



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, EGLE

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

Date: December 2, 2019

File No.: 16.0062335.02 Task 001

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 October 25, 2019 through November 22, 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, October 25, 2019 through November 22, 2019, GZA has done the following:

- 1) Continued pump and treat system design.
- 2) Prepared boring and monitoring well logs for the TA-MW-314 series of wells.
- 3) Conducted activities in response to the October 28, 2019 U.S. EPA Region 5 Administrative Settlement Agreement and Order on Consent for Removal Actions¹ (AOC).

ANALYTICAL DATA RECEIVED

No analytical data was received in this reporting period.

ANTICIPATED ACTIONS AND SCHEDULE FOR NEXT REPORTING PERIOD

During the next reporting period November 23, 2019 through December 24, 2019, R&W/GZA anticipates completing and/or continuing to conduct the following tasks.

¹ CERCLA Docket No. V-W-20-C-002.



- 1) Begin the 4th quarter groundwater sampling event.
- 2) Continue to respond to the October 28, 2019 AOC regarding CERCLA actions at the former Wolverine Tannery site.
- 3) Continue the pump and treat system design.



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

Wolverine World Wide, Inc.

Former Tannery

Rockford, Michigan

Boring No.: TA-MW-314A

Page: 1 of 1

File No.: 16.0062335.02

Check: K. McDonald

Contractor: Stearns Drilling Company

Foreman: Jerry H.

Logged by: J. Morehouse

Date Start/Finish: 10-10-19 / 10-10-19

Boring Location: West of Rogue River Dam

GS Elev.: Datum M State Plane S Zone NAD 83

Auger/
Casing Sampler

Type: Hollow Stem Auger GeoProbe

O.D. / I.D.: 8.0" / 4.25" NA

Hammer Wt.: 140lbs NA

Hammer Fall: 30.0" NA

TOC Elev.: NA NA

GROUNDWATER READINGS

Date	Time	Depth	Casing	Stab
NM				

Surveyed By: NA Survey Date:

Depth	Sample Information					Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed	
	No.	Pen./ Rec. (in.)	Depth (Ft.)	Blows (/6")	Test Data				PROTECTIVE CASING	
1						See SB-314D boring log for detailed soil descriptions.				
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14							Bottom of Borehole at 13.5 Feet			1
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										

REMARKS

1. Monitoring well was installed in borehole upon completion. Well screen set from approximately 7.8 to 12.6 feet below ground surface.

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: TA-MW-314A

BORING WELL 6233502 WWW.FORMER-TANNERY.ROCKFORD.10.16.18.GPJ GZA CORP.GDT 12/2/19



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

Wolverine World Wide, Inc.

Former Tannery

Rockford, Michigan

Boring No.: TA-MW-314B

Page: 1 of 1

File No.: 16.0062335.02

Check: K. McDonald

Contractor: Stearns Drilling Company

Foreman: Jerry H.

Logged by: J. Morehouse

Date Start/Finish: 10-11-19 / 10-11-19

Boring Location: West of Rogue River Dam

GS Elev.: Datum Mll State Plane S Zone NAD 83

Auger/
Casing

Sampler

GROUNDWATER READINGS

Type: Hollow Stem Auger

GeoProbe

Date	Time	Depth	Casing	Stab
NM				

O.D. / I.D.: 8.0" / 4.25"

NA

Hammer Wt.: 140lbs

Hammer Fall: 30.0"

NA

NA

TOC Elev.: NA

NA

Surveyed By: NA Survey Date:

Depth	Sample Information					Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed	
	No.	Pen./ Rec. (in.)	Depth (Ft.)	Blows (/6")	Test Data				PROTECTIVE CASING	
1						See SB-314D boring log for detailed soil descriptions.		1		
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31							Bottom of Borehole at 30.5 Feet			

REMARKS

1. Monitoring well was installed in borehole upon completion. Well screen set from approximately 24.3 to 29.1 feet below ground surface.

BORING WELL 6233502 WWW.FORMER TANNERY ROCKFORD 10_16_18.GPJ GZA_CORP.GDT 12/2/19



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

Wolverine World Wide, Inc.

Former Tannery

Rockford, Michigan

Boring No.: TA-MW-314C

Page: 1 of 2

File No.: 16.0062335.02

Check: K. McDonald

Contractor: Stearns Drilling Company

Foreman: Jerry H.

