



Rose & Westra
A Division of GZA

GEOTECHNICAL
ENVIRONMENTAL
ECOLOGICAL
WATER
CONSTRUCTION
MANAGEMENT

The Widdicomb Building
601 Fifth Street NW
Suite 102
Grand Rapids, MI 49504
T: 616.956.6123
F: 616.288.3327
www.rosewestra.com
www.gza.com



MEMORANDUM

To: Abby Hendershott, MDEQ

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

Date: July 31, 2018

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 the MDEQ to support the June 18, 2018 Source Investigation Task Summary (SITS). The SITS was prepared in response to the DEQ request to provide regular updates about the progress of the SITS implementation.

This MPR summarizes the progress for the period of June 18, 2018 to July 27, 2018. This includes actions performed, problems encountered, analytical data received during the reporting period, and anticipated developments during the next reporting period.

ACTIONS PERFORMED

- 1) June 18, 2018: The final SITS was submitted to the DEQ.
- 2) June 11 through 19, 2018: R&W/GZA mobilized to the Site. Mobilization included temporary fence installation, placement of signs, placement of work trailers, and setting equipment and supplies up for use at the Site.
- 3) June 20 to July 19: The sediment sampling in the Rogue River and Rum Creek was completed. Some transect locations were adjusted based on findings of the sediment survey. During this period, 99 sediment samples were collected and submitted to the laboratory for analysis. Extra samples were collected in areas where the sediment was thicker than expected at the request of EPA. In addition, a third sample location was added in Rum Creek at the request of EPA.
- 4) June 25 to July 24: Monitoring well installation, development, and associated soil sampling were completed. During this period, 14 soil samples were collected related to this work and submitted to the laboratory for analysis. Groundwater sampling will be conducted during the next reporting period.
- 5) June 28 to June 29: Initial stream flow and level gauging of Rum Creek were conducted.
- 6) July 9 to July 27: The biased soil sampling around AOCs began. This included borings along the White Pine Trail which were completed on July 18. Several of these locations, especially along White Pine Trail, were adjusted based on sub-surface obstructions or access considerations. Leather scraps were observed in some borings (TA-SB-61, TA-SB-62, TA-SB-63, TA-SB-64, TA-SB-65, TA-SB-66, TA-SB-75, TA-SB-76, TA-SB-84, TA-SB-AOC-H-03), primarily along the White Pine Trail.



Based on the scrap observed in TA-SB-61, the boring furthest north along the trail, a decision was made to add a boring north of TA-SB-61 near the WWW property line to delineate the northern extent along the trail. In addition, a boring was added between TA-SB-70 and TA-SB-75 to further delineate the edge of the leather scrap in that area. Sampling of AOCs G and H was also completed. During this period, 52 soil samples were collected related to the AOC and WPT work and submitted to the laboratory for analysis.

- 7) July 11 to July 27: The grid-based soil sampling began. During this period, 51 soil samples were collected related to this work.
- 8) July 16 to July 25: Completed installation of soil vapor points.
- 9) July 17: Completed the second stream flow and gauging of Rum Creek.
- 10) July 24 to July 26: Completed the initial round of surface water sampling. Seven surface water samples were collected related to this work and submitted to the laboratory for analysis.
- 11) July 25: Completed the third stream flow and level gauging of Rum Creek.

Tables A and B summarize the sediment samples and soil borings completed, respectively, and associated samples collected during this reporting period. The completed locations are also shown on attached Figure 1.

ANALYTICAL DATA RECEIVED

As of July 27, 2018, no PFAS analytical data had been received.

ANTICIPATED ACTIONS AND SCHEDULE FOR NEXT REPORTING PERIOD

During the next reporting period, July 30 to August 31, 2018, R&W/GZA anticipates completing and/or continuing to conduct the following tasks.

- 1) Complete the first round of soil gas sampling;
- 2) Collect the first round of groundwater samples in the on-site permanent monitoring wells;
- 3) Complete drilling and sampling soil borings from the AOCs;
- 4) Complete drilling and sampling the grid-based soil boring locations; and,
- 5) Collect second round of surface water samples.

