From:	Byers, Harris
To:	Beggs, Tauren R - DNR
Subject:	Supplemental SI for River Point in Manitowoc
Date:	Thursday, September 16, 2021 3:30:17 PM
Attachments:	Supplemental Site Investigation.pdf

Tauren:

From our conversation earlier this week, attached is a copy of the Supplemental Investigation completed at River Point to further evaluate PVOC impacts to soil and groundwater in the River North portion of the Property.

Sincerely,

Harris Byers, Ph.D.
Sr. Brownfields Project Manager
Contaminant Hydrogeologist / Urban Geochemist

Direct: 414 581-6476
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Stantec Consulting Services Inc.
12075 Corporate Parkway, Suite 200 Mequon WI 53092

September 10, 2021
File: 193708247

Attention: Tauren Beggs
Remediation and Redevelopment Program
Wisconsin Department of Natural Resources
2984 Shawano Ave
Green Bay, WI 54313

Dear Mr. Beggs,

Reference: Supplemental Site Investigation at the River Point District
Manitowoc, Wisconsin
BRRTS ID: 02-36-585491 (Open ERP); 02-36-176478 (Closed ERP); 02-36-000408 (Closed ERP); 07-36-583000 (LGU Exemption/ General Property)
Stantec Project #: 193708427

As a continuance of our phone conversation following your review of the Stantec (2021) *NR 716 Site Investigation Report for River Point District Phase 1 Construction Area* (SI), Stantec has completed a Supplemental Site Investigation to further evaluate residual petroleum impacts to groundwater at monitoring well MW-62 and further delineate residual petroleum impacts to soil in the vicinity of soil boring SB-112 in the River North, LLC project area within the Phase 1 Construction Area at the River Point District in Manitowoc, Wisconsin (herein referred to as the "Property"). The location of the River Point District, the Phase 1 Construction Area, and the River North, LLC project areas are outlined in yellow, green, and purple, respectively on Figures 1 through 3. The open BRRTS case number associated with sitewide impacts from a variety of petroleum and hazardous substances is 02-36-585491.

BACKGROUND

As described in the Stantec (2021) SI, the concentrations of benzene in groundwater samples collected from MW-62 were greater than the ch. NR 140 Wisconsin Administrative Code (WAC) Enforcement Standard (ES) and the concentrations of four additional petroleum volatile organic compounds (PVOCs; 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, naphthalene, and xylenes) in groundwater were greater than applicable ch. NR 140 WAC Preventive Action Limits (PAL). The extent of residual petroleum impacts to groundwater at MW-62 was delineated and the source of impacts attributed to former bulk fuel storage activities by a prior tenant (Stantec, 2021).

As noted in the Stantec (2021) SI, the concentrations of 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene in shallow coarse granular fill at SB-112 were slightly greater than the ch. NR 720 WAC residual contaminant level (RCL) for the soil to groundwater exposure pathway. The horizontal extent of trimethylbenzene impacts to the upper fill unit was generally defined; though the vertical extent was not confirmed (Stantec, 2021).

Therefore, a supplemental site investigation was warranted to further evaluate residual petroleum impacts to groundwater at monitoring well MW-62 and further delineate residual petroleum impacts to soil in the vicinity of soil boring SB-112.

METHODS

Field work associated with this Supplemental Site Investigation was completed on August 30, 2021, as described further below.

Soil Sampling. Sample locations SB-133 and SB-134 were installed in the vicinity of SB-112 with a backhoe to provide for additional delineation of PVOCs in soil. The locations of SB-133 and SB-134 are illustrated on Figure 2. An additional sample location was installed at SB-112 with a backhoe to allow for collection of a sample of soil from beneath the granular fill unit. Photographic documentation of the field work is provided in Attachment A. Soil was screened on a 1-foot basis with a photoionization detector calibrated to 100 parts per million isobutylene standard. Soil samples were collected from the upper granular fill unit at sample locations SB-133 and SB-134. Soil samples were collected from immediately below the granular fill unit from sample locations SB-112, SB-133, and SB-134. Samples were placed in laboratory-supplied containers, preserved as appropriate, stored on ice, and submitted under chain-of-custody procedures to Eurofins TestAmerica (Eurofins; Chicago, Illinois), a State of Wisconsin-certified laboratory for VOC analysis. Detected constituents are compared to ch. NR 720 WAC RCLs on Table 1. The laboratory report is provided in Attachment B.

Groundwater Sampling. The elevation of groundwater was measured in previously installed groundwater monitoring wells using an electronic water level probe. Groundwater elevations are summarized on Table 2 and the potentiometric surface of shallow groundwater is illustrated on Figure 3. Monitoring well MW-62 was purged with a submersible pump, and following recovery, a groundwater sample was collected from the well with a disposable bailer. The groundwater sample was placed in laboratory-supplied containers containing a hydrochloric acid preservative, stored on ice, and submitted under chain-of-custody procedures to Eurofins TestAmerica (Eurofins; Chicago, Illinois) for VOC analysis. Detected constituents are compared to ch. NR 140 groundwater quality criteria on Table 3. The laboratory report is provided in Attachment B. Groundwater monitoring wells in the River North, LLC project area were abandoned per the requirements of ch. NR 141 WAC. Abandonment forms are provided in Attachment C.

RESULTS

Soil Quality. Soil lithology is consistent with previous soil borings described in the Stantec (2021) SI and consisted of upper coarse granular fill underlain by sand/silty sand alluvium, as described on the following table.

Depth Interval (feet)	SB-112 (PID Measurement; Lithology)	SB-133 (PID Measurement; Lithology)	SB-134 (PID Measurement; Lithology)
0-1	1.6; coarse granular fill	1.3; coarse granular fill	1.1; coarse granular fill
1-2	1.0; coarse granular fill	2.9; coarse granular fill	0.8; coarse granular fill
2-3	3.2; coarse granular fill	1.4; coarse granular fill	1.4; coarse granular fill
3-4	1.2; coarse granular fill	1.0; coarse granular fill and yellow-brown silt	1.4; coarse granular fill
4-5	0.7; yellow-brown silt	1.5; yellow-brown silt	1.8; brown sand
5-7			2.9; organic silt
7-8			NA; fully saturated

Note: PID measurements are given in instrument units; highlighted rows indicate a soil sample was collected.

As summarized on Table 1 (with previous data from SB-112 added for reference), the concentrations of detected VOCs in the five soil samples collected in this investigation are less than the most restrictive health-based RCLs.

Groundwater. The elevation of groundwater decreased in a radial direction to the Manitowoc River, which is consistent with previous measurements (Stantec, 2021). Concentrations of PVOCs in groundwater collected from MW-62 in this supplemental site investigation are all less than previous measurements (suggesting a decreasing plume); however, the concentration of benzene in the groundwater sample remains greater than the ES and the concentrations of three PVOCs remain greater than applicable PALs (Table 3).

CONCLUSIONS

The horizontal and vertical extents of VOCs previously detected at soil boring SB-112 are delineated. In addition, the extent of PVOC impacts to groundwater remains confirmed. Therefore, Stantec requests written concurrence from WDNR that the Site Investigation is complete at the River North, LLC project area within the Phase 1 Construction Area at the River Point District.

Regards,

STANTEC CONSULTING SERVICES INC

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Richard J. Binder, P.G., CPG
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ENCLOSURES

Figures
Tables
Attachments
Attachment A – Photographic Documentation
Attachment B – Laboratory Reports
Attachment C – Monitoring Well Abandonment Forms

REFERENCES

Stantec, 2021, NR716 Site Investigation Report, River Point District Phase 1 Construction Area; Manitowoc, Wisconsin, July 19, 2021.

LIMITATIONS

This Supplemental Site Investigation was performed in accordance with generally accepted practices of the profession for performing similar studies at the same time and in the same geographical area. Stantec observed that degree of care and skill generally exercised by the profession under similar circumstances and conditions. No other warranty is expressed or implied.

Stantec observations, findings, and opinions must not be considered as scientific certainties, but only an opinion based on our professional judgment concerning the significance of the data gathered during the

course of the investigation. Specifically, Stantec does not and cannot represent that the Site contains no hazardous or toxic materials or other latent condition beyond that observed by Stantec.

This document was prepared by Stantec for the City of Manitowoc, Wisconsin. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Stantec accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

FIGURES

Figure No.
1
Title
Project Area and Regional Topography

Client/Project
Supplemental Site Investigation
River Point District
City of Manitowoc

0 390 780 Feet

Prepared by HLB on 4/21/21

Legend

- River North LLC Project Area
- Site Investigation Project Area
- River Point District

N

Notes

1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
2. Historic Site features illustrated on this figure were digitized from multiple historic maps/sources, including City Assessor files, WDNR files, and Sanborn (R) Fire Insurance Maps. These features are provided for illustration purposes only; Stantec makes no warranty as to the accuracy of these features.
3. Orthophotograph: Manitowoc County, 2017

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Figure No.

3

Title

Soil and Groundwater Sample Locations

Client/Project

Site Investigation Project Area
River Point District
City of Manitowoc

0 65 130 Feet

Prepared by HLB on 4/19/2021

Legend

- River North LLC Project
- Site Investigation Project
- River Point District
- Cap Maintenance
- Monitoring Well
- River Staff Guage
- Soil Boring
- Soil Boring / Temp Well

Test Pits

- Test Pits

N

Notes

1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
2. Historic Site features illustrated on this figure were digitized from multiple historic maps/sources, including City Assessor files, WDNR files, and Sanborn (R) Fire Insurance Maps. These features are provided for illustration purposes only; Stantec makes no warranty as to the accuracy of these features.
3. Orthophotograph: Manitowoc County, 2017

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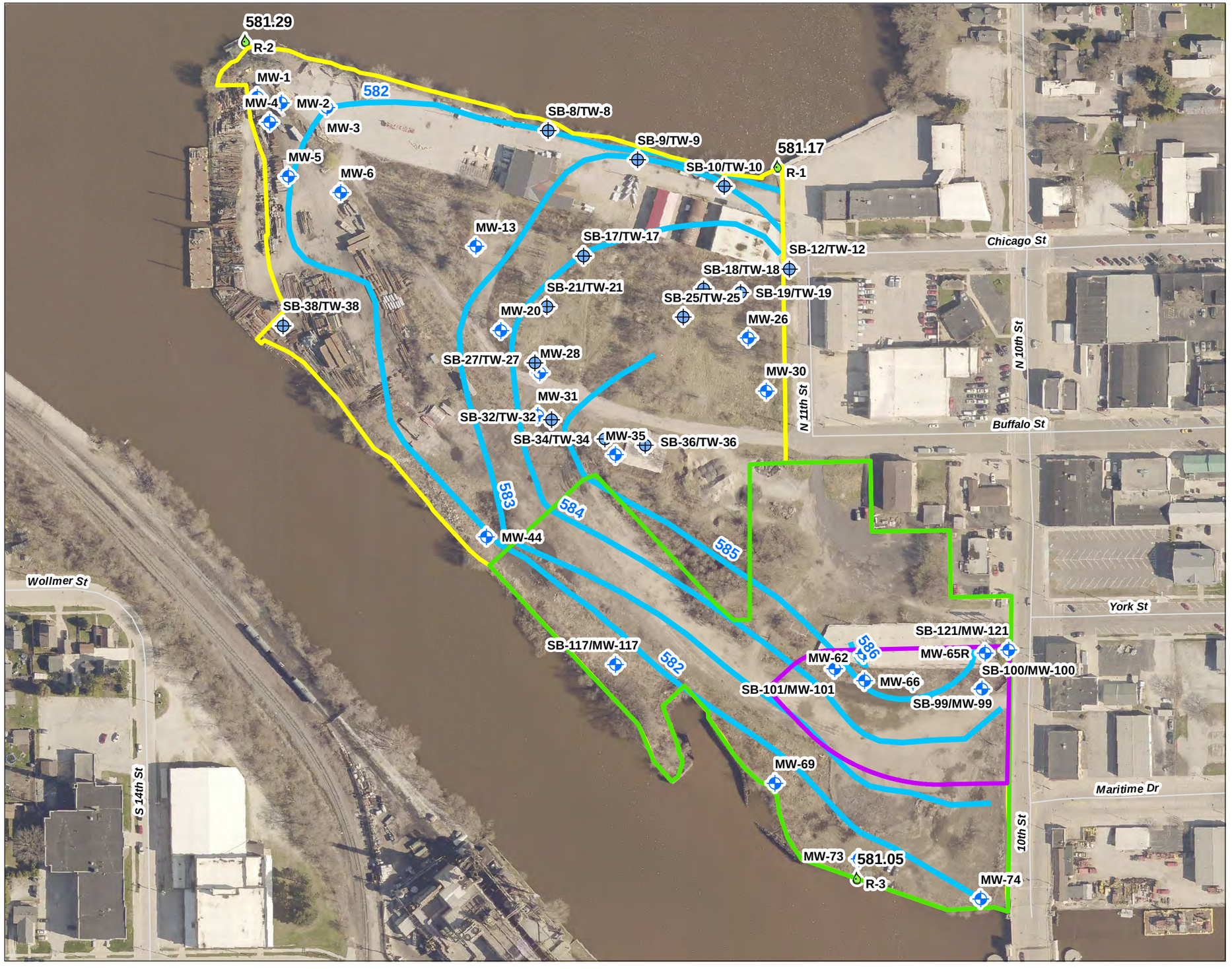

Figure No.
3

Title

Groundwater Elevation at the River Point District (August 2021)

Client/Project
Supplemental Site Investigation
River Point District
City of Manitowoc

0 125 250 Feet

Prepared by HLB on 4/21/21

Legend

N

Monitoring Locations

- Monitoring Well (NR 141) (25)
- Staff Gage (3)
- Temporary Monitoring Well (14)
- River North LLC Project Area
- Site Investigation Project Area
- River Point District
- Groundwater Elevation (ft amsl)

NOTE:
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
2. Orthophotograph: Manitowoc County, 2017

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TABLES

Table 1
Soil Quality Compared to NR 720 Standards (2018 – 2021)
Site Investigation Area
River Point District
Manitowoc, Wisconsin

Notes:

mg/kg	Milligram per Kilogram
µg/kg	Microgram per Kilogram
SBVT	Wisconsin Soil Background Threshold Value per WDNR, 2018, RCL spreadsheet for use with macro-enabled Excel program, December 2018 Update, available at https://dnr.wi.gov/topic/Brownfields/documents/tech/RCLs.xlsm.
RCL	Residual contaminant level for noted pathway per WDNR, 2018, RCL spreadsheet for use with macro-enabled Excel program, December 2018 Update, available at https://dnr.wi.gov/topic/Brownfields/documents/tech/RCLs.xlsm.
A	Concentration with a superscript A indicates concentration exceeds the soil background threshold value
B	Concentration with a superscript B indicates concentration exceeds the RCL for direct contact at non-industrial properties
C	Concentration with a superscript C indicates concentration exceeds the RCL for direct contact at industrial properties
D	Concentration with a superscript D indicates concentration exceeds the RCL for the soil to groundwater exposure pathway
1,500^{BCD}	Concentration with multiple superscript letters indicates concentration exceeds more than one RCL. In this example, the concentration exceeds the RCL for direct contact at non-industrial and industrial properties and the RCL for the soil to groundwater exposure route.
SB-83 - SB-132	Green heading indicates sample was taken in the most recent (2021) event.
15.2	Measured concentration did not exceed the indicated standard.
<0.03	Analyte was not detected at a concentration greater than the laboratory reporting limit.
n/v	No standard/guideline value.
-	Parameter not analyzed.
B	Indicates analyte was found in associated blank, as well as in the sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD relative percent difference exceeds control limits
J	The reported result is an estimated value.
ND	Not detected.
*	LCS or LCSD is outside the control limits
^	Laboratory instrument-related QC is outside acceptance limits.