Logged by: J. Morehouse

Date Start/Finish: 10-24-19 / 10-25-19

Boring Location: West of Rogue River Dam

GS Elev.: Datum MI State Plane S Zone NAD 83

Auger/
Casing Sampler

Type: Hollow Stem Auger GeoProbe

O.D. / I.D.: 8.0" / 4.25" NA

Hammer Wt.: 140lbs NA

Hammer Fall: 30.0" NA

TOC Elev.: NA NA

GROUNDWATER READINGS

Date	Time	Depth	Casing	Stab
NM				

Surveyed By: NA Survey Date:

Depth	Sample Information					Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed	
	No.	Pen./ Rec. (in.)	Depth (Ft.)	Blows (/6")	Test Data					
1						See SB-314D boring log for detailed soil descriptions.			PROTECTIVE CASING	
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										

Bentonite Slurry

**R
E
M
A
R
K
S**

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made. Boring No.: TA-MW-314C

BORING WELL 6233502 WWW.FORMER TANNERY ROCKFORD 10_16_18.GPJ GZA CORP.GDT 12/2/19



Depth	Sample Information					Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
	No.	Pen./ Rec. (in.)	Depth (Ft.)	Blows (/6")	Test Data				
31									<p>Silica Sand Filter Pack</p> <p>Top of Well Screen</p> <p>2-Inch Dia. 5-Foot PVC Screen (0.010" Slot)</p> <p>Bottom of Well Screen</p>
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									
46									
47									
48									
49									
50									
51						Bottom of Borehole at 50.4 Feet	1		
52									
53									
54									
55									
56									
57									
58									
59									
60									
61									
62									
63									
64									

**R
E
M
A
R
K
S**

1. Monitoring well was installed in borehole upon completion. Well screen set from approximately 39.7 to 44.5 feet below ground surface.



GZA
GeoEnvironmental, Inc.
 Engineers and Scientists

Wolverine World Wide, Inc.

Former Tannery

Rockford, Michigan

Boring No.: TA-MW-314D

Page: 1 of 6

File No.: 16.0062335.02

Check: K. McDonald

Contractor: Stearns Drilling Company

Foreman: Jerry H.

Logged by: J. Morehouse

Date Start/Finish: 10-9-19 / 10-10-19

Boring Location: West of Rogue River Dam

GS Elev.: Datum M State Plane S Zone NAD 83

Auger/
Casing Sampler

Type: Hollow Stem Auger GeoProbe

O.D. / I.D.: 8.0" / 4.25" NA

Hammer Wt.: 140lbs NA

Hammer Fall: 30.0" NA

TOC Elev.: NA NA

GROUNDWATER READINGS

Date	Time	Depth	Casing	Stab
NM				

Surveyed By: NA Survey Date:

Depth	Sample Information					Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed	
	No.	Pen./ Rec. (in.)	Depth (Ft.)	Blows (/6")	Test Data					PROTECTIVE CASING
1	1	24/12	0-2	2-4 2-3		Very dark grayish-brown to very dark brown, SILT, some fine Sand, moist (TOPSOIL). Changing at 0.5 feet to: Mottled dark reddish-brown to very dark brown, fine to medium SAND, little Silt, moist. Changing at 1.0 feet to: NO RECOVERY.	0.5' (TOPSOIL) SAND 1' NO RECOVERY	1	PROTECTIVE CASING	
2	2	24/4	2-4	1-0 2-1		Very dark grayish brown, SILT, some fine Sand, little Clay, moist to wet. Changing at 2.3 feet to: NO RECOVERY.	2' 2.3' SILT NO RECOVERY			
3							4' 4.4' SILT SAND			
4	3	24/12	4-6	1-1 2-4		Very dark grayish brown, SILT, some fine Sand, little Clay, moist to wet. Changing at 4.4 feet to: Very dark grayish brown, fine SAND, some Silt, little Clay, moist to wet. Changing at 4.6 feet to: Very dark grayish brown, fine to medium SAND, little Silt, trace Clay, moist to wet. Changing at 5.0 feet to: NO RECOVERY.	5' NO RECOVERY			
5							6' SAND			
6	4	24/19	6-8	0-0 1-2		Very dark grayish brown, fine to medium SAND, little Organic Silt, trace Clay, moist to wet. Changing at 7.0 feet to: Dark yellowish brown, fine to medium SAND, little Silt, trace Clay, wet. Changing at 7.1 feet to: Very dark grayish brown, Silty CLAY, little Sand, moist. Changing at 7.3 feet to: Very dark grayish brown, fine to medium SAND, little Silt, trace Clay, moist. Changing at 7.6 feet to: NO RECOVERY.	7.1' 7.3' Silty CLAY 7.6' SAND			
7							8' NO RECOVERY			
8	5	24/4	8-10	1-2 4-6		Very dark grayish brown, Silty CLAY, little Sand, moist. Changing at 7.3 feet to: Very dark grayish brown, fine to medium SAND, little Silt, trace Clay, moist. Changing at 7.6 feet to: NO RECOVERY.	8.3' SILT NO RECOVERY			
9							10' SAND			
10	6	24/10	10-12	4-4 5-3		Very dark grayish brown, SILT, trace Clay, moist. Changing at 8.3 feet to: NO RECOVERY.	10.8' NO RECOVERY			
11							12' SAND			
12	7	24/12	12-14	20-6 6-8		Dark grayish brown, fine to medium SAND, some Silt, little Clay, trace Gravel, moist. Changing at 13.0 feet to: NO RECOVERY.	13' NO RECOVERY			
13							14' SILT & CLAY			
14	8	24/16	14-16	19-24 19-14		Mottled, dark grayish brown, SILT & CLAY, trace Sand, trace Gravel, moist. Changing at 14.6 feet to: NO RECOVERY.	14.6'			