We anticipate the PFAS data from the sediment sampling along with the initial soil data will be received during the next period.

IDENTIFIED PROBLEMS AND RESOLUTIONS

Multiple borings (TA-SB-14, TA-SB-65, TA-SB-68, TA-SB-69, and TA-SB-70) were relocated due to inaccessibility, dense vegetation, or safety concerns due to underground utilities. All new locations were approved by US EPA/START and are mapped on the attached Figure 1.



APPROVED SCOPE MODIFICATIONS

None this reporting period.

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Table A
Sediment Sampling Locations Completed

Sample Location	Start - End Depth (ft)	Sample ID	Date Samples Sent to Lab	PID Sweep for Samples Sent to Lab	Additional Notes
TA-SED-Boat Ramp	(0-1)	TA-SED-Boat Ramp(0-1)	2-Jul-18	0.2	EPA Split Sample
TA-SED-Boat Ramp	(1-1.9)	TA-SED-Boat Ramp(1-1.9)	2-Jul-18	0.2	
TA-SED-RCAccess	(0-1)	TA-SED-RCAccess(0-1)	2-Jul-18	0.3	
TA-SED-RCAccess	(1.5-2.5)	TA-SED-RCAccess(1.5-2.5)	2-Jul-18	NM	
TA-SED-EASTDAM	(0-0.5)	TA-SED-EASTDAM(0-0.5)	23-Jul-18	TBD	
TA-SED-RC-1	(0-1)	TA-SED-RC-1(0-1)	2-Jul-18	0.7	
TA-SED-RC-1	(1.2-2.2)	TA-SED-RC-1(1.2-2.2)	2-Jul-18	0.2	
TA-SED-RC-2	(0-1)	TA-SED-RC-2(0-1)	2-Jul-18	1.8	EPA Split Sample
TA-SED-RC-2	(1-2)	TA-SED-RC-2(1-2)	2-Jul-18	0.8	
TA-SED-RC-2	(2-3)	TA-SED-RC-2(2-3)	2-Jul-18	0.6	
TA-SED-RC-3	(0-0.4)	TA-SED-RC-3(0-0.4)	2-Jul-18	0.2	
TA-SED-T10-1	(0-1)	TA-SED-T10-1(0-1)	2-Jul-18	3.9	MS/MSD Samples
TA-SED-T10-1	(1.5-2.5)	TA-SED-T10-1(1.5-2.5)	2-Jul-18	0.8	Duplicate Samples
TA-SED-T10-1	(3-4)	TA-SED-T10-1(3-4)	2-Jul-18	1.0	
TA-SED-T10-3	(0-1)	TA-SED-T10-3(0-1)	2-Jul-18	1.4	
TA-SED-T10-3	(1-2)	TA-SED-T10-3(1-2)	2-Jul-18	0.8	
TA-SED-T10-ISLAND	(0-1)	TA-SED-T10-ISLAND(0-1)	23-Jul-18	TBD	
TA-SED-T10-ISLAND	(2-3)	TA-SED-T10-ISLAND(2-3)	23-Jul-18	TBD	
TA-SED-T10-ISLAND	(4-5)	TA-SED-T10-ISLAND(4-5)	23-Jul-18	TBD	
TA-SED-T1-1	(0-1)	TA-SED-T1-1(0-1)	24-Jul-18	TBD	Duplicate Sample
TA-SED-T1-3	(0-1)	TA-SED-T1-3(0-1)	24-Jul-18	TBD	Duplicate Sample
TA-SED-T2-1	(0-1)	TA-SED-T2-1(0-1)	22-Jun-18	0.7	
TA-SED-T2-1	(2-3)	TA-SED-T2-1(2-3)	22-Jun-18	0.2	
TA-SED-T2-1	(4-5)	TA-SED-T2-1(4-5)	22-Jun-18	0.8	
TA-SED-T2-2	(0-1)	TA-SED-T2-2(0-1)	25-Jun-18	2.2	Duplicate Sample
TA-SED-T2-2	(2-3)	TA-SED-T2-2(2-3)	25-Jun-18	4.0	
TA-SED-T2-2	(4-5)	TA-SED-T2-2(4-5)	25-Jun-18	4.6	
TA-SED-T2-3	(0-1)	TA-SED-T2-3(0-1)	22-Jun-18	1.8	EPA/MDEQ Split Sample
TA-SED-T2-3	(2-3)	TA-SED-T2-3(2-3)	22-Jun-18	1.4	
TA-SED-T2-3	(4-5)	TA-SED-T2-3(4-5)	22-Jun-18	2.4	
TA-SED-T3-1A	(0-1)	TA-SED-T3-1A(0-1)	22-Jun-18	ND	
TA-SED-T3-1A	(2-3)	TA-SED-T3-1A(2-3)	22-Jun-18	ND	
TA-SED-T3-1A	(5-6)	TA-SED-T3-1A(5-6)	22-Jun-18	0.5	
TA-SED-T3-2	(0-1.2)	TA-SED-T3-2(0-1.2)	21-Jun-18	ND	
TA-SED-T3-2	(1.7-2.7)	TA-SED-T3-2(1.7-2.7)	21-Jun-18	ND	
TA-SED-T3-2	(4-5)	TA-SED-T3-2(4-5)	21-Jun-18	ND	
TA-SED-T3-2	(6.2-7.2)	TA-SED-T3-2(6.2-7.2)	21-Jun-18	ND	