Legacy sample IDs were used in Stantec reports prior to January 2021.

Table 1
Soil Quality Compared to NR 720 Standards (2018 – 2021)
Site Investigation Area
River Point District
Manitowoc, Wisconsin

Detected Constituents in Soil	Units	Wisconsin SBTV (A)	Non-Industrial Direct Contact RCL (B)	Industrial Direct Contact RCL (C)	Soil to Groundwater RCL (D)	Sample ID, Legacy Sample ID (Prior to 2021), Sample Date, Sample Depth, Lithology Relative to Black Granular Fill Unit						
						SB-112			SB-133		SB-134	
						-	-	-	-		-	
						25-Feb-21	25-Feb-21	8/30/2021	8/30/2021	8/30/2021	8/30/2021	8/30/2021
						2.5 - 3.5 ft	3 - 3.5 ft	4-5 ft	1 - 2 ft	4 - 5 ft	3 - 4 ft	5 - 7 ft
						FILL	BELOW	Below	FILL	BELOW	FILL	BELOW
Heavy Metals												
Arsenic	mg/kg	8.3	0.677	3	0.584	4.5[BCD]	1.0[BD]	-	-	-	-	-
Barium	mg/kg	364	15,300	100,000	164.8	-	-	-	-	-	-	-
Cadmium	mg/kg	1.07	71.1	985	0.752	-	-	-	-	-	-	-
Chromium	mg/kg	43.5	n/v	n/v	360,000	-	-	-	-	-	-	-
Lead	mg/kg	51.6	400	800	27	**75[AD]**	4.1	-	-	-	-	-
Mercury	mg/kg	n/v	3.13	3.13	0.208	-	-	-	-	-	-	-
Selenium	mg/kg	n/v	391	5,840	0.52	-	-	-	-	-	-	-
Silver	mg/kg	n/v	391	5,840	0.8491	-	-	-	-	-	-	-
Herbicides												
Six (6) Compounds	µg/kg	n/v	Various	Various	Various	-	-	-	-	-	-	-
Polychlorinated Biphenyls												
Aroclor 1248	mg/kg	n/v	0.236	0.975	n/v	-	-	-	-	-	-	-
Aroclor 1254	mg/kg	n/v	0.239	0.988	n/v	-	-	-	-	-	-	-
Aroclor 1260	mg/kg	n/v	0.243	1	n/v	-	-	-	-	-	-	-
Aroclor 1262	mg/kg	n/v	n/v	n/v	n/v	-	-	-	-	-	-	-
Aroclor 1268	mg/kg	n/v	n/v	n/v	n/v	-	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons												
Acenaphthene	µg/kg	n/v	3,590,000	45,200,000	n/v	10 J	<36	-	-	-	-	-
Acenaphthylene	µg/kg	n/v	n/v	n/v	n/v	26 J	<36	-	-	-	-	-
Anthracene	µg/kg	n/v	17,900,000	100,000,000	196,949	55	<36	-	-	-	-	-
Benzo(a)anthracene	µg/kg	n/v	1,140	20,800	n/v	130	<36	-	-	-	-	-
Benzo(a)pyrene	µg/kg	n/v	115	2,110	470	**140[B]**	<36	-	-	-	-	-
Benzo(b)fluoranthene	µg/kg	n/v	1,150	21,100	478	220	<36	-	-	-	-	-
Benzo(g,h,i)perylene	µg/kg	n/v	n/v	n/v	n/v	46	<36	-	-	-	-	-
Benzo(k)fluoranthene	µg/kg	n/v	11,500	211,000	n/v	67	<36	-	-	-	-	-
Chrysene	µg/kg	n/v	115,000	2,110,000	144	**160[D]**	<36	-	-	-	-	-
Dibenzo(a,h)anthracene	µg/kg	n/v	115	2,110	n/v	16 J	<36	-	-	-	-	-
Fluoranthene	µg/kg	n/v	2,390,000	30,100,000	88,878	200	<36	-	-	-	-	-
Fluorene	µg/kg	n/v	2,390,000	30,100,000	14,830	<41	<36	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	µg/kg	n/v	1,150	21,100	n/v	45	<36	-	-	-	-	-
Methylnaphthalene, 1-	µg/kg	n/v	17,600	72,700	n/v	1,200	<73	-	-	-	-	-
Methylnaphthalene, 2-	µg/kg	n/v	239,000	3,010,000	n/v	1,400	8.1 J	-	-	-	-	-
Naphthalene	µg/kg	n/v	5,520	24,100	658	**800[D]**	5.7 J	-	-	-	-	-
Phenanthrene	µg/kg	n/v	n/v	n/v	n/v	970	<36	-	-	-	-	-
Pyrene	µg/kg	n/v	1,790,000	22,600,000	54,546	330	<36	-	-	-	-	-
Volatile Organic Compounds												
Benzene	µg/kg	n/v	1,600	7,070	5.1	<37	-	<9.6	<8.8	<9.7	<8.3	<12
Butylbenzene, n-	µg/kg	n/v	108,000	108,000	n/v	<150	-	<26	<23	<26	<22	<32
Butylbenzene, sec- (2-Phenylbutane)	µg/kg	n/v	145,000	145,000	n/v	360	-	<26	<24	<26	<23	<33
Chloroform (Trichloromethane)	µg/kg	n/v	454	1,980	3.3	<290	-	<24	<22	<25	<21	<31
Dichloroethene, cis-1,2-	µg/kg	n/v	156,000	2,340,000	41.2	<150	-	<27	<25	<27	<23	<34
Ethylbenzene	µg/kg	n/v	8,020	35,400	1,570	310	-	<12	<11	<12	<10	<15
Isopropylbenzene	µg/kg	n/v	268,000	268,000	n/v	340	-	<25	<23	<25	<22	<32
Isopropyltoluene, p- (Cymene)	µg/kg	n/v	162,000	162,000	n/v	340	-	<24	<22	<24	<21	<30
Naphthalene	µg/kg	n/v	5,520	24,100	658	**800[D]**	-	<22	42 J	<22	37J	<28
Propylbenzene, n-	µg/kg	n/v	264,000	264,000	n/v	810	-	<27	<25	<27	<24	<34
Tetrachloroethene (PCE)	µg/kg	n/v	33,000	145,000	4.5	<150	-	<24	<22	<25	<21	<31
Toluene	µg/kg	n/v	818,000	818,000	1,107	520	-	<9.7	23	<9.7	28	<12
Trichloroethane, 1,1,1-	µg/kg	n/v	640,000	640,000	140	<150	-	<25	<23	<25	<22	<32
Trichloroethene (TCE)	µg/kg	n/v	1,300	8,410	3.6	<73	-	<11	<9.9	<11	<9.3	<14
Trichlorofluoromethane (Freon 11)	µg/kg	n/v	1,230,000	1,230,000	4,478	<150	-	<28	<26	<28	<24	<36
Trimethylbenzene, 1,2,4-	µg/kg	n/v	219,000	219,000	1,380	**2,300[D]**	-	<24	26 J	<24	<20	<30
Trimethylbenzene, 1,3,5-	µg/kg	n/v	182,000	182,000		**750[D]**	-	<25	<23	<25	<22	<32
Xylenes, Total	µg/kg	n/v	260,000	260,000	3,960	2,300	-	<15	34	<15	50	<18

See notes on last page

Table 2
Groundwater Elevation Summary (2019 – 2021)
Site Investigation Area
River Point District
Manitowoc, Wisconsin

Sample ID	Current Status	Top of Ground (ft amsl)	Top of Casing (ft amsl)	January 17, 2019		April 8, 2019		August 25, 2020		September 10, 2020		October 23, 2020		November 16, 2020		March 3, 2021		April 4, 2021		August 30, 2021	
				DTW (ft below TOC)	Groundwater Elevation (ft amsl)	DTW (ft below TOC)	Groundwater Elevation (ft amsl)	DTW (ft below TOC)	Groundwater Elevation (ft amsl)	DTW (ft below TOC)	Groundwater Elevation (ft amsl)	DTW (ft below TOC)	Groundwater Elevation (ft amsl)	DTW (ft below TOC)	Groundwater Elevation (ft amsl)	DTW (ft below TOC)	Groundwater Elevation (ft amsl)	DTW (ft below TOC)	Groundwater Elevation (ft amsl)	DTW (ft below TOC)	Groundwater Elevation (ft amsl)
SB-1/TW-1	Abandoned	587.03	588.12	7.00	581.12	6.8	581.32	–	–	–	–	–	–	–	–	–	–	–	–	–	–
MW-1	Active	587.07	590.089	–	–	–	–	–	–	–	–	6.5	583.589	6.93	583.159	–	–	7.78	582.309	6.56	583.529
MW-2	Active	586.81	589.353	–	–	–	–	–	–	–	–	6.71	582.643	6.93	582.423	–	–	7.36	581.993	6.95	582.40
MW-3	Active	584.67	584.416	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2.76	581.656	2.44	581.98
MW-4	Active	586.41	587.654	–	–	–	–	–	–	–	–	5.89	581.764	5.54	582.114	–	–	5.79	581.864	8.45	579.20
MW-5	Active	–	586.642	–	–	–	–	–	–	–	–	–	–	4.16	582.482	–	–	4.49	582.152	3.92	582.72
MW-6	Active	586.86	589.117	–	–	–	–	–	–	–	–	5.73	583.387	5.76	583.357	–	–	6.06	583.057	5.52	583.60
SB-7/TW-7	Missing	584.98	–	4.11	580.69	4.19	580.61	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SB-8/TW-8	Active	586.78	587.94	6.38	581.56	6.48	581.46	–	–	–	–	5.16	582.78	5.36	582.58	–	–	5.71	582.23	5.39	582.55
SB-9/TW-9	Active	587.19	588.08	5.67	582.41	5.71	582.37	–	–	–	–	3.89	584.19	4.61	583.47	–	–	5.09	582.99	4.67	583.41
SB-10/TW-10	Active	587.97	589.32	–	–	–	–	–	–	–	–	5	584.32	5.72	583.6	–	–	5.99	583.33	5.7	583.62
SB-11/TW-11	Abandoned	589.86	591	7.81	583.19	3.58	587.42	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SB-12/TW-12	Active	594.32	595.37	11.71	583.66	11.67	583.7	–	–	–	–	10.2	585.17	–	–	–	–	10.96	584.41	10.52	584.85
SB-13/TW-13	Abandoned	583.75	584.58	2.18	582.40	2.44	582.14	–	–	–	–	–	–	–	–	–	–	–	–	–	–
MW-13	Active	583.51	585.91	–	–	–	–	–	–	–	–	2.98	582.931	3.48	582.431	–	–	3.75	582.161	3.57	582.34
SB-16/TW-16	Abandoned	587.25	588.32	5.39	582.93	5.49	582.83	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SB-17/TW-17	Active	587.05	587.71	–	–	–	–	–	–	3.92	583.792	2.92	584.792	3.5	584.212	–	–	4.24	583.472	3.69	584.02
SB-18/TW-18	Active	586.69	587.28	–	–	–	–	–	–	2.64	584.635	1.79	585.485	–	–	–	–	3.17	584.105	2.66	584.62
SB-19/TW-19	Active	586.87	587.83	–	–	–	–	–	–	3.09	584.743	2.37	585.463	–	–	–	–	3.68	584.153	3.18	584.65
SB-20/TW-20	Abandoned	584.24	585.79	2.59	583.20	2.97	582.82	–	–	–	–	–	–	–	–	–	–	–	–	–	–
MW-20	Active	584.48	586.58	–	–	–	–	–	–	–	–	2.77	583.809	3.06	583.519	–	–	3.48	583.099	2.78	583.80
SB-21/TW-21	Active	585.84	586.87	–	–	–	–	–	–	4.04	582.826	2.61	584.256	2.56	584.306	–	–	2.31	584.556	2.44	584.43
SB-23/TW-23	Active	586.06	586.96	–	–	–	–	–	–	2.55	584.411	–	–	–	–	–	–	–	–	2.27	584.69
SB-24/TW-24	Abandoned	587.33	588.42	4.88	583.54	4.85	583.57	–	–	–	–	–	–	–	–	–	–	–	–	–	–
MW-24	Active	–	588.40	–	–	–	–	–	–	3.77	584.63	–	–	–	–	–	–	–	–	3.54	584.86
SB-25/TW-25	Active	586.55	588.19	–	–	–	–	–	–	3.51	584.677	2.56	585.627	–	–	–	–	3.96	584.227	–	–
SB-26/TW-26	Abandoned	588.49	589.30	5.80	583.50	5.8	583.5	–	–	–	–	–	–	–	–	–	–	–	–	–	–
MW-26	Active	–	590.36	–	–	–	–	–	–	5.62	584.74	–	–	–	–	–	–	6.01	584.35	5.45	584.91
SB-27/TW-27	Active	585.86	586.53	–	–	–	–	–	–	3.78	582.748	2.1	584.428	2.27	584.258	–	–	3.12	583.408	2.16	584.37
SB-28/TW-28	Abandoned	585.22	586.18	3.02	583.16	3.41	582.77	–	–	–	–	–	–	–	–	–	–	3.04	583.14	–	–
MW-28	Active	585.28	587.45	–	–	–	–	–	–	–	–	3.03	584.422	3.21	584.242	–	–	4	583.452	3.06	584.39
SB-29/TW-29	Abandoned	587.29	588.07	4.51	583.56	4.73	583.34	–	–	–	–	–	–	–	–	–	–	–	–	–	–
MW-29	Abandoned	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SB-30/TW-30	Abandoned	589.17	590.14	6.56	583.58	6.54	583.6	–	–	–	–	–	–	–	–	–	–	–	–	–	–
MW-30	Active	589.00	591.09	–	–	–	–	–	–	6.26	584.825	5.41	585.675	–	–	–	–	6.7	584.385	6.16	584.93
SB-31/TW-31	Abandoned	586.15	587.40	4.13	583.27	4.56	582.84	–	–	–	–	–	–	–	–	–	–	–	–	–	–
MW-31	Active	586.10	588.26	–	–	–	–	–	–	5.67	582.594	3.59	584.674	–	–	–	–	4.91	583.354	3.65	584.61
SB-32/TW-32	Active	585.80	586.87	–	–	–	–	–	–	4.21	582.663	2.15	584.723	–	–	–	–	3.33	583.543	2.02	584.85
SB-34/TW-34	Active	586.65	587.92	–	–	–	–	–	–	4.9	583.015	3.5	584.415	–	–	–	–	3.98	583.935	2.43	585.49
SB-35/TW-35	Abandoned	587.30	588.44	5.04	583.40	5.48	582.96	–	–	7.42	581.02	–	–	–	–	–	–	–	–	–	–
MW-35	Active	587.24	590.40	–	–	–	–	–	–	–	–	5.54	584.864	–	–	–	–	6.39	584.014	4.61	585.79
SB-36/TW-36	Active	584.89	585.46	–	–	–	–	–	–	2.27	583.186	–	–	–	–	–	–	1.69	583.766	–	–
SB-37/TW-37	Abandoned	589.38	590.73	6.54	584.19	6.54	584.19	–	–	–	–	4.35	586.38	–	–	–	–	5.54	585.19	–	–
SB-38/TW-38	Active	582.10	583.52	2.72	580.80	2.66	580.86	–	–	–	–	–	–	1.83	581.69	–	–	2.56	580.96	2.33	581.19
SB-40/TW-40	Abandoned	582.59	583.75	–	–	3.14	580.61	–	–	–	–	1.37	582.38	2.52	581.23	–	–	–	–	–	–
SB-42/TW-42	Abandoned	583.54	584.53	3.71	580.82	3.77	580.76	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SB-44/TW-44	Active	582.69	584.42	3.49	580.93	3.49	580.93	–	–	–	–	1.61	582.81	–	–	–	–	–	–	1.58	582.84
MW-44	Active	583.11	586.06	–	–	–	–	–	–	–	–	3.35	582.708	–	–	–	–	4.86	581.198	3.56	582.50
SB-45/TW-45	Abandoned	586.25	587.64	5.27	582.37	5.55	582.09	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SB-47/TW-47	Abandoned	585.59	586.98	4.42	582.56	4.75	582.23	–	–	–	–	–	–	–	–	6.05	580.93	–	–	–	–
MW-47	Abandoned	585.69	587.56	–	–	–	–	–	–	–	–	3.85	583.705	–	–	–	–	5.04	582.515	–	–
SB-49/TW-49	Abandoned	584.35	583.24	5.09	578.15	5.13	578.11	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Table 2
Groundwater Elevation Summary (2019 – 2021)
Site Investigation Area
River Point District
Manitowoc, Wisconsin