REMARKS

1. Groundwater was encountered at approximately 2.0 feet below ground surface.

BORING WELL 6233502 WWW.FORMER TANNERY ROCKFORD 10_16_18.GPJ GZA CORP.GDT 12/2/19



Depth	Sample Information					Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed	
	No.	Pen./ Rec. (in.)	Depth (Ft.)	Blows (/6")	Test Data					
16	9	24/23	16-18	2-10 14-17		Mottled dark grayish brown, SILT & CLAY, trace Sand, trace Gravel, moist. Changing at 17.9 feet to: NO RECOVERY.	16' NO RECOVERY SILT & CLAY			
17										
18	10	24/10	18-20	8-12 18-18		Dark grayish brown, SILT, trace Clay, trace Gravel, moist. Changing at 18.8 feet to: NO RECOVERY.	17.9' 18' NO RECOVERY SILT 18.8' NO RECOVERY			
19										
20	11	24/17	20-22	7-14 20-19		Dark grayish brown, SILT, trace Clay, trace Gravel, moist. Changing at 20.8 feet to: Dark yellowish brown to yellowish brown, Silty CLAY, little Sand, trace Gravel, moist. Changing at 21.4 feet to: NO RECOVERY.	20' SILT 20.8' Silty CLAY 21.4' NO RECOVERY			
21										
22	12	24/14	22-24	7-10 10-7		Yellowish brown, fine to coarse SAND, some Silt, little Clay, moist to wet. Changing at 22.9 feet to: Dark yellowish brown, fine to coarse SAND, trace Gravel, wet. Changing at 23.0 feet to: NO RECOVERY.	22' SAND 23.2' NO RECOVERY			
23										
24	13	24/1	24-26	1-1 2-7		Dark yellowish brown, fine to medium SAND, little Silt, wet. Changing at 24.1 feet to: NO RECOVERY.	24' 24.1' SAND NO RECOVERY			
25										
26	14	24/7	26-28	1-3 15-21		Dark yellowish brown, fine to medium SAND, little Silt, wet. Changing at 26.6 feet to: NO RECOVERY.	26' SAND 26.6' NO RECOVERY			
27										
28	15	24/20	28-30	2-22 29-44		Yellowish brown, Silty CLAY, little Sand, trace Gravel, moist. Changing at 29.5 feet to: NO RECOVERY.	28' Silty CLAY 29.5' NO RECOVERY			
29										
30	16	21/24	30-31.8	5-17 37-50/3"		Dark yellowish brown to brown, fine to medium SAND, trace Silt, wet.	30' NO RECOVERY SAND			
31										
32	17	24/12	32-34	1-1 5-20		Yellowish brown, fine to medium SAND,				
REMARKS										

BORING WELL 6233502 WWW FORMER TANNERY ROCKFORD 10_16_18.GPJ GZA CORP.GDT 12/2/19

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.



GZA
GeoEnvironmental, Inc.
 Engineers and Scientists

Wolverine World Wide, Inc.