Table A
Sediment Sampling Locations Completed

Sample Location	Start - End Depth (ft)	Sample ID	Date Samples Sent to Lab	PID Sweep for Samples Sent to Lab	Additional Notes
TA-SED-T3-3	(0-1)	TA-SED-T3-3(0-1)	21-Jun-18	ND	
TA-SED-T3-3	(2-3)	TA-SED-T3-3(2-3)	21-Jun-18	ND	
TA-SED-T3-3	(5-6)	TA-SED-T3-3(5-6)	21-Jun-18	ND	
TA-SED-T4-1	(0-1)	TA-SED-T4-1(0-1)	25-Jun-18	3.6	MS/MSD Samples
TA-SED-T4-1	(2.5-3.5)	TA-SED-T4-1(2.5-3.5)	25-Jun-18	2.6	
TA-SED-T4-1	(3.5-4.5)	TA-SED-T4-1(3.5-4.5)	25-Jun-18	5.0	
TA-SED-T4-2	(0-1)	TA-SED-T4-2(0-1)	2-Jul-18	0.6	
TA-SED-T4-2	(1-2)	TA-SED-T4-2(1-2)	2-Jul-18	0.3	
TA-SED-T4-2	(2-3)	TA-SED-T4-2(2-3)	2-Jul-18	NM	
TA-SED-T4-3	(0-1)	TA-SED-T4-3(0-1)	28-Jun-18	5.6	
TA-SED-T4-3	(1-1.7)	TA-SED-T4-3(1-1.7)	28-Jun-18	2.2	
TA-SED-T4-ISLAND	(0-0.5)	TA-SED-T4-ISLAND(0-0.5)	13-Jul-18	3.1	
TA-SED-T4-ISLAND	(4-5)	TA-SED-T4-ISLAND(4-5)	13-Jul-18	0.8	
TA-SED-T4-ISLAND	(6-7)	TA-SED-T4-ISLAND(6-7)	13-Jul-18	1.6	
TA-SED-T5-1	(0-1)	TA-SED-T5-1(0-1)	25-Jun-18	2.9	
TA-SED-T5-1	(1-2)	TA-SED-T5-1(1-2)	25-Jun-18	3.4	
TA-SED-T5-2	(0-1)	TA-SED-T5-2(0-1)	26-Jun-18	2.4	
TA-SED-T5-2	(1.7-2.7)	TA-SED-T5-2(1.7-2.7)	26-Jun-18	1.5	
TA-SED-T5-2	(3.7-4.7)	TA-SED-T5-2(3.7-4.7)	26-Jun-18	2.3	
TA-SED-T5-3	(0-1)	TA-SED-T5-3(0-1)	26-Jun-18	0.4	
TA-SED-T5-3	(2-3)	TA-SED-T5-3(2-3)	26-Jun-18	1.5	
TA-SED-T5-3	(4-5)	TA-SED-T5-3(4-5)	26-Jun-18	0.7	
TA-SED-T6-1	(0-1)	TA-SED-T6-1(0-1)	26-Jun-18	0.6	
TA-SED-T6-1	(2.5-3.5)	TA-SED-T6-1(2.5-3.5)	26-Jun-18	1.7	
TA-SED-T6-1	(4.1-5.1)	TA-SED-T6-1(4.1-5.1)	26-Jun-18	1.1	
TA-SED-T6-2	(0-1)	TA-SED-T6-2(0-1)	27-Jun-18	4.4	
TA-SED-T6-2	(2-3)	TA-SED-T6-2(2-3)	27-Jun-18	2.6	
TA-SED-T6-2	(3.6-4.6)	TA-SED-T6-2(3.6-4.6)	27-Jun-18	0.9	
TA-SED-T6-3	(0-1)	TA-SED-T6-3(0-1)	26-Jun-18	0.9	
TA-SED-T6-3	(2-3)	TA-SED-T6-3(2-3)	26-Jun-18	3.4	
TA-SED-T6-3	(3.8-4.8)	TA-SED-T6-3(3.8-4.8)	26-Jun-18	2.6	
TA-SED-T7-1	(0-1)	TA-SED-T7-1(0-1)	27-Jun-18	3.1	
TA-SED-T7-1	(2-3)	TA-SED-T7-1(2-3)	27-Jun-18	3.1	
TA-SED-T7-1	(4.2-5.2)	TA-SED-T7-1(4.2-5.2)	27-Jun-18	0.8	
TA-SED-T7-1	(6.4-7.4)	TA-SED-T7-1(6.4-7.4)	27-Jun-18	6.8	
TA-SED-T7-2	(0-1)	TA-SED-T7-2(0-1)	27-Jun-18	2.4	
TA-SED-T7-2	(1-2)	TA-SED-T7-2(1-2)	27-Jun-18	4.2	