Sample ID	Current Status	Top of Ground (ft amsl)	Top of Casing (ft amsl)	January 17, 2019		April 8, 2019		August 25, 2020		September 10, 2020		October 23, 2020		November 16, 2020		March 3, 2021		April 4, 2021		August 30, 2021	
				DTW (ft below TOC)	Groundwater Elevation (ft amsl)	DTW (ft below TOC)	Groundwater Elevation (ft amsl)	DTW (ft below TOC)	Groundwater Elevation (ft amsl)	DTW (ft below TOC)	Groundwater Elevation (ft amsl)	DTW (ft below TOC)	Groundwater Elevation (ft amsl)	DTW (ft below TOC)	Groundwater Elevation (ft amsl)	DTW (ft below TOC)	Groundwater Elevation (ft amsl)	DTW (ft below TOC)	Groundwater Elevation (ft amsl)	DTW (ft below TOC)	Groundwater Elevation (ft amsl)
SB-50/TW-50	Abandoned	585.07	586.07	5.28	580.79	5.33	580.74	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SB-52/TW-52	Abandoned	587.12	587.97	–	–	6.81	581.16	–	–	–	–	–	–	–	–	–	–	–	–	–	–
MW-52	Abandoned	587.13	589.19	–	–	–	–	–	–	–	–	4.59	584.6	–	–	6.55	582.64	7.26	581.93	–	–
SB-53/TW-53	Abandoned	586.47	588.03	–	–	–	–	5.42	582.612	–	–	–	–	–	–	–	–	–	–	–	–
MW-53	Abandoned	587.69	589.17	–	–	–	–	–	–	–	–	–	–	–	–	4.87	584.303	6.35	582.823	–	–
SB-54/TW-54	Abandoned	586.44	587.50	–	–	5.24	582.26	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SB-55/TW-55	Abandoned	588.70	589.49	–	–	–	–	4.31	585.178	–	–	–	–	–	–	–	–	–	–	–	–
MW-55	Abandoned	588.02	590.22	–	–	–	–	–	–	–	–	–	–	–	–	7.57	582.654	7.26	582.964	–	–
SB-61/TW-61	Abandoned	589.18	591.57	–	–	–	–	5.82	585.745	–	–	–	–	–	–	–	–	–	–	–	–
SB-62/TW-62	Abandoned	589.54	591.94	–	–	–	–	5.87	586.065	–	–	–	–	–	–	–	–	–	–	–	–
MW-62	Active	589.47	591.43	–	–	–	–	–	–	–	–	–	–	–	–	7.22	584.235	6.45	585.005	5.3	586.13
SB-63/TW-63	Abandoned	590.14	591.17	–	–	–	–	5.83	585.343	–	–	–	–	–	–	–	–	–	–	–	–
SB-64/TW-64	Abandoned	590.16	591.41	–	–	–	–	6.15	585.256	–	–	–	–	–	–	–	–	–	–	–	–
SB-65/TW-65	Abandoned	590.91	592.76	7.08	584.82	7.47	584.43	–	–	–	–	–	–	–	–	–	–	–	–	–	–
MW-65	Abandoned	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SB-66/TW-66	Abandoned	587.28	588.98	3.54	585.44	4.5	584.48	–	–	–	–	–	–	–	–	–	–	–	–	–	–
MW-66	Active	587.21	589.58	–	–	–	–	–	–	–	–	3.3	586.196	–	–	4.35	585.146	4.85	584.646	4.34	585.24
SB-69/TW-69	Abandoned	583.21	584.17	3.48	580.69	3.7	580.47	–	–	–	–	–	–	–	–	–	–	–	–	–	–
MW-69	Active	583.42	585.98	–	–	–	–	–	–	–	–	3.58	582.404	–	–	5.08	580.904	4.92	581.064	4.75	581.23
SB-72/TW-72	Abandoned	585.58	587.34	4.35	582.99	4.72	582.62	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SB-73/TW-73	Abandoned	584.12	585.03	4.30	580.73	4.52	580.51	–	–	–	–	–	–	–	–	–	–	–	–	–	–
MW-73	Active	584.34	586.64	–	–	–	–	–	–	–	–	4.43	582.214	–	–	5.58	581.064	5.46	581.184	5.11	581.53
SB-74/TW-74	Abandoned	585.08	586.04	5.50	580.54	5.66	580.38	–	–	–	–	–	–	–	–	–	–	–	–	–	–
MW-74	Active	585.22	587.48	–	–	–	–	–	–	–	–	4.73	582.75	–	–	6.11	581.37	6.06	581.42	5.48	582.00
SB-75/TW-75	Abandoned	590.44	591.28	6.57	584.71	7.05	584.23	–	–	–	–	–	–	–	–	–	–	–	–	–	–
MW-75	Abandoned	590.21	593.05	–	–	–	–	–	–	–	–	7.92	585.134	–	–	8.29	584.764	7.58	585.474	–	–
SB-82/TW-82	Abandoned	588.27	589.14	4.28	584.86	4.68	584.46	–	–	–	–	–	–	–	–	–	–	–	–	–	–
MW-82	Abandoned	588.86	591.49	–	–	–	–	–	–	–	–	5.15	586.342	–	–	6.81	584.682	6.38	585.112	–	–
SB-84/MW-84	Abandoned	592.00	593.82	–	–	–	–	–	–	–	–	–	–	–	–	8.9	584.921	8.24	585.581	–	–
SB-85/TW-85	Abandoned	587.09	588.94	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SB-89/MW-89	Abandoned	587.94	590.32	–	–	–	–	–	–	–	–	–	–	–	–	5.39	584.93	4.72	585.6	–	–
SB-91/MW-91	Abandoned	587.94	590.22	–	–	–	–	–	–	–	–	–	–	–	–	6.35	583.866	5.32	584.896	–	–
SB-92/MW-92	Abandoned	588.04	589.58	–	–	–	–	–	–	–	–	–	–	–	–	4.58	584.995	4.19	585.385	–	–
SB-97/MW-97	Abandoned	587.56	590.50	–	–	–	–	–	–	–	–	–	–	–	–	6.77	583.725	5.49	585.005	–	–
SB-98/MW-98	Missing	587.14	588.25	–	–	–	–	–	–	–	–	–	–	–	–	4.75	583.498	5.23	583.018	–	–
SB-99/TW-99	Active	586.91	589.56	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3.82	585.74
SB-100/MW-100	Active	589.07	590.81	–	–	–	–	–	–	–	–	–	–	–	–	6.57	584.149	6.2	584.519	5.93	584.88
SB-101/MW-101	Active	587.47	589.97	–	–	–	–	–	–	–	–	–	–	–	–	6.04	583.868	5.9	584.008	5.39	584.58
SB-105/TW-105	Active	584.12	584.90	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3.19	581.71
SB-117/MW-117	Active	584.52	587.54	–	–	–	–	–	–	–	–	–	–	–	–	6.2	581.338	6.46	581.078	5.81	581.73
SB-121/MW-121	Active	592.21	594.30	–	–	–	–	–	–	–	–	–	–	–	–	9.98	584.302	9.63	584.652	9.66	584.64
SB-122/MW-122	Abandoned	587.88	590.10	–	–	–	–	–	–	–	–	–	–	–	–	5.36	584.744	4.64	585.464	–	–

Table 2
Groundwater Elevation Summary (2019 – 2021)
Site Investigation Area
River Point District
Manitowoc, Wisconsin

Sample ID	Current Status	Top of Ground (ft amsl)	Top of Casing (ft amsl)	January 17, 2019		April 8, 2019		August 25, 2020		September 10, 2020		October 23, 2020		November 16, 2020		March 3, 2021		April 4, 2021		August 30, 2021	
				DTW (ft below TOC)	Groundwater Elevation (ft amsl)	DTW (ft below TOC)	Groundwater Elevation (ft amsl)	DTW (ft below TOC)	Groundwater Elevation (ft amsl)	DTW (ft below TOC)	Groundwater Elevation (ft amsl)	DTW (ft below TOC)	Groundwater Elevation (ft amsl)	DTW (ft below TOC)	Groundwater Elevation (ft amsl)	DTW (ft below TOC)	Groundwater Elevation (ft amsl)	DTW (ft below TOC)	Groundwater Elevation (ft amsl)	DTW (ft below TOC)	Groundwater Elevation (ft amsl)
MW-65R	Active	590.69	592.72	–	–	–	–	–	–	–	–	–	–	–	–	6.28	586.437	7.81	584.907	7.78	584.94
R-1	Active	–	586.07	–	–	–	–	–	–	–	–	3.99	582.08	–	–	–	–	5.06	581.01	4.9	581.17
R-2	Active	–	587.61	–	–	–	–	–	–	–	–	5.68	581.93	6.19	581.42	–	–	6.45	581.16	6.32	581.29
R-3	Active	–	584.64	–	–	–	–	–	–	–	–	2.45	582.191	–	–	–	–	3.47	581.171	3.59	581.05

Notes:

–	Not measured
ft amsl	Feet above mean sea level; the elevation of the ground surface and the top of the well casing was surveyed by a professional land surveyor (CornerPoint, LLC) throughout the Site Investigation.
DTW	Depth to water
ft below TOC	Feet below top of casing
ft bgs	Feet below ground surface

Table 3
Groundwater Quality Compared to NR 140 Standards (2018 – 2021)
Site Investigation Area
River Point District
Manitowoc, Wisconsin

Notes:

MW-47 - MW-122	Green heading indicates sample was taken in the most recent (2021) event.
ug/L	microgram per liter
mg/L	milligram per liter
A	Constituent concentration with a subscript A is greater than the ch. NR 140 WAC Preventive Action Limit
AB	Constituent concentration with a subscript AB is greater than the ch. NR 140 WAC Enforcement Standard
15.2	Measured concentration did not exceed the indicated standard.
<0.03	Analyte was not detected at a concentration greater than the laboratory reporting limit.
-	Parameter not analyzed.
B	Indicates analyte was found in associated blank, as well as in the sample.
H	Sample was prepped or analyzed beyond the specified holding time.
I	Recorded values are the estimated maximum possible concentration.
J	The reported result is an estimated value between the laboratory limit of detection and the limit of quantitation.
ND	Not detected.
n/v	No standard/guideline value.
*	The lab control sample (LCS) or lab control sample duplicate (LCSD) was outside of acceptable limits.
**	Combined standard for (6) PFAS compounds proposed by the Wisconsin Department of Health Services on November 6, 2020 as part of the rulemaking process with updating ch. NR 140 WAC.