Former Tannery

Rockford, Michigan

Boring No.: TA-MW-314D

Page: 3 of 6

File No.: 16.0062335.02

Check: K. McDonald

Depth	Sample Information					Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
	No.	Pen./ Rec. (in.)	Depth (Ft.)	Blows (/6")	Test Data				
33						trace coarse Sand, trace Silt, wet. Changing at 32.6 feet to: Yellowish brown, medium to coarse SAND, trace Silt, wet. Changing at 32.7 feet to: Yellowish brown, fine to medium SAND, trace Silt, wet. Changing at 33.0 feet to; NO RECOVERY.	33' SAND NO RECOVERY		
34	18	24/19	34-36	2-13 24-43		Yellowish brown, fine to medium SAND, trace coarse Sand, trace Silt, wet. Changing at 35.1 feet to: Brown, coarse SAND, trace Silt, wet. Changing at 35.2 feet to: Yellowish brown, fine to medium SAND, trace coarse Sand, trace Silt, wet. Changing at 35.4 feet to: Brown, SILT, some Sand, some Gravel, moist. Changing at 35.6 feet to: NO RECOVERY.	34' SAND 35.4' NO RECOVERY 35.6' SILT 36' NO RECOVERY		
35							36.6' SAND 36.8' SILT 37' SAND NO RECOVERY		
36	19	24/12	36-38	2-17 31-28		Brown, fine to medium SAND, trace Silt, bedded, wet. Changing at 36.6 feet to: Yellowish brown, SILT, some fine Sand, bedded, wet. Changing at 37.0 feet to: NO RECOVERY.	38' SAND		
37									
38	20	24/17	38-40	8-28 42-44		Yellowish brown, fine SAND, some Silt, trace Clay, trace Gravel, moist. Changing at 38.5 feet to: Yellowish brown, fine SAND, some Silt, trace Gravel, wet. Changing at 39.1 feet to: Dark yellowish brown to yellowish brown, fine to coarse SAND, trace Silt, trace gravel, wet. Changing at 39.4 feet to: NO RECOVERY.	39.4' NO RECOVERY 40' SAND		
39									
40	21	24/20	40-42	3-3 15-38		Dark yellowish brown, fine to coarse SAND, trace Gravel, bedded, wet. Changing at 41.7 feet to: NO RECOVERY.	41.7' NO RECOVERY 42' SAND		
41									
42	22	24/10	42-44	1-7 21-28		Brown, fine to coarse SAND, little Gravel, little Silt, wet. Changing at 42.8 feet to: NO RECOVERY.	42.8' NO RECOVERY		Bentonite Slurry
43									
44	23	24/18	44-46	8-29 37-50/5.5"		Yellowish brown, fine to coarse SAND, trace Gravel, trace Silt, trace Clay, moist to wet. Changing at 44.3 feet to: Brown, fine to coarse SAND, trace Gravel, trace Silt, trace Clay, wet. Changing at 45.5 feet to: NO RECOVERY.	44' SAND 45.5' NO RECOVERY		
45									
46	24	24/11	46-48	1-14 21-29		Brown, GRAVEL, some fine to coarse SAND, trace Silt, wet. Changing at 46.8 feet to: Brown, fine to coarse SAND, trace Silt, wet. Changing at 46.9 feet to: NO RECOVERY.	46.8' GRAVEL 46.9' SAND NO RECOVERY		
47									
48	25	24/16	48-50	1-22 36-42		Brown, GRAVEL, little fine to coarse SAND, trace Silt, wet. Changing at 48.5 feet to: Brown, GRAVEL, little fine to coarse SAND, trace Silt, wet. Changing at 48.9 feet to: Brown, fine to medium SAND, trace Silt, wet. Changing at 49.3 feet to: NO	48' SAND 48.5' GRAVEL 48.9' SAND 49.3' NO RECOVERY 50'		
49									