Table A
Sediment Sampling Locations Completed

Sample Location	Start - End Depth (ft)	Sample ID	Date Samples Sent to Lab	PID Sweep for Samples Sent to Lab	Additional Notes
TA-SED-T7-ISLAND	(0-0.5)	TA-SED-T7-ISLAND(0-0.5)	10-Jul-18	0.0	
TA-SED-T7-ISLAND	(1-2)	TA-SED-T7-ISLAND(1-2)	13-Jul-18	0.7	
TA-SED-T7-ISLAND	(3-4)	TA-SED-T7-ISLAND(3-4)	13-Jul-18	0.5	
TA-SED-T7-ISLAND	(6-7)	TA-SED-T7-ISLAND(6-7)	13-Jul-18	0.4	
TA-SED-T8-1	(0-1)	TA-SED-T8-1(0-1)	28-Jun-18	0.7	
TA-SED-T8-1	(1.5-2.5)	TA-SED-T8-1(1.5-2.5)	28-Jun-18	6.5	
TA-SED-T8-1	(4-5)	TA-SED-T8-1(4-5)	28-Jun-18	3.0	
TA-SED-T8-2	(0-1)	TA-SED-T8-2(0-1)	28-Jun-18	4.0	
TA-SED-T8-2	(1-2)	TA-SED-T8-2(1-2)	28-Jun-18	1.3	
TA-SED-T8-2	(3-4.1)	TA-SED-T8-2(3-4.1)	28-Jun-18	1.5	
TA-SED-T8-3	(0-1)	TA-SED-T8-3(0-1)	28-Jun-18	2.2	EPA Split Sample
TA-SED-T8-3	(1.5-2.5)	TA-SED-T8-3(1.5-2.5)	28-Jun-18	NM	Duplicate Sample
TA-SED-T8-3	(3-4)	TA-SED-T8-3(3-4)	28-Jun-18	3.1	
TA-SED-T9-1	(0-1)	TA-SED-T9-1(0-1)	2-Jul-18	NM	MS/MSD Samples
TA-SED-T9-1	(2-3)	TA-SED-T9-1(2-3)	2-Jul-18	0.4	
TA-SED-T9-1	(4-5)	TA-SED-T9-1(4-5)	2-Jul-18	1.3	
TA-SED-T9-2	(0-1)	TA-SED-T9-2(0-1)	28-Jun-18	2.9	MS/MSD Samples
TA-SED-T9-2	(2-3)	TA-SED-T9-2(2-3)	28-Jun-18	2.4	
TA-SED-T9-2	(4-5)	TA-SED-T9-2(4-5)	28-Jun-18	1.5	
TA-SED-T9-2	(5-6)	TA-SED-T9-2(5-6)	28-Jun-18	1.5	
TA-SED-T9-3	(0-1)	TA-SED-T9-3(0-1)	2-Jul-18	0.7	
TA-SED-T9-ISLAND	(0-0.5)	TA-SED-T9-ISLAND(0-0.5)	13-Jul-18	0.1	
TA-SED-T9-ISLAND	(1-2)	TA-SED-T9-ISLAND(1-2)	13-Jul-18	0.3	
TA-SED-T9-ISLAND	(4-5)	TA-SED-T9-ISLAND(4-5)	13-Jul-18	0.5	