Legacy sample IDs were used in Stantec reports prior to January 2021.

Table 3
Groundwater Quality Compared to NR 140 Standards (2018 – 2021)
Site Investigation Area
River Point District
Manitowoc, Wisconsin

Detected Constituents	Units	Preventive Action Limit (A)	Enforcement Standard (B)	Sample ID, Legacy Sample ID (Prior to 2021), Sample Date																			
				TW-37	TW-45	TW-47	MW-47		TW-49	TW-50	TW-52	MW-52		TW-53	MW-53	TW-54	TW-55		MW-55		TW-61	
				S2_TW-8	2_TW-23	S5_TW-16	AECOM 1_MW-19		S1_TW-19	S1_TW-24	S1_TW-10	AECOM 1_MW-10		S1_TW-44	-	S1_TW-11	S1_TW-44		-		S1_TW-50	
				28-Nov-18	28-Nov-18	27-Nov-18	18-Mar-20	4-Mar-21	28-Nov-18	28-Nov-18	28-Nov-18	18-Mar-20	4-Mar-21	25-Aug-20	3-Mar-21	10-Dec-18	24-Aug-20	25-Aug-20	3-Mar-21	2-Apr-21	24-Aug-20	25-Aug-20
Metals																							
Arsenic	mg/L	0.001	0.01	**0.0022[A]**	**0.001**	-	< 0.00056	-	**0.0024[A]**	-	-	0.00088 J	-	**0.0011[A]**	**-**	0.00068 J	-	**0.0043[A]**	**0.0038[A]**	-	-	**0.0043[A]**
Barium	mg/L	0.4	2	0.23	0.054	-	-	-	0.16	-	-	0.102	-	0.094	-	0.13	-	0.088	-	-	-	0.070
Cadmium	mg/L	0.0005	0.005	<0.00017	<0.00017	-	-	-	<0.00017	-	-	-	-	<0.00017	-	<0.00017	-	<0.00017	-	-	-	<0.00017
Chromium	mg/L	0.01	0.1	0.0011 J	<0.0011	-	-	-	<0.0011	-	-	-	-	<0.0011	-	<0.0011	-	<0.0011	-	-	-	<0.0011
Lead	mg/L	0.0015	0.015	<0.00019	<0.00019	-	-	<0.00050	<0.00019	-	-	-	-	0.00042 J	-	0.00019 J	-	0.00095	-	-	-	**0.0015[A]**
Selenium	mg/L	0.01	0.05	<0.00098	<0.00098	-	-	-	<0.00098	-	-	0.0015	-	<0.00098	-	<0.00098	-	<0.00098	-	-	-	<0.00098
Polychlorinated Biphenyls																							
9 Aroclor Mixtures	µg/L	0.003	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorinated Alkyl Substances																							
Perfluorobutane Sulfonate (PFBS)	ng/L	90,000	450,000	-	2.1	-	-	3.3	3.5	-	2.7	-	-	-	<1.7	-	-	-	-	-	-	-
Perfluorobutanoic Acid (PFBA)	ng/L	2,000	10,000	-	9.9	-	-	9.5	14	-	4.9 J	-	-	-	33	-	-	-	-	-	-	-
Perfluorodecane Sulfonate (8:2)	ng/L	n/v	n/v	-	<2.2	-	-	<1.8	<2	-	<1.9	-	-	-	<1.7	-	-	-	-	-	-	-
Perfluorododecanoic Acid (PFDoA)	ng/L	100	500	-	<0.54	-	-	<1.8	<0.5	-	<0.49	-	-	-	<1.7	-	-	-	-	-	-	-
Perfluoroheptane Sulfonate (PFHpS)	ng/L	n/v	n/v	-	<0.43	-	-	<1.8	<0.4	-	<0.39	-	-	-	<1.7	-	-	-	-	-	-	-
Perfluoroheptanoic Acid (PFHpA)	ng/L	n/v	n/v	-	4.6	-	-	6.3	4	-	2.2	-	-	-	6.9	-	-	-	-	-	-	-
Perfluorohexanesulfonic acid (PFHxS)	ng/L	4	40	-	1.9 J	-	-	<1.8	0.79 J	-	<0.39	-	-	-	1.3 J	-	-	-	-	-	-	-
Perfluorohexanoic Acid (PFHxA)	ng/L	30,000	150,000	-	3.4	-	-	5.9	4.2	-	2.3	-	-	-	8.2	-	-	-	-	-	-	-
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	2	20	-	**73[AB]**	-	-	**71[AB]**	**37[AB]**	-	**17[A]**	-	-	-	**32[AB]**	-	-	-	-	-	-	-
Perfluorononanoic Acid (PFNA)	ng/L	3	30	-	<0.43	-	-	<1.8	0.62 J	-	<0.39	-	-	-	1.4 J	-	-	-	-	-	-	-
Perfluorooctane Sulfonate (6:2)	ng/L	n/v	n/v	-	<1.1	-	-	<4.5	<1	-	<0.97	-	-	-	<4.3	-	-	-	-	-	-	-
Perfluorooctane Sulfonate (PFOS)	ng/L	2	20	-	**4.3[A]**	-	-	1.1 J I	**3.3[A]**	-	**2.8[A]**	-	-	-	**14[A]**	-	-	-	-	-	-	-
Perfluorooctanesulfonamide (PFOSA)	ng/L	2	20	-	<0.54	-	-	<1.8	<0.5	-	<0.49	-	-	-	<1.7	-	-	-	-	-	-	-
Perfluoropentanesulfonic Acid (PFPeS)	ng/L	n/v	n/v	-	<0.43	-	-	<1.8	<0.4	-	<0.39	-	-	-	<1.7	-	-	-	-	-	-	-
Perfluoropentanoic Acid (PFPeA)	ng/L	n/v	n/v	-	3.9 J	-	-	3.3	3.7 J	-	2 J	-	-	-	7.5	-	-	-	-	-	-	-
Perfluorotetradecanoic Acid (PFTeA)	ng/L	2,000	10,000	-	<0.33	-	-	<1.8	<0.3	-	<0.29	-	-	-	<1.7	-	-	-	-	-	-	-
Perfluorotridecanoic Acid (PFTriA)	ng/L	n/v	n/v	-	<0.43	-	-	<1.8	<0.4	-	<0.39	-	-	-	<1.7	-	-	-	-	-	-	-
NEtFOSE+NEtFOSA+NEtFOSAA+PFOSA+PFOA+PFOS**	ng/L	2	20	-	**77.3[AB]**	-	-	**72.1[AB]**	**40.3[AB]**	-	**19.8[A]**	-	-	-	**46[AB]**	-	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons																							
Acenaphthene	µg/L	n/v	n/v	<0.25	<0.26	-	-	<0.78	<0.25	<0.26	<0.26	0.074	<0.76	0.45 J	<0.75	<0.25 H	1.1	-	0.52 J	-	<0.26	-
Acenaphthylene	µg/L	n/v	n/v	<0.22	<0.22	-	-	<0.78	<0.22	<0.23	<0.23	0.011 J	<0.76	<0.22	<0.75	<0.22 H	<0.21	-	<0.78	-	<0.23	-
Anthracene	µg/L	600	3,000	<0.27	<0.28	-	-	<0.78	<0.27	<0.28	<0.29	< 0.010	<0.76	<0.27	<0.75	<0.27 H	0.36 J	-	<0.78	-	<0.28	-
Benzo(a)anthracene	µg/L	n/v	n/v	<0.047	0.063 J	-	-	<0.16	0.095 J	0.11 J	0.54	< 0.0074	<0.15	0.060 J	0.098 J	<0.046 H	0.65	-	<0.16	-	<0.048	-
Benzo(a)pyrene	µg/L	0.02	0.2	<0.081	<0.083	-	-	<0.16	<0.081	**0.11 J[A]**	**0.62[AB]**	< 0.010	<0.15	**0.12 J[A]**	<0.15	<0.081 H	<0.078	-	<0.16	-	<0.083	-
Benzo(b)fluoranthene	µg/L	0.02	0.2	<0.066	<0.068	-	-	<0.16	<0.066	**0.16 J[A]**	**0.57[AB]**	< 0.0056	<0.15	<0.066	**0.075 J[A]**	<0.066 H	<0.064	-	<0.16	-	<0.068	-
Benzo(g,h,i)perylene	µg/L	n/v	n/v	<0.31	<0.32	-	-	<0.78	<0.31	<0.32	0.44 J	< 0.0066	<0.76	<0.31	<0.75	<0.31 H	<0.30	-	<0.78	-	<0.32	-
Benzo(k)fluoranthene	µg/L	n/v	n/v	<0.053	<0.054	-	-	<0.16	<0.052	<0.054	0.41	< 0.0074	<0.15	<0.052	<0.15	<0.052 H	<0.050	-	<0.16	-	<0.054	-
Chrysene	µg/L	0.02	0.2	<0.056	<0.057	-	-	<0.16	<0.056	**0.088 J[A]**	**0.62[AB]**	< 0.013	<0.15	<0.056	**0.068 J[A]**	<0.056 H	**0.42[AB]**	-	<0.16	-	<0.057	-
Dibenzo(a,h)anthracene	µg/L	n/v	n/v	<0.042	<0.043	-	-	<0.24	<0.042	<0.043	0.10 J	< 0.0098	<0.23	<0.042	<0.23	<0.042 H	0.16 J	-	<0.24	-	<0.043	-
Fluoranthene	µg/L	80	400	<0.37	<0.38	-	-	<0.78	<0.37	<0.38	0.84 J	< 0.010	<0.76	<0.37	<0.75	<0.37 H	<0.36	-	<0.78	-	<0.38	-
Fluorene	µg/L	80	400	<0.20	<0.21	-	-	<0.78	<0.20	<0.21	<0.21	0.043	<0.76	0.69 J	<0.75	<0.20 H	2.7	-	0.72 J	-	1.8	-
Indeno(1,2,3-cd)pyrene	µg/L	n/v	n/v	<0.061	<0.063	-	-	<0.16	<0.061	<0.063	0.42	< 0.017	<0.15	<0.061	0.066 J	<0.061 H	<0.059	-	<0.16	-	<0.063	-
Methylnaphthalene, 1-	µg/L	n/v	n/v	<0.25	<0.25	-	-	<1.6	<0.25	<0.25	<0.26	0.09	<1.5	17	0.66 J	<0.25 H	77	-	45	-	0.25 J	-
Methylnaphthalene, 2-	µg/L	n/v	n/v	<0.054	<0.055	-	-	<1.6	<0.053	<0.055	0.072 J	0.0092 J	<1.5	0.66 J	0.35 J	<0.053 H	88	-	6.2	-	0.19 J	-
Naphthalene	µg/L	10	100	<0.25	<0.26	-	-	<0.78	<0.25	<0.26	<0.26	0.14	<0.76	0.40 J	<0.75	<0.25 H	0.71 J	-	5.4	-	0.30 J	-
Phenanthrene	µg/L	n/v	n/v	<0.25	<0.25	-	-	<0.78	<0.25	<0.25	0.33 J	< 0.014	<0.76	0.54 J	0.23 J	<0.25 H	9.4	-	0.62 J	-	<0.25	-
Pyrene	µg/L	50	250	<0.35	<0.36	-	-	<0.78	<0.35	<0.36	0.90	< 0.0075	<0.76	<0.35	<0.75	<0.35 H	0.80	-	<0.78	-	<0.36	-
Volatile Organic Compounds																							
Benzene	µg/L	0.5	5	<0.15	<0.15	<0.15	-	-	<0.15	<0.15	-	< 0.25	-	<0.15	-	<0.15 H	-	**0.57[A]**	**1.3[A]**	**2[A]**	-	<0.15
Butylbenzene, n-	µg/L	n/v	n/v	<0.39	<0.39	<0.39	-	-	<0.39	<0.39	-	< 0.71	-	1.3	-	<0.39 H	-	1.1	25	4.1	-	<0.39
Butylbenzene, sec- (2-Phenylbutane)	µg/L	n/v	n/v	<0.40	<0.40	<0.40	-	-	<0.40	<0.40	-	< 0.85	-	2.0	-	0.87 J H	-	<0.40	35	7.9	-	3.8
Butylbenzene, tert-	µg/L	n/v	n/v	<0.40	<0.40	<0.40	-	-	<0.40	<0.40	-	-	-	<0.40	-	<0.40 H	-	<0.40	2.5	0.88 J	-	<0.40
Chloroethane (Ethyl Chloride)	µg/L	80	400	<0.51	<0.51	<0.51	-	-	<0.51	<0.51	-	-	-	<0.51	-	<0.51 H	-	<0.51	<1.0	<0.51	-	<0.51
Dichlorodifluoromethane (Freon 12)	µg/L	200	1,000	<0.67	<0.67	<0.67	-	-	<0.67	<0.67	-	-	-	<0.67	-	<0.67 H	-	<0.67	<3.0	1.7 J B	-	<0.67
Dichloroethane, 1,1-	µg/L	85	850	<0.41	<0.41	<0.41	-	-	<0.41	<0.41	-	-	-	1.8	-	<0.41 H	-	<0.41	<1.0	<0.41	-	<0.41
Dichloroethane, 1,2-	µg/L	0.5	5	<0.39	<0.39	<0.39	-	-	<0.39	<0.39	-	-	-	<0.39	-	<0.39 H	-	<0.39	<1.0	<0.39	-	<0.39
Dichloroethene, cis-1,2-	µg/L	7	70	<0.41	<0.41	<0.41	-	-	<0.41	<0.41	-	-	-	<0.41	-	<0.41 H	-	<0.41	<1.0	<0.41	-	<0.41
Dichloropropane, 1,3-	µg/L	n/v	n/v	<0.36	<0.36	<0.36	-	-	<0.36	<0.36	-	-	-	<0.36	-	<0.36 H	-	<0.36	<1.0	<0.36	-	<0.36
Ethylbenzene	µg/L	140	700	<0.18	<0.18	<0.18	-	-	<0.18	<0.18	-	< 0.32	-	<0.18	-	<0.18 H	-	<0.18	7.0	<0.18	-	<0.18
Isopropylbenzene	µg/L	n/v	n/v	<0.39	<0.39	<0.39	-	-	<0.39	<0.39	-	< 1.7	-	1.9	-	<0.39 H	-	0.50 J	74	35	-	10
Isopropyltoluene, p- (Cymene)	µg/L	n/v	n/v	<0.36	<0.36	<0.36	-	-	<0.36	<0.36	-	< 0.80	-	<0.36	-	<0.36 H	-	<0.36	<1.0	<0.36	-	1.1
Methylene Chloride (Dichloromethane)	µg/L	0.5	5	<1.6	<1.6	**4.5 J B[A]**	-	-	<1.6	<1.6	-	-	-	<1.6	-	<1.6 H	-	<1.6	<5.0	<1.6	-	<1.6
Naphthalene	µg/L	10	100	<0.25	<0.26	0.37 J B	-	-	-	-	-	-	-	<0.34	-	<0.34 H	-	1.6	2.8	<0.34	-	**14[A]**
Propylbenzene, n-	µg/L	n/v	n/v	<0.41	<0.41	<0.41	-	-	<0.41	<0.41	-	< 0.81	-	2.0	-	<0.41 H	-	0.74 J	87	37	-	8.1
Tetrachloroethene (PCE)	µg/L	0.5	5	<0.37	<0.37	<0.37	-	-	<0.37	<0.37	-	< 0.33	-	<0.37	-	<0.37 H	-	<0.37	**0.55 J[A]**	<0.37	-	<0.37
Toluene	µg/L	160	800	<0.15	0.16 J	<0.15	-	-	<0.15	<0.15	-	< 0.27	-	<0.15	-	<0.15 H	-	<0.15	32	1.2	-	<0.15
Trichlorobenzene, 1,2,3-	µg/L	n/v	n/v	<0.46	<0.46	<0.46	-	-	<0.46	<0.46	-	-	-	<0.46	-	<0.46 H	-	<0.46	<1.0	<0.46	-	<0.46
Trichloroethane, 1,1,1-	µg/L	40	200	<0.38	<0.38	<0.38	-	-	<0.38	<0.38	-	-	-	1.8	-	<0.38 H	-	<0.38	<1.0	<0.38	-	<0.38
Trichloroethene (TCE)	µg/L	0.5	5	<0.16	<0.16	<0.16	-	-	<0.16	<0.16	-	< 0.26	-	<0.16	-	<0.16 H	-	<0.16	<0.50	<0.16	-	<0.16
Trichloropropane, 1,2,3-	µg/L	12	60	<0.41	<0.41	<0.41	-	-	<0.41	<0.41	-	-	-	<0.41	-	<0.41 H	-	0.51 J	<2.0	<0.41	-	<0.41
Trimethylbenzene, 1,2,4-	µg/L	96 (Combined)	480 (Combined)	<0.36	<0.36	<0.36	-	-	<0.36	<0.36	-	< 0.84	-	<0.36	-	<0.36 H	-	7.3	16	0.99 J	-	**130[A]**
Trimethylbenzene, 1,3,5-	µg/L			<0.25	<0.25	<0.25	-	-	<0.25	<0.25	-	< 0.87	-	<0.25	-	<0.25 H	-	0.79 J	3.3	0.51 J	-	**40[A]**
Xylenes, Total	µg/L	400	2,000	<0.22	<0.22	<0.22	-	-	<0.22	<0.22	-	< 1.5	-	<0.22	-	<0.22 H	-	1.7	33	0.73 J	-	89