REMARKS

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: TA-MW-314D

BORING WELL 6233502 WWW.FORMER TANNERY ROCKFORD 10_16_18.GPJ GZA CORP.GDT 12/2/19



Depth	Sample Information					Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
	No.	Pen./ Rec. (in.)	Depth (Ft.)	Blows (/6")	Test Data				
51	26	23/14	50-51.9	4-10 35-50/5"		RECOVERY. Brown, GRAVEL, little fine to coarse Sand, trace Silt, wet. Changing 50.3 feet to: Brown, fine SAND, trace Silt, bedded, grading to fine to coarse Sand, wet. Changing at 50.9 feet to: Brown, fine SAND, trace Silt, wet. Changing at 51.2 feet to: NO RECOVERY.	50.3' GRAVEL SAND		
52	27	23/17	52-53.9	7-39-50/5"		RECOVERY. Brown, fine SAND, trace Gravel, trace Silt, wet. Changing at 52.2 feet to: Brown, fine to coarse SAND, trace Gravel, trace Silt, grading to Gravel, some fine to coarse Sand, wet. Changing at 53.0 feet to: Brown, fine to medium SAND, trace Silt, wet. Changing at 53.2 feet to: Brown, fine SAND, trace Silt, wet. Changing at 53.4 feet to: NO RECOVERY.	51.2' NO RECOVERY 52' SAND		
53							53.4' NO RECOVERY		
54	28	23/18	54-55.9	9-42-50/5"		RECOVERY. Brown, fine to medium SAND, trace Silt, wet. Changing at 54.3 feet to: Brown, fine SAND, trace Silt, wet. Changing at 55.5 feet to: NO RECOVERY.	54' SAND		
55							55.5' NO RECOVERY		
56	29	24/10	56-58	1-6 21-38		RECOVERY. Brown, fine to coarse SAND, some Gravel, trace Silt, wet. Changing at 56.2 feet to: Brown, fine to medium SAND, trace Silt, grading coarser, wet. Changing at 56.5 feet to: Brown, fine to coarse SAND, some Gravel, trace Silt, wet. Changing at 56.8 feet to: NO RECOVERY.	56' SAND		
57							56.8' NO RECOVERY		
58	30	18/17	58-59.5	7-32-50		RECOVERY. Brown, fine to medium SAND, trace Silt, wet. Changing at 58.5 feet to: Brown, fine to coarse SAND, some Gravel, trace Silt, bedded, wet. Changing at 58.9 feet to: NO RECOVERY.	58' SAND		
59							59.4' NO RECOVERY		
60	31	18/10	60-61.5	2-19-50		RECOVERY. Brown, fine SAND, trace Silt, wet. Changing at 60.8 feet to: NO RECOVERY.	60' SAND		
61							60.8' NO RECOVERY		
62	32	24/8	62-64	2-4 13-30		Light yellowish brown, fine to medium SAND, trace Gravel, trace Silt, wet. Changing at 62.7 feet to: NO RECOVERY.	62' SAND		
63							62.7' NO RECOVERY		
64	33	23/18	64-65.9	15-45-50/5"		Light yellowish brown, fine to medium SAND, bedded, wet. Changing at 65.4 feet to: Yellowish brown, SILT, some fine Sand, bedded, wet. Changing at 65.5 feet to: NO RECOVERY.	64' SAND		
65							65.4' NO RECOVERY		
66	34	23/12	66-67.9	2-21 45-50/5"		Dark yellowish brown, fine to coarse SAND, trace Gravel, trace Silt, wet. Changing at 66.7 feet to: Yellowish brown, fine to coarse SAND, trace Gravel, trace Silt, wet. Changing at 67.0 feet to: NO RECOVERY.	65.5' SILT 66' NO RECOVERY SAND		
67							67' NO RECOVERY		

REMARKS

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING WELL 6233502 WWW.FORMER TANNERY ROCKFORD 10_16_18.GPJ GZA CORP.GDT 12/2/19