TA-SED-T9-ISLAND	(6.5-7.5)	TA-SED-T9-ISLAND(6.5-7.5)	13-Jul-18	0.6	

Table B
Soil Sampling Locations Completed

Location ID	Expl Depth (ft)	Lab Sample S1 (ft)	Lab Sample S2 (ft)	Lab Sample S3 (ft)	Date Samples Sent to Lab	Additional Notes
TA-SB-16	8	(2-3)	(6-7)		26-Jul-18	
TA-SB-17	12	(1-2)	(7-8)		26-Jul-18	
TA-SB-18	4	(2-3)	(6-7)		26-Jul-18	
TA-SB-19	12	(3-4)	(7-8)		26-Jul-18	MS/MSD (3-4)
TA-SB-20	8	(5-6)	(7-8)		26-Jul-18	
TA-SB-24	8	(0-1)	(5-6)		27-Jul-18	
TA-SB-25	10	(1-2)	(7-8)		27-Jul-18	MS/MSD (1-2)
TA-SB-28	10	(2-3)	(6-7)		27-Jul-18	
TA-SB-31	15	(2-3)	(7-8)		27-Jul-18	
TA-SB-32	20	(2-3)	(9-10)		27-Jul-18	Duplicate (2-3)
TA-SB-33	10	(1-2)	(7-8)		26-Jul-18	
TA-SB-34	8	(3-4)	(6-7)		27-Jul-18	
TA-SB-35	8	(2-3)	(6-7)		26-Jul-18	
TA-SB-36	8	(2-3)	(5-6)		26-Jul-18	
TA-SB-37	8	(1-2)	(6-7)		27-Jul-18	
TA-SB-38	8	(0.5-1.5)	(6-7)		26-Jul-18	Duplicate (0.5-1.5)
TA-SB-39	8	(1-2)	(6-7)		26-Jul-18	
TA-SB-40	8	(2-3)	(6-7)		27-Jul-18	
TA-SB-43	10	(1-2)	(7-8)		16-Jul-18	
TA-SB-46	10	(9-10)			27-Jul-18	
TA-SB-48	12	(1-2)	(10-11)		27-Jul-18	
TA-SB-53	10	(0-1)	(5-6)	(7-8)	19-Jul-18	
TA-SB-54	10	(0-1)	(3-4)		16-Jul-18	
TA-SB-55	10	(1-2)	(2-3)	(5-6)	16-Jul-18	MS/MSD(1-2)
TA-SB-59	16	(2-3)	(11-12)		27-Jul-18	
TA-SB-60	10	(7-8)	(8-9)		18-Jul-18	
TA-SB-61	8	(5-6)	(7-8)		17-Jul-18	
TA-SB-62	8	(3-4)	(5-6)		17-Jul-18	
TA-SB-63	8	(1-2)	(7-8)		26-Jul-18	
TA-SB-64	4.5	(0-1)	(4-5)		19-Jul-18	
TA-SB-65	7	(1-2)	(4-5)		26-Jul-18	DUP (1-2)
TA-SB-66	3	(0-1)	(2-3)		27-Jul-18	
TA-SB-67	8	(0-1)	(5-6)		23-Jul-18	