See notes on last page

Table 3
Groundwater Quality Compared to NR 140 Standards (2018 – 2021)
Site Investigation Area
River Point District
Manitowoc, Wisconsin

mple ID (Prior to 2021), Sample Date				Sample ID, Legacy Sample ID (Prior to 2021), Sample Date																			
				TW-62		MW-62			TW-63		TW-64			TW-65	MW-65	MW-65R		TW-66		MW-66	
				S1_TW-51		-	-	-	S1_TW-52		S1_TW-53			S1_TW-14	AECOM 1_MW-14	-	-	S1_TW-17		AECOM 1_MW-17	
				24-Aug-20	25-Aug-20	4-Mar-21	2-Apr-21	30-Aug-21	24-Aug-20	25-Aug-20	24-Aug-20	25-Aug-20	FD2	28-Nov-18	18-Mar-20	4-Mar-21	2-Apr-21	28-Nov-18	10-Dec-18	19-Mar-20	4-Mar-21
Arsenic	mg/L	0.001	0.01	-	**0.0080**[A]	**0.0012**[A]	-	-	-	**0.0017**[A]	-	0.00072 J	0.00059 J	-	0.00064 J	-	-	-	0.00087 J	0.00032 J	-
Barium	mg/L	0.4	2	-	**0.58**[A]	**-**	-	-	-	0.093	-	0.069	0.070	-	0.0992	-	-	-	0.043	-	-
Cadmium	mg/L	0.0005	0.005	-	<0.00017	-	-	-	-	<0.00017	-	0.00025 J	0.00027 J	-	-	-	-	-	<0.00017	-	-
Chromium	mg/L	0.01	0.1	-	<0.0011	-	-	-	-	<0.0011	-	<0.0011	<0.0011	-	-	-	-	-	<0.0011	-	-
Lead	mg/L	0.0015	0.015	-	**0.0053**[A]	0.00037 J	-	-	-	0.00024 J	-	0.00029 J	0.00031 J	-	-	0.00099	-	-	0.00073	-	-
Selenium	mg/L	0.01	0.05	-	<0.00098	-	-	-	-	<0.00098	-	<0.00098	<0.00098	-	0.0016	-	-	-	<0.00098	-	-
9 Aroclor Mixtures	µg/L	0.003	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Perfluorobutane Sulfonate (PFBS)	ng/L	90,000	450,000	-	-	-	-	-	-	-	-	-	-	-	-	0.61 J	-	-	-	-	1.7
Perfluorobutanoic Acid (PFBA)	ng/L	2,000	10,000	-	-	-	-	-	-	-	-	-	-	-	-	5.5	-	-	-	-	9.0
Perfluorodecane Sulfonate (8:2)	ng/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-	<1.8	-	-	-	-	<1.7
Perfluorododecanoic Acid (PFDoA)	ng/L	100	500	-	-	-	-	-	-	-	-	-	-	-	-	<1.8	-	-	-	-	<1.7
Perfluoroheptane Sulfonate (PFHpS)	ng/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-	<1.8	-	-	-	-	<1.7
Perfluoroheptanoic Acid (PFHpA)	ng/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-	2.7	-	-	-	-	2.1
Perfluorohexanesulfonic acid (PFHxS)	ng/L	4	40	-	-	-	-	-	-	-	-	-	-	-	-	0.94 J I	-	-	-	-	0.59 J
Perfluorohexanoic Acid (PFHxA)	ng/L	30,000	150,000	-	-	-	-	-	-	-	-	-	-	-	-	1.9	-	-	-	-	2.2
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	2	20	-	-	-	-	-	-	-	-	-	-	-	-	**25**[AB]	-	-	-	-	**8.2**[A]
Perfluorononanoic Acid (PFNA)	ng/L	3	30	-	-	-	-	-	-	-	-	-	-	-	-	<1.8	-	-	-	-	0.47 J
Perfluorooctane Sulfonate (6:2)	ng/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-	<4.4	-	-	-	-	<4.3
Perfluorooctane Sulfonate (PFOS)	ng/L	2	20	-	-	-	-	-	-	-	-	-	-	-	-	<1.8	-	-	-	-	**2.9**[A]
Perfluorooctanesulfonamide (PFOSA)	ng/L			-	-	-	-	-	-	-	-	-	-	-	-	<1.8	-	-	-	-	<1.7
Perfluoropentanesulfonic Acid (PFPeS)	ng/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-	<1.8	-	-	-	-	<1.7
Perfluoropentanoic Acid (PFPeA)	ng/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-	2.2	-	-	-	-	1.7
Perfluorotetradecanoic Acid (PFTeA)	ng/L	2,000	10,000	-	-	-	-	-	-	-	-	-	-	-	-	<1.8	-	-	-	-	<1.7
Perfluorotridecanoic Acid (PFTriA)	ng/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-	<1.8	-	-	-	-	<1.7
NEtFOSE+NEtFOSA+NEtFOSAA+PFOSA+PFOA+PFOS**	ng/L	2	20	-	-	-	-	-	-	-	-	-	-	-	-	**25**[AB]	-	-	-	-	**11.1**[A]
Acenaphthene	µg/L	n/v	n/v	<0.25	-	0.47 J	0.37	-	<0.24	-	<0.24	-	<0.24	<0.25	0.0089 J	<0.77	<0.24	-	<0.27 H	0.016 J	-
Acenaphthylene	µg/L	n/v	n/v	<0.21	-	<0.77	<0.21	-	<0.21	-	<0.21	-	<0.21	<0.22	0.056	<0.77	<0.21	-	<0.24 H	0.0060 J	-
Anthracene	µg/L	600	3,000	<0.27	-	<0.77	<0.26	-	0.40 J	-	<0.26	-	<0.26	<0.27	0.075	<0.77	<0.26	-	<0.30 H	< 0.010	-
Benzo(a)anthracene	µg/L	n/v	n/v	0.099 J	-	<0.15	<0.045	-	<0.045	-	0.046 J	-	<0.045	0.38	0.31	<0.15	<0.044	-	<0.050 H	0.0080 J	-
Benzo(a)pyrene	µg/L	0.02	0.2	**0.15 J**[A]	-	<0.15	<0.078	-	<0.078	-	<0.078	-	<0.078	**0.33**[AB]	**0.3**[AB]	<0.15	<0.076	-	<0.087 H	< 0.010	-
Benzo(b)fluoranthene	µg/L	0.02	0.2	**0.16**[A]	-	<0.15	<0.064	-	<0.064	-	<0.064	-	<0.064	**0.38**[AB]	**0.38**[AB]	<0.15	<0.062	-	<0.071 H	< 0.0056	-
Benzo(g,h,i)perylene	µg/L	n/v	n/v	<0.30	-	<0.77	<0.30	-	<0.30	-	<0.30	-	<0.30	<0.31	0.14	<0.77	<0.29	-	<0.33 H	< 0.0066	-
Benzo(k)fluoranthene	µg/L	n/v	n/v	<0.051	-	<0.15	<0.051	-	<0.050	-	<0.050	-	<0.050	0.22	0.19	<0.15	<0.049	-	<0.057 H	< 0.0073	-
Chrysene	µg/L	0.02	0.2	**0.055 J**[A]	-	<0.15	<0.054	-	<0.054	-	<0.054	-	<0.054	**0.34**[AB]	**0.37**[AB]	<0.15	<0.053	-	<0.060 H	< 0.013	-
Dibenzo(a,h)anthracene	µg/L	n/v	n/v	0.14 J	-	<0.23	<0.040	-	<0.040	-	<0.040	-	<0.040	<0.042	0.037 J	<0.23	<0.039	-	<0.045 H	< 0.0097	-
Fluoranthene	µg/L	80	400	<0.36	-	<0.77	<0.36	-	<0.36	-	<0.36	-	<0.36	0.54 J	0.77	<0.77	<0.35	-	<0.40 H	< 0.010	-
Fluorene	µg/L	80	400	0.35 J	-	0.48 J	0.36 J	-	<0.19	-	<0.19	-	<0.19	<0.20	0.049	<0.77	<0.19	-	<0.22 H	0.0083 J	-
Indeno(1,2,3-cd)pyrene	µg/L	n/v	n/v	<0.059	-	<0.15	<0.059	-	<0.059	-	<0.059	-	<0.059	0.15 J	0.14	<0.15	<0.058	-	<0.066 H	< 0.017	-
Methylnaphthalene, 1-	µg/L	n/v	n/v	6.4	-	19	17	-	<0.24	-	<0.24	-	<0.24	<0.25	0.011 J	1.3 J	0.24 J	-	<0.27 H	0.025 J	-
Methylnaphthalene, 2-	µg/L	n/v	n/v	7.4	-	22	17	-	<0.051	-	<0.051	-	<0.051	<0.054	0.011 J	2.1	0.42 J	-	<0.058 H	0.010 J	-
Naphthalene	µg/L	10	100	**13**[A]	-	**28**[A]	**31**[A]	**-**	<0.24	-	<0.24	-	<0.24	<0.25	< 0.018	1.8	<0.24	-	<0.27 H	0.087 J	-
Phenanthrene	µg/L	n/v	n/v	0.60 J	-	0.30 J	0.29 J	-	<0.24	-	<0.24	-	<0.24	<0.25	0.5	<0.77	<0.23	-	<0.27 H	< 0.013	-
Pyrene	µg/L	50	250	<0.34	-	<0.77	<0.34	-	<0.34	-	<0.34	-	<0.34	0.48 J	0.61	<0.77	<0.33	-	<0.38 H	0.0075 J	-
Benzene	µg/L	0.5	5	-	<0.15	**88**[AB]	**95**[AB]	**40**[AB]	-	<0.15	-	<0.15	<0.15	<0.15	-	-	-	<0.15	-	< 0.25	-
Butylbenzene, n-	µg/L	n/v	n/v	-	<0.39	9.0	9.5	<0.39	-	<0.39	-	<0.39	<0.39	<0.39	-	-	-	<0.39	-	< 0.71	-
Butylbenzene, sec- (2-Phenylbutane)	µg/L	n/v	n/v	-	1.1	6.5	5.4	1.7	-	<0.40	-	<0.40	<0.40	<0.40	-	-	-	<0.40	-	< 0.85	-
Butylbenzene, tert-	µg/L	n/v	n/v	-	<0.40	<1.0	<0.40	<0.40	-	<0.40	-	<0.40	<0.40	<0.40	-	-	-	<0.40	-	-	-
Chloroethane (Ethyl Chloride)	µg/L	80	400	-	<0.51	<1.0	<0.51	<0.51	-	<0.51	-	<0.51	<0.51	<0.51	-	-	-	<0.51	-	-	-
Dichlorodifluoromethane (Freon 12)	µg/L	200	1,000	-	<0.67	<3.0	1.8 J B	<0.67	-	<0.67	-	<0.67	<0.67	<0.67	-	-	-	<0.67	-	-	-
Dichloroethane, 1,1-	µg/L	85	850	-	<0.41	<1.0	<0.41	<0.41	-	<0.41	-	<0.41	<0.41	<0.41	-	-	-	<0.41	-	-	-
Dichloroethane, 1,2-	µg/L	0.5	5	-	<0.39	<1.0	<0.39	<0.39	-	<0.39	-	<0.39	<0.39	<0.39	-	-	-	<0.39	-	-	-
Dichloroethene, cis-1,2-	µg/L	7	70	-	<0.41	<1.0	<0.41	<0.41	-	<0.41	-	<0.41	<0.41	<0.41	-	-	-	<0.41	-	-	-
Dichloropropane, 1,3-	µg/L	n/v	n/v	-	<0.36	<1.0	<0.36	<0.36	-	<0.36	-	<0.36	<0.36	<0.36	-	-	-	<0.36	-	-	-
Ethylbenzene	µg/L	140	700	-	0.81	12	26	8.2	-	<0.18	-	<0.18	<0.18	<0.18	-	-	-	<0.18	-	< 0.32	-
Isopropylbenzene	µg/L	n/v	n/v	-	1.0	28	24	8.8	-	<0.39	-	<0.39	<0.39	<0.39	-	-	-	<0.39	-	< 1.7	-
Isopropyltoluene, p- (Cymene)	µg/L	n/v	n/v	-	2.1	12	11	3	-	<0.36	-	<0.36	<0.36	<0.36	-	-	-	<0.36	-	< 0.80	-
Methylene Chloride (Dichloromethane)	µg/L	0.5	5	-	<1.6	<5.0	<1.6	<1.6	-	<1.6	-	<1.6	<1.6	**4.5 J B**[A]	-	-	-	**4.3 J B**[A]	-	-	-
Naphthalene	µg/L	10	100	-	1.6	**36**[A]	**49**[A]	**23**[A]	-	<0.34	-	<0.34	<0.34	**-**	-	-	-	0.36 J B	-	-	-
Propylbenzene, n-	µg/L	n/v	n/v	-	1.5	28	25	7.4	-	<0.41	-	<0.41	<0.41	<0.41	-	-	-	<0.41	-	< 0.81	-
Tetrachloroethene (PCE)	µg/L	0.5	5	-	**1.4**[A]	<1.0	<0.37	<0.37	-	<0.37	-	<0.37	<0.37	<0.37	-	-	-	<0.37	-	< 0.33	-
Toluene	µg/L	160	800	-	<0.15	36	34	10	-	<0.15	-	<0.15	<0.15	<0.15	-	-	-	<0.15	-	< 0.27	-
Trichlorobenzene, 1,2,3-	µg/L	n/v	n/v	-	<0.46	<1.0	<0.46	<0.46	-	<0.46	-	<0.46	<0.46	<0.46	-	-	-	0.90 J	-	-	-
Trichloroethane, 1,1,1-	µg/L	40	200	-	1.0	<1.0	<0.38	<0.38	-	<0.38	-	<0.38	<0.38	<0.38	-	-	-	<0.38	-	-	-
Trichloroethene (TCE)	µg/L	0.5	5	-	<0.16	<0.50	<0.16	<0.16	-	<0.16	-	<0.16	<0.16	<0.16	-	-	-	<0.16	-	< 0.26	-
Trichloropropane, 1,2,3-	µg/L	12	60	-	<0.41	<2.0	<0.41	<0.41	-	<0.41	-	<0.41	<0.41	<0.41	-	-	-	0.97 J	-	-	-
Trimethylbenzene, 1,2,4-	µg/L			-	10	**240**[A]	**210**[A]	**77**[A]	-	<0.36	-	<0.36	<0.36	<0.36	-	-	-	2.5	-	< 0.84	-
Trimethylbenzene, 1,3,5-	µg/L			-	3.8	**73**[A]	**72**[A]	**31**[A]	-	<0.25	-	<0.25	<0.25	<0.25	-	-	-	<0.25	-	< 0.87	-
Xylenes, Total	µg/L	400	2,000	-	10	230	**510**[A]	100	-	<0.22	-	<0.22	<0.22	<0.22	-	-	-	<0.22	-	< 1.5	-