Depth	Sample Information					Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed	
	No.	Pen./ Rec. (in.)	Depth (Ft.)	Blows (/6")	Test Data					
68	35	18/17	68-69.5	3-14-50		Yellowish brown, fine to coarse SAND, trace Gravel, trace Silt, wet. Changing at 69.4 feet to: NO RECOVERY.	68'	SAND		
69							69.4'	NO RECOVERY		
70	36	12/11	70-71	17-50		Yellowish brown, fine to coarse SAND, trace Gravel, trace Silt, wet. Changing at 70.1 feet to: Yellowish brown, fine to coarse SAND, some Gravel, trace Silt, wet. Changing at 70.9 feet to: NO RECOVERY.	70'	SAND		
71							70.9'	NO RECOVERY		
72	37	17/18	72-73.4	2-14-50/5"		Yellowish brown, fine to coarse SAND, trace Gravel, trace Silt, wet. Changing at 73.3 feet to: NO RECOVERY.	72'	SAND		
73							73.3'	NO RECOVERY		
74	38	17/12	74-75.4	22-44-50/5"		Yellowish brown, fine to coarse SAND, trace Gravel, trace Silt, wet. Changing at 74.7 feet to: Grayish brown, GRAVEL, little Sand, little Silt, trace Clay, wet. Changing at 75.0 feet to: NO RECOVERY.	74'	SAND		
75							74.7'	GRAVEL		
76	39	24/14	76-78	11-17 28-33		Grayish brown, fine to coarse SAND, some Gravel, little Silt, little Clay, moist to wet. Changing at 77.2 feet to: NO RECOVERY.	75'	NO RECOVERY		
77							76'	SAND		
78	40	24/0	78-80	3-3 10-34		NO RECOVERY.	77.2'	NO RECOVERY		
79										
80	41	24/8	80-82	3-4 18-50		Grayish brown, fine SAND, little Silt, trace Clay, non to slightly plastic, moderately cohesive, wet. Changing at 80.3 feet to: Grayish brown, fine SAND, little Silt, trace Clay, non to slightly plastic, moderately cohesive, wet. Changing at 80.7 feet to: NO RECOVERY.	80'	GRAVEL		
81							80.3'	SAND		
82	42	24/10	82-84	1-2 6-18		Grayish brown to brown, fine to medium SAND, trace Silt, wet. Changing at 82.5 feet to: Grayish brown, GRAVEL, some Sand, trace Silt, wet. Changing at 82.8 feet to: NO RECOVERY.	80.7'	NO RECOVERY		
83							82'	SAND		
84	43	16/14	84-85.3	0-18-50/4"		Grayish brown, fine to medium SAND, trace Silt, wet. Changing at 84.3 feet to: Grayish brown, fine to coarse SAND, some Gravel,	82.5'	GRAVEL		
							82.8'	NO RECOVERY		
							84'	SAND		

BORING WELL 6233502 WWW.FORMER TANNERY ROCKFORD 10_16_18.GPJ GZA CORP.GDT 12/2/19

**R
E
M
A
R
K
S**

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.



Depth	Sample Information					Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
	No.	Pen./ Rec. (in.)	Depth (Ft.)	Blows (/6")	Test Data				
86	44	11/7	86-86.9	30-50/5"		trace Silt, wet. Changing at 84.5 feet to: Grayish brown, fine to medium SAND, trace Silt, wet. Changing at 84.9 feet to: Grayish brown, fine to coarse SAND, some Gravel, trace Silt, wet. Changing at 85.2 feet to: NO RECOVERY.	85.2' NO RECOVERY 86' SAND 86.6' NO RECOVERY		
87						Grayish brown, fine to coarse SAND, some Gravel, little Silt, wet. Changing at 86.6 feet to: NO RECOVERY.	88' SAND		
88	45	24/11	88-90	0-1 16-50		Grayish brown, fine to coarse SAND, some Gravel, little Silt, bedded, wet. Changing at 88.1 feet to: Dark gray to dark grayish brown, fine SAND, little Silt, bedded, wet. Changing at 88.9 feet to: NO RECOVERY.	88.9' NO RECOVERY		
89							90' SAND		
90	46	12/8	90-91	11-50		Dark gray to dark grayish brown, fine SAND, little Silt, bedded, wet. Changing at 90.7 feet to: NO RECOVERY.	90.7' NO RECOVERY		
91							92' SAND		
92	47	12/14	92-93	21-50		Dark gray to dark grayish brown, fine SAND, little Silt, bedded, wet. Changing at 92.2 feet to: Dark gray, Silty CLAY, moist. Changing at 93.2 feet to: NO RECOVERY.	92.2' SAND Silty CLAY		
93							93.2' NO RECOVERY		
94	48	18/17	94-95.5	22-32-50		Dark gray, Silty CLAY, moist. Changing 95.4 feet to: NO RECOVERY.	94' Silty CLAY		
95							95.4' NO RECOVERY		
96						Bottom of Borehole at 96.0 Feet	96' NO RECOVERY		
97									
98									
99									
100									
101									
102									
REMARKS 2. Monitoring well was installed in borehole upon completion. Well screen set from approximately 87.6 to 92.4 feet below ground surface.									
Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.								Boring No.: TA-MW-314D	

BORING WELL 6233502 WWW.FORMER TANNERY ROCKFORD 10_16_18.GPJ GZA CORP.GDT 12/2/19