Table B
Soil Sampling Locations Completed

Location ID	Expl Depth (ft)	Lab Sample S1 (ft)	Lab Sample S2 (ft)	Lab Sample S3 (ft)	Date Samples Sent to Lab	Additional Notes
TA-SB-68	3.8	(1-2)	(3-4)		10-Jul-18	
TA-SB-69	5	(2-3)	(4-5)		10-Jul-18	
TA-SB-70	12	(0-1)	(5-6)		17-Jul-18	Geoprobe Boring
TA-SB-71	8	(1-2)	(3-4)		20-Jul-18	MS/MSD (1-2)
TA-SB-72	8	(1-2)	(3-4)		20-Jul-18	DUP (1-2)
TA-SB-73	8	(1-2)	(6-7)		20-Jul-18	
TA-SB-74	8	(1-2)	(5-6)		20-Jul-18	
TA-SB-75	12	(5-6)	(7-8)		18-Jul-18	Advanced 9' with hand auger, 9-12' with geoprobe
TA-SB-76	12	(1-2)	(7-8)		16-Jul-18	MS/MSD (1-2)
TA-SB-77	12	(2-3)	(5-6)		17-Jul-18	
TA-SB-78	12	(5-6)	(6-7)		16-Jul-18	
TA-SB-79	12	(2-3)	(4-5)		16-Jul-18	Advanced to 1.8 with hand auger, to 12' with geoprobe
TA-SB-80	8	(2-3)	(3-4)		16-Jul-18	Hand auger refusal at 1 ft
TA-SB-81	2	(4-5)	(5-6)		16-Jul-18	
TA-SB-AOC-G-01	8	(1-2)	(5-6)		23-Jul-18	
TA-SB-AOC-G-02	8	(1-2)	(6-7)		23-Jul-18	
TA-SB-AOC-H-01	8	(2-3)	(4-5)		10-Jul-18	
TA-SB-AOC-H-02	12	(2-3)	(6-7)		10-Jul-18	
TA-SB-AOC-H-03	5.58	(2-2.5)	(5-6)		10-Jul-18	
TA-SB-GW01	8	(2-3)	(6-7)		28-Jun-18	Lab IDs are "MW-".
TA-SB-GW02	12	(1-2)	(4-5)		29-Jun-18	MS/MSD Samples; Lab IDs are "MW-".
TA-SB-GW04	10	(1-2)	(5-6)		29-Jun-18	Lab IDs are "MW-".
TA-SB-GW05	8	(1-2)	(4-5)		2-Jul-18	EQB Split Spoon; Lab IDs are "MW-".
TA-SB-GW06	8	(2-3)	(4-5)		29-Jun-18	Lab IDs are "MW-".
TA-SB-GW07	8	(4-5)	(6-7)		28-Jun-18	Lab IDs are "MW-".
TA-SB-GW08	8	(2-3)	(5-6)		29-Jun-18	Lab IDs are "MW-".