See notes on last page

Table 3
Groundwater Quality Compared to NR 140 Standards (2018 – 2021)
Site Investigation Area
River Point District
Manitowoc, Wisconsin

Detected Constituents	Units	Preventive Action Limit (A)	Enforcement Standard (B)	Sample ID, Legacy Sample ID (Prior to 2021), Sample Date																		
				TW-69		MW-69			TW-72	TW-73	MW-73		TW-74	MW-74		TW-75	MW-75		TW-82	MW-82		MW-84
				S1_TW-35		AECOM 1_MW-35			S1_TW-41	S1_TW-39	AECOM 1_MW-39		S1_TW-43	AECOM 1_MW-43		S2_TW-23	S2_MW-23		S2_TW-30	S2_MW-30		-
				28-Nov-18	10-Dec-18	18-Mar-20	18-Mar-20 (Dup)	4-Mar-21	28-Nov-18	28-Nov-18	18-Mar-20	4-Mar-21	28-Nov-18	18-Mar-20	4-Mar-21	28-Nov-18	4-Feb-19	3-Mar-21	28-Nov-18	4-Feb-19	4-Mar-21	3-Mar-21
Metals																						
Arsenic	mg/L	0.001	0.01	-	0.00089 J	**0.0014 J[A]**	**0.0016[A]**	-	-	-	< 0.0014	-	**0.0038[A]**	0.00080 J	0.00092 J	0.0010	<0.0037	-	**0.011[AB]**	**0.0042 J[A]**	**0.0050[A]**	-
Barium	mg/L	0.4	2	-	0.21	0.220	0.208	-	-	-	**0.729[A]**	-	0.19	-	-	0.054	-	-	0.12	-	-	-
Cadmium	mg/L	0.0005	0.005	-	<0.00017	-	-	-	-	-	-	-	<0.00017	-	-	<0.00017	-	-	<0.00017	-	-	-
Chromium	mg/L	0.01	0.1	-	0.0012 J	-	-	-	-	-	-	-	0.0017 J	-	-	<0.0011	-	-	<0.0011	-	-	-
Lead	mg/L	0.0015	0.015	-	0.00076	-	-	-	-	-	-	<0.00050	**0.0088[A]**	-	0.00024 J	<0.00019	-	-	0.00029 J	-	-	-
Selenium	mg/L	0.01	0.05	-	<0.00098	< 0.00063	< 0.00032	-	-	-	< 0.0016	-	<0.00098	-	-	<0.00098	-	-	<0.00098	-	-	-
Polychlorinated Biphenyls																						
9 Aroclor Mixtures	µg/L	0.003	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorinated Alkyl Substances																						
Perfluorobutane Sulfonate (PFBS)	ng/L	90,000	450,000	-	-	-	-	1.6 J I	-	-	-	<1.7	0.4 J	-	<1.7	2.1	1.7 J	3.3	1.9 J	-	4.2	1.2 J
Perfluorobutanoic Acid (PFBA)	ng/L	2,000	10,000	-	-	-	-	8.1	-	-	-	18	15	-	3.8 J	9.9	6.7	8.4	9.9 J	-	23	3.9 J
Perfluorodecane Sulfonate (8:2)	ng/L	n/v	n/v	-	-	-	-	<1.7	-	-	-	<1.7	<2	-	<1.7	<2.2	<1.9	<1.7	<4.8	-	<1.8	<1.8
Perfluorododecanoic Acid (PFDoA)	ng/L	100	500	-	-	-	-	<1.7	-	-	-	<1.7	<0.5	-	<1.7	<0.54	<0.51	<1.7	<1.2	-	<1.8	<1.8
Perfluoroheptane Sulfonate (PFHpS)	ng/L	n/v	n/v	-	-	-	-	<1.7	-	-	-	<1.7	<0.4	-	<1.7	<0.43	<0.18	<1.7	<0.95	-	<1.8	<1.8
Perfluoroheptanoic Acid (PFHpA)	ng/L	n/v	n/v	-	-	-	-	3.0	-	-	-	1.7	1.4	-	<1.7	4.6	4.5	3.5	4	-	4.4	2.9
Perfluorohexanesulfonic acid (PFHxS)	ng/L	4	40	-	-	-	-	0.62 J	-	-	-	<1.7	<0.4	-	<1.7	1.9 J	2.2	1.9	<0.95	-	1.5 J	0.94 J
Perfluorohexanoic Acid (PFHxA)	ng/L	30,000	150,000	-	-	-	-	2.9	-	-	-	3.8	3.6	-	<1.7	3.4	2.6	2.4	4.7 J	-	5.0	1.3 J
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	2	20	-	-	-	-	**40[AB]**	-	-	-	**6.2[A]**	**8.7[A]**	-	<1.7	**73[AB]**	**55[AB]**	**74[AB]**	**32[AB]**	-	**36[AB]**	**63[AB]**
Perfluorononanoic Acid (PFNA)	ng/L	3	30	-	-	-	-	<1.7	-	-	-	<1.7	<0.4	-	<1.7	<0.43	0.44 J	<1.7	<0.95	-	0.55 J	<1.8
Perfluorooctane Sulfonate (6:2)	ng/L	n/v	n/v	-	-	-	-	<4.4	-	-	-	<4.4	<1	-	3.0 J	<1.1	<1.9	<4.2	<2.4	-	<4.4	<4.4
Perfluorooctane Sulfonate (PFOS)	ng/L	2	20	-	-	-	-	<1.7	-	-	-	<1.7	0.52 J	-	<1.7	**4.3[A]**	**5.2[A]**	**3.5[A]**	**7.2[A]**	-	**9.9[A]**	<1.8
Perfluorooctanesulfonamide (PFOSA)	ng/L	2	20	-	-	-	-	1.0 J	-	-	-	<1.7	<0.5	-	<1.7	<0.54	<0.33	<1.7	<1.2	-	<1.8	<1.8
Perfluoropentanesulfonic Acid (PFPeS)	ng/L	n/v	n/v	-	-	-	-	<1.7	-	-	-	<1.7	<0.4	-	<1.7	<0.43	<0.28	<1.7	<0.95	-	<1.8	0.31 J
Perfluoropentanoic Acid (PFPeA)	ng/L	n/v	n/v	-	-	-	-	2.0	-	-	-	4.3	4 J	-	<1.7	3.9 J	<0.46	<1.7	<4.8	-	5.8	1.1 J
Perfluorotetradecanoic Acid (PFTeA)	ng/L	2,000	10,000	-	-	-	-	<1.7	-	-	-	<1.7	<0.3	-	<1.7	<0.33	<0.27	<1.7	<0.71	-	<1.8	<1.8
Perfluorotridecanoic Acid (PFTriA)	ng/L	n/v	n/v	-	-	-	-	<1.7	-	-	-	<1.7	<0.4	-	<1.7	<0.43	<1.2	<1.7	<0.95	-	<1.8	<1.8
NEtFOSE+NEtFOSA+NEtFOSAA+PFOSA+PFOA+PFOS**	ng/L	2	20	-	-	-	-	**41.0[AB]**	-	-	-	**6.2[A]**	**9.22[A]**	-	<1.7	**77.3[AB]**	**60.2[AB]**	**77.5[AB]**	**39.2[AB]**	-	**45.9[AB]**	**63[AB]**
Polycyclic Aromatic Hydrocarbons																						
Acenaphthene	µg/L	n/v	n/v	<0.25	-	< 0.0058	< 0.0065	-	<0.25	10	9.2	15	<0.25	-	-	<0.26	-	-	1.1	-	-	-
Acenaphthylene	µg/L	n/v	n/v	<0.22	-	0.0071 J	0.0075 J	-	<0.22	<0.22	0.012 J	<0.79	<0.21	-	-	<0.22	-	-	<0.22	-	-	-
Anthracene	µg/L	600	3,000	<0.27	-	0.059	0.049 J	-	<0.27	1.4	0.033 J	<0.79	<0.27	-	-	<0.28	-	-	<0.28	-	-	-
Benzo(a)anthracene	µg/L	n/v	n/v	<0.047	-	0.0093 J	< 0.0081	-	<0.047	0.39	0.0084 J	<0.16	<0.045	-	-	0.063 J	-	-	<0.047	-	-	-
Benzo(a)pyrene	µg/L	0.02	0.2	<0.081	-	< 0.010	< 0.011	-	<0.081	<0.082	< 0.011	<0.16	<0.079	-	-	<0.083	-	-	<0.082	-	-	-
Benzo(b)fluoranthene	µg/L	0.02	0.2	<0.066	-	0.011 J	< 0.0062	-	<0.066	**0.20[A]**	< 0.0057	<0.16	<0.064	-	-	<0.068	-	-	<0.067	-	-	-
Benzo(g,h,i)perylene	µg/L	n/v	n/v	<0.31	-	0.0088 J	< 0.0073	-	<0.31	<0.31	< 0.0068	<0.79	<0.30	-	-	<0.32	-	-	<0.31	-	-	-
Benzo(k)fluoranthene	µg/L	n/v	n/v	<0.053	-	< 0.0073	< 0.0081	-	<0.053	0.062 J	< 0.0076	<0.16	<0.051	-	-	<0.054	-	-	<0.053	-	-	-
Chrysene	µg/L	0.02	0.2	<0.056	-	< 0.013	< 0.014	-	<0.056	**0.42[AB]**	< 0.013	<0.16	<0.054	-	-	<0.057	-	-	<0.057	-	-	-
Dibenzo(a,h)anthracene	µg/L	n/v	n/v	<0.042	-	< 0.0096	< 0.011	-	<0.042	<0.042	< 0.010	<0.24	<0.041	-	-	<0.043	-	-	<0.042	-	-	-
Fluoranthene	µg/L	80	400	<0.37	-	< 0.010	< 0.011	-	<0.37	2.9	0.058	<0.79	<0.36	-	-	<0.38	-	-	<0.38	-	-	-
Fluorene	µg/L	80	400	<0.20	-	< 0.0077	< 0.0086	-	<0.20	5.9	0.53	0.65 J	<0.19	-	-	<0.21	-	-	0.66 J	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	n/v	n/v	<0.062	-	< 0.017	< 0.019	-	<0.062	<0.062	< 0.018	<0.16	<0.060	-	-	<0.063	-	-	<0.062	-	-	-
Methylnaphthalene, 1-	µg/L	n/v	n/v	<0.25	-	< 0.0057	< 0.0063	-	<0.25	3.2	0.7	0.99 J	<0.24	-	-	<0.25	-	-	0.79 J	-	-	-
Methylnaphthalene, 2-	µg/L	n/v	n/v	<0.054	-	< 0.0047	< 0.0053	-	<0.054	4.5	0.9	0.62 J	<0.052	-	-	<0.055	-	-	0.71 J	-	-	-
Naphthalene	µg/L	10	100	<0.25	-	< 0.018	< 0.020	-	<0.25	6.2	0.17	0.85	<0.25	-	-	<0.26	-	-	2.4	-	-	-
Phenanthrene	µg/L	n/v	n/v	<0.25	-	< 0.013	< 0.015	-	<0.25	11	0.42	0.49 J	<0.24	-	-	<0.25	-	-	0.83	-	-	-
Pyrene	µg/L	50	250	<0.35	-	0.0076 J	< 0.0082	-	<0.35	1.8	0.035 J	<0.79	<0.34	-	-	<0.36	-	-	<0.36	-	-	-
Volatile Organic Compounds																						
Benzene	µg/L	0.5	5	<0.15	-	< 0.25	< 0.25	-	<0.15	<0.15	-	-	<0.15	-	-	<0.15	-	-	<0.15	-	-	-
Butylbenzene, n-	µg/L	n/v	n/v	<0.39	-	< 0.71	< 0.71	-	<0.39	<0.39	-	-	<0.39	-	-	<0.39	-	-	<0.39	-	-	-
Butylbenzene, sec- (2-Phenylbutane)	µg/L	n/v	n/v	<0.40	-	< 0.85	< 0.85	-	<0.40	<0.40	-	-	<0.40	-	-	<0.40	-	-	<0.40	-	-	-
Butylbenzene, tert-	µg/L	n/v	n/v	<0.40	-	-	-	-	<0.40	<0.40	-	-	<0.40	-	-	<0.40	-	-	<0.40	-	-	-
Chloroethane (Ethyl Chloride)	µg/L	80	400	<0.51	-	-	-	-	<0.51	<0.51	-	-	<0.51	-	-	<0.51	-	-	<0.51	-	-	-
Dichlorodifluoromethane (Freon 12)	µg/L	200	1,000	<0.67	-	-	-	-	<0.67	<0.67	-	-	<0.67	-	-	<0.67	-	-	<0.67	-	-	-
Dichloroethane, 1,1-	µg/L	85	850	<0.41	-	-	-	-	<0.41	<0.41	-	-	<0.41	-	-	<0.41	-	-	<0.41	-	-	-
Dichloroethane, 1,2-	µg/L	0.5	5	<0.39	-	-	-	-	<0.39	<0.39	-	-	<0.39	-	-	<0.39	-	-	<0.39	-	-	-
Dichloroethene, cis-1,2-	µg/L	7	70	<0.41	-	-	-	-	<0.41	<0.41	-	-	<0.41	-	-	<0.41	-	-	<0.41	-	-	-
Dichloropropane, 1,3-	µg/L	n/v	n/v	<0.36	-	-	-	-	<0.36	<0.36	-	-	<0.36	-	-	<0.36	-	-	<0.36	-	-	-
Ethylbenzene	µg/L	140	700	<0.18	-	< 0.32	< 0.32	-	<0.18	0.23 J	-	-	<0.18	-	-	<0.18	-	-	<0.18	-	-	-
Isopropylbenzene	µg/L	n/v	n/v	<0.39	-	< 1.7	< 1.7	-	<0.39	<0.39	-	-	<0.39	-	-	<0.39	-	-	<0.39	-	-	-
Isopropyltoluene, p- (Cymene)	µg/L	n/v	n/v	<0.36	-	34.5	31.2	-	<0.36	<0.36	-	-	<0.36	-	-	<0.36	-	-	<0.36	-	-	-
Methylene Chloride (Dichloromethane)	µg/L	0.5	5	<1.6	-	-	-	-	<1.6	<1.6	-	-	<1.6	-	-	<1.6	-	-	<1.6	-	-	-
Naphthalene	µg/L	10	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Propylbenzene, n-	µg/L	n/v	n/v	<0.41	-	< 0.81	< 0.81	-	<0.41	<0.41	-	-	<0.41	-	-	<0.41	-	-	<0.41	-	-	-
Tetrachloroethene (PCE)	µg/L	0.5	5	<0.37	-	< 0.33	< 0.33	-	<0.37	<0.37	-	-	<0.37	-	-	<0.37	-	-	<0.37	-	-	-
Toluene	µg/L	160	800	<0.15	-	0.52 J	0.48 J	-	<0.15	<0.15	-	-	<0.15	-	-	0.16 J	-	-	0.17 J	-	-	-
Trichlorobenzene, 1,2,3-	µg/L	n/v	n/v	<0.46	-	-	-	-	<0.46	<0.46	-	-	<0.46	-	-	<0.46	-	-	<0.46	-	-	-
Trichloroethane, 1,1,1-	µg/L	40	200	<0.38	-	-	-	-	<0.38	<0.38	-	-	<0.38	-	-	<0.38	-	-	<0.38	-	-	-
Trichloroethene (TCE)	µg/L	0.5	5	<0.16	-	< 0.26	< 0.26	-	<0.16	<0.16	-	-	<0.16	-	-	<0.16	-	-	<0.16	-	-	-
Trichloropropane, 1,2,3-	µg/L	12	60	<0.41	-	-	-	-	<0.41	<0.41	-	-	<0.41	-	-	<0.41	-	-	<0.41	-	-	-
Trimethylbenzene, 1,2,4-	µg/L	96 (Combined)	480 (Combined)	<0.36	-	< 0.84	< 0.84	-	<0.36	0.61 J	-	-	<0.36	-	-	<0.36	-	-	<0.36	-	-	-
Trimethylbenzene, 1,3,5-	µg/L			<0.25	-	< 0.87	< 0.87	-	<0.25	<0.25	-	-	<0.25	-	-	<0.25	-	-	<0.25	-	-	-
Xylenes, Total	µg/L	400	2,000	<0.22	-	< 1.5	< 1.5	-	<0.22	0.57 J	-	-	<0.22	-	-	<0.22	-	-	<0.22	-	-	-

