Liter ( $\mu\text{g/L}$ ) or parts per billion (ppb). Calculated concentrations are rounded to two significant digits. "ND" indicates the parameters used in the calculation were not detected.
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.
5. Bold, italic number with thick line border or italic parameter name indicates that parameter was detected above the Michigan Part 201 Groundwater Cleanup Criteria.
6. Abbreviations include:  
"< RL" indicates the parameter was analyzed for but not detected above the method detection limit; RL = Reporting Limit.