See notes on last page

Table 3
Groundwater Quality Compared to NR 140 Standards (2018 – 2021)
Site Investigation Area
River Point District
Manitowoc, Wisconsin

Detected Constituents	Units	Preventive Action Limit (A)	Enforcement Standard (B)	Sample ID, Legacy Sample ID (Prior to 2021), Sample Date																
				MW-89		MW-91		MW-92			MW-97		MW-98	MW-100	MW-101		MW-117	MW-121		MW-122	
				-		-		-			-		-	-	-	-	-	-	-	-	-
				3-Mar-21	2-Apr-21	3-Mar-21	2-Apr-21	3-Mar-21	3-Mar-21 (Dup)	2-Apr-21	3-Mar-21	2-Apr-21	3-Mar-21	4-Mar-21	4-Mar-21	2-Apr-21	4-Mar-21	4-Mar-21	2-Apr-21	3-Mar-21	2-Apr-21
Metals																					
Arsenic	mg/L	0.001	0.01	0.00086 J	-	**0.0017^{A}**	-	**0.013^{AB}**	**0.013^{AB}**	**0.012^{AB}**	0.00059 J	-	-	-	-	-	**0.0016^{A}**	-	-	0.00056 J	-
Barium	mg/L	0.4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/L	0.0005	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/L	0.01	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/L	0.0015	0.015	**0.0019^{A}**	0.00038 J	<0.00050	-	0.00029 J	0.00031 J	-	0.00027 J	-	-	-	-	-	0.00021 J	-	-	0.00026 J	-
Selenium	mg/L	0.01	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polychlorinated Biphenyls																					
9 Aroclor Mixtures	µg/L	0.003	n/v	-	-	ND	-	ND	ND	-	-	-	-	-	-	-	-	-	-	ND	-
Fluorinated Alkyl Substances																					
Perfluorobutane Sulfonate (PFBS)	ng/L	90,000	450,000	<1.8	-	-	-	<1.7	<1.7	-	-	9.2	-	-	-	-	2.3	-	0.61 J	-	<0.17
Perfluorobutanoic Acid (PFBA)	ng/L	2,000	10,000	<4.5	-	-	-	8.6	10	-	-	12	-	-	-	-	5.8	-	<2.1	-	<2.0
Perfluorodecane Sulfonate (8:2)	ng/L	n/v	n/v	0.48 J	-	-	-	<1.7	<1.7	-	-	<0.38	-	-	-	-	<1.8	-	<0.41	-	<0.39
Perfluorododecanoic Acid (PFDoA)	ng/L	100	500	<1.8	-	-	-	<1.7	<1.7	-	-	<0.78	-	-	-	-	<1.8	-	<0.83	-	<0.79
Perfluoroheptane Sulfonate (PFHpS)	ng/L	n/v	n/v	<1.8	-	-	-	0.35 J	<1.7	-	-	<0.16	-	-	-	-	<1.8	-	<0.17	-	<0.16
Perfluoroheptanoic Acid (PFHpA)	ng/L	n/v	n/v	6.0	-	-	-	3.7	3.2	-	-	5.2	-	-	-	-	2.5	-	0.35 J	-	1.7
Perfluorohexanesulfonic acid (PFHxS)	ng/L	4	40	**5.1^{A}**	-	-	-	1.2 J	1.7	-	-	1.7	-	-	-	-	0.65 J	-	<0.50	-	1.7
Perfluorohexanoic Acid (PFHxA)	ng/L	30,000	150,000	4.8	-	-	-	6.5	5.5	-	-	6.2	-	-	-	-	2.2	-	<0.51	-	1.3 J
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	2	20	**98^{AB}**	-	-	-	**16^{A}**	**16^{A}**	-	-	**43^{AB}**	-	-	-	-	**21^{AB}**	-	**2.7^{A}**	-	**14^{A}**
Perfluorononanoic Acid (PFNA)	ng/L	3	30	<1.8	-	-	-	1.8	1.5 J	-	-	1.7	-	-	-	-	1.3 J	-	<0.24	-	2.0
Perfluorooctane Sulfonate (6:2)	ng/L	n/v	n/v	<4.5	-	-	-	<4.4	<4.3	-	-	<2.1	-	-	-	-	<4.5	-	<2.2	-	<2.1
Perfluorooctane Sulfonate (PFOS)	ng/L	2	20	<1.8	-	-	-	**7.8^{A}**	**7.0^{A}**	-	-	**16^{A}**	-	-	-	-	**5.6^{A}**	-	0.83 J	-	**24^{AB}**
Perfluorooctanesulfonamide (PFOSA)	ng/L	2	20	<1.8	-	-	-	<1.7	<1.7	-	-	<0.82	-	-	-	-	<1.8	-	<0.87	-	<0.83
Perfluoropentanesulfonic Acid (PFPeS)	ng/L	n/v	n/v	<1.8	-	-	-	0.54 J	0.50 J	-	-	<0.25	-	-	-	-	<1.8	-	<0.27	-	<0.25
Perfluoropentanoic Acid (PFPeA)	ng/L	n/v	n/v	8.1	-	-	-	5.9	6.8	-	-	8.5	-	-	-	-	2.1	-	<0.43	-	7.9
Perfluorotetradecanoic Acid (PFTeA)	ng/L	2,000	10,000	<1.8	-	-	-	<1.7	<1.7	-	-	<0.61	-	-	-	-	<1.8	-	<0.65	-	<0.62
Perfluorotridecanoic Acid (PFTriA)	ng/L	n/v	n/v	<1.8	-	-	-	<1.7	<1.7	-	-	<1.1	-	-	-	-	<1.8	-	<1.2	-	<1.1
NEtFOSE+NEtFOSA+NEtFOSAA+PFOSA+PFOA+PFOS**	ng/L	2	20	**98^{AB}**	-	-	-	**23.8^{AB}**	**23^{AB}**	-	-	**59^{AB}**	-	-	-	-	**26.6^{AB}**	-	**3.53^{A}**	-	**38^{AB}**
Polycyclic Aromatic Hydrocarbons																					
Acenaphthene	µg/L	n/v	n/v	<0.80	<0.23	<0.78	-	<0.78	<0.77	-	<0.78	-	<0.78	<0.78	<0.79	-	<0.81	<0.79	<0.24	<0.78	<0.23
Acenaphthylene	µg/L	n/v	n/v	<0.80	<0.20	<0.78	-	<0.78	<0.77	-	<0.78	-	<0.78	<0.78	<0.79	-	<0.81	<0.79	<0.21	<0.78	<0.20
Anthracene	µg/L	600	3,000	<0.80	<0.25	<0.78	-	<0.78	<0.77	-	<0.78	-	<0.78	<0.78	<0.79	-	<0.81	<0.79	<0.26	<0.78	<0.25
Benzo(a)anthracene	µg/L	n/v	n/v	0.14 J	<0.043	<0.16	-	<0.16	<0.15	-	<0.16	-	<0.16	<0.16	<0.16	-	<0.16	0.25	<0.045	0.12 J	<0.043
Benzo(a)pyrene	µg/L	0.02	0.2	**0.49^{AB}**	**0.091 J**	<0.16	-	<0.16	<0.15	-	<0.16	-	<0.16	<0.16	<0.16	-	<0.16	**0.35^{AB}**	<0.078	**0.17^{A}**	<0.075
Benzo(b)fluoranthene	µg/L	0.02	0.2	**0.49^{AB}**	<0.061	<0.16	-	<0.16	<0.15	-	<0.16	-	<0.16	<0.16	<0.16	-	<0.16	**0.26^{AB}**	<0.063	**0.088 J^{A}**	<0.061
Benzo(g,h,i)perylene	µg/L	n/v	n/v	0.81	<0.28	<0.78	-	<0.78	<0.77	-	<0.78	-	<0.78	<0.78	<0.79	-	<0.81	<0.79	<0.29	<0.78	<0.28
Benzo(k)fluoranthene	µg/L	n/v	n/v	0.21	<0.048	<0.16	-	<0.16	<0.15	-	<0.16	-	<0.16	<0.16	<0.16	-	<0.16	0.097 J	<0.050	<0.16	<0.049
Chrysene	µg/L	0.02	0.2	**0.15 J^{A}**	<0.051	<0.16	-	<0.16	<0.15	-	<0.16	-	<0.16	<0.16	<0.16	-	<0.16	**0.21^{AB}**	<0.054	**0.093 J^{A}**	<0.052
Dibenzo(a,h)anthracene	µg/L	n/v	n/v	0.078 J	<0.038	<0.23	-	<0.23	<0.23	-	<0.24	-	<0.23	<0.23	<0.24	-	<0.24	0.071 J	<0.040	0.041 J	<0.039
Fluoranthene	µg/L	80	400	<0.80	<0.34	<0.78	-	<0.78	<0.77	-	<0.78	-	<0.78	<0.78	<0.79	-	<0.81	0.48 J	<0.36	<0.78	<0.34
Fluorene	µg/L	80	400	<0.80	<0.18	<0.78	-	<0.78	<0.77	-	<0.78	-	0.22 J	<0.78	<0.79	-	<0.81	<0.79	<0.19	<0.78	0.34 J
Indeno(1,2,3-cd)pyrene	µg/L	n/v	n/v	0.50	0.10 J	<0.16	-	<0.16	<0.15	-	<0.16	-	<0.16	<0.16	<0.16	-	<0.16	0.19	<0.059	0.088 J	<0.057
Methylnaphthalene, 1-	µg/L	n/v	n/v	1.7	<0.23	1.0 J	-	0.30 J	0.30 J	-	3.0	-	6.8	2.0	4.8	-	0.38 J	1.3 J	<0.24	0.84 J	<0.23
Methylnaphthalene, 2-	µg/L	n/v	n/v	3.0	0.36 J	1.9	-	0.53 J	0.51 J	-	5.3	-	6.1	3.8	8.3	-	0.48 J	2.1	<0.051	1.5 J	0.25 J
Naphthalene	µg/L	10	100	1.9	<0.23	1.3	-	0.40 J	0.40 J	-	4.6	-	0.42 J	2.8	6.9	-	0.64 J	1.9	<0.24	1.2	0.47 J
Phenanthrene	µg/L	n/v	n/v	<0.80	<0.23	<0.78	-	<0.78	<0.77	-	<0.78	-	0.34 J	<0.78	<0.79	-	<0.81	0.37 J	<0.24	<0.78	0.52 J
Pyrene	µg/L	50	250	<0.80	<0.32	<0.78	-	<0.78	<0.77	-	<0.78	-	<0.78	<0.78	<0.79	-	<0.81	0.41 J	<0.34	<0.78	<0.32
Volatile Organic Compounds																					
Benzene	µg/L	0.5	5	<0.50	<0.15	<0.50	<0.15	<0.50	<0.50	-	<0.50	-	<0.50	-	**0.54^{A}**	<0.15	<0.50	-	-	<0.50	<0.15
Butylbenzene, n-	µg/L	n/v	n/v	3.4	<0.39	<1.0	<0.39	<1.0	<1.0	-	2.6	-	1.0	-	6.8	<0.39	<1.0	-	-	1.0	<0.39
Butylbenzene, sec- (2-Phenylbutane)	µg/L	n/v	n/v	1.5	<0.40	<1.0	<0.40	<1.0	<1.0	-	1.0	-	1.1	-	6.0	3.7	<1.0	-	-	0.45 J	<0.40
Butylbenzene, tert-	µg/L	n/v	n/v	<1.0	<0.40	<1.0	<0.40	<1.0	<1.0	-	<1.0	-	<1.0	-	<1.0	<0.40	<1.0	-	-	<1.0	<0.40
Chloroethane (Ethyl Chloride)	µg/L	80	400	<1.0	<0.51	<1.0	<0.51	<1.0	<1.0	-	<1.0	-	<1.0	-	<1.0	<0.51	<1.0	-	-	<1.0	<0.51
Dichlorodifluoromethane (Freon 12)	µg/L	200	1,000	<3.0	1.8 J B	<3.0	1.9 J B	<3.0	<3.0	-	<3.0	-	<3.0	-	<3.0	1.8 J B	<3.0	-	-	<3.0	1.9 J B
Dichloroethane, 1,1-	µg/L	85	850	<1.0	<0.41	<1.0	<0.41	<1.0	<1.0	-	<1.0	-	<1.0	-	<1.0	<0.41	<1.0	-	-	<1.0	<0.41
Dichloroethane, 1,2-	µg/L	0.5	5	<1.0	<0.39	<1.0	<0.39	<1.0	<1.0	-	<1.0	-	<1.0	-	<1.0	<0.39	<1.0	-	-	<1.0	<0.39
Dichloroethene, cis-1,2-	µg/L	7	70	<1.0	<0.41	<1.0	<0.41	<1.0	<1.0	-	<1.0	-	<1.0	-	<1.0	<0.41	<1.0	-	-	<1.0	<0.41
Dichloropropane, 1,3-	µg/L	n/v	n/v	<1.0	<0.36	<1.0	<0.36	<1.0	<1.0	-	<1.0	-	<1.0	-	<1.0	<0.36	<1.0	-	-	<1.0	<0.36
Ethylbenzene	µg/L	140	700	3.8	<0.18	<0.50	<0.18	0.53	0.42 J	-	0.44 J	-	<0.50	-	10	<0.18	<0.50	-	-	1.8	<0.18
Isopropylbenzene	µg/L	n/v	n/v	1.3	<0.39	<1.0	<0.39	<1.0	<1.0	-	0.41 J	-	0.70 J	-	14	8.9	<1.0	-	-	0.42 J	<0.39
Isopropyltoluene, p- (Cymene)	µg/L	n/v	n/v	9.0	1.4	0.38 J	<0.36	<1.0	<1.0	-	1.5	-	<1.0	-	4.4	<0.36	0.40 J	-	-	0.63 J	<0.36
Methylene Chloride (Dichloromethane)	µg/L	0.5	5	<5.0	<1.6	<5.0	<1.6	<5.0	<5.0	-	<5.0	-	<5.0	-	<5.0	<1.6	<5.0	-	-	<5.0	<1.6
Naphthalene	µg/L	10	100	4.3	<0.34	0.47 J	<0.34	0.48 J	0.41 J	-	2.7	-	<1.0	-	8.6	<0.34	0.51 J	-	-	1.5	0.50 J
Propylbenzene, n-	µg/L	n/v	n/v	3.8	<0.41	<1.0	<0.41	0.50 J	0.44 J	-	1.5	-	0.66 J	-	20	11	<1.0	-	-	1.3	<0.41
Tetrachloroethene (PCE)	µg/L	0.5	5	**0.54 J^{A}**	<0.37	**0.60 J^{A}**	<0.37	<1.0	<1.0	-	<1.0	-	<1.0	-	<1.0	<0.37	<1.0	-	-	**1.1^{A}**	<0.37
Toluene	µg/L	160	800	9.2	0.41 J	1.8	0.29 J	1.6	1.4	-	0.94	-	0.47 J	-	34	0.62	<0.50	-	-	5.7	<0.15
Trichlorobenzene, 1,2,3-	µg/L	n/v	n/v	<1.0	<0.46	<1.0	<0.46	<1.0	<1.0	-	<1.0	-	<1.0	-	<1.0	<0.46	<1.0	-	-	<1.0	<0.46
Trichloroethane, 1,1,1-	µg/L	40	200	<1.0	<0.38	<1.0	<0.38	<1.0	<1.0	-	<1.0	-	<1.0	-	<1.0	<0.38	<1.0	-	-	<1.0	<0.38
Trichloroethene (TCE)	µg/L	0.5	5	<0.50	<0.16	<0.50	<0.16	<0.50	<0.50	-	<0.50	-	<0.50	-	<0.50	<0.16	<0.50	-	-	<0.50	<0.16
Trichloropropane, 1,2,3-	µg/L	12	60	<2.0	<0.41	<2.0	<0.41	<2.0	<2.0	-	<2.0	-	<2.0	-	<2.0	<0.41	<2.0	-	-	<2.0	<0.41
Trimethylbenzene, 1,2,4-	µg/L	96 (Combined)	480 (Combined)	17	0.93 J	1.6	<0.36	1.8	1.7	-	6.1	-	8.1	-	**140^{A}**	60	<1.0	-	-	5.8	0.39 J
Trimethylbenzene, 1,3,5-	µg/L			4.1	<0.25	0.42 J	<0.25	0.49 J	0.44 J	-	1.4	-	<1.0	-	**31^{A}**	18	<1.0	-	-	1.5	<0.25
Xylenes, Total	µg/L	400	2,000	19	0.57 J	1.8	<0.22	3.1	2.8	-	2.4	-	0.40 J	-	77	24	<1.0	-	-	9.9	<0.22

See notes on last page

Table 3
Groundwater Quality Compared to NR 140 Standards (2018 – 2021)
Site Investigation Area
River Point District
Manitowoc, Wisconsin

Detected Constituents	Units	Preventive Action Limit (A)	Enforcement Standard (B)	Sample ID, Legacy Sample ID (Prior to 2021), Sample Date					
				Trip Blanks				Equipment Blanks	
				27-Nov-18	24-Aug-20	10-Sep-20	3-Mar-21	28-Nov-18	4-Mar-21
Metals									
Arsenic	mg/L	0.001	0.01	-	-	-	-	-	-
Barium	mg/L	0.4	2	-	-	-	-	-	-
Cadmium	mg/L	0.0005	0.005	-	-	-	-	-	-
Chromium	mg/L	0.01	0.1	-	-	-	-	-	-
Lead	mg/L	0.0015	0.015	-	-	-	-	-	-
Selenium	mg/L	0.01	0.05	-	-	-	-	-	-
Polychlorinated Biphenyls									
9 Aroclor Mixtures	µg/L	0.003	n/v	-	-	-	-	-	-
Fluorinated Alkyl Substances									
Perfluorobutane Sulfonate (PFBS)	ng/L	90,000	450,000	-	-	-	-	<0.91	<0.18
Perfluorobutanoic Acid (PFBA)	ng/L	2,000	10,000	-	-	-	-	<0.91	<2.1
Perfluorodecane Sulfonate (8:2)	ng/L	n/v	n/v	-	-	-	-	<1.8	<0.41
Perfluorododecanoic Acid (PFDoA)	ng/L	100	500	-	-	-	-	<0.27	<0.49
Perfluoroheptane Sulfonate (PFHpS)	ng/L	n/v	n/v	-	-	-	-	<0.55	<0.17
Perfluoroheptanoic Acid (PFHpA)	ng/L	n/v	n/v	-	-	-	-	<0.36	<0.22
Perfluorohexanesulfonic acid (PFHxS)	ng/L	4	40	-	-	-	-	<0.55	<0.51
Perfluorohexanoic Acid (PFHxA)	ng/L	30,000	150,000	-	-	-	-	<0.36	<0.52
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	2	20	-	-	-	-	<0.36	<0.76
Perfluorononanoic Acid (PFNA)	ng/L	3	30	-	-	-	-	<0.82	<0.24
Perfluorooctane Sulfonate (6:2)	ng/L	n/v	n/v	-	-	-	-	<0.46	<2.2
Perfluorooctane Sulfonate (PFOS)	ng/L	2	20	-	-	-	-	<0.36	<0.48
Perfluorooctanesulfonamide (PFOSA)	ng/L	2	20	-	-	-	-	<0.36	<0.87
Perfluoropentanesulfonic Acid (PFPeS)	ng/L	n/v	n/v	-	-	-	-	<0.36	<0.27
Perfluoropentanoic Acid (PFPeA)	ng/L	n/v	n/v	-	-	-	-	<0.27	<0.44
Perfluorotetradecanoic Acid (PFTeA)	ng/L	2,000	10,000	-	-	-	-	<0.46	<0.65
Perfluorotridecanoic Acid (PFTriA)	ng/L	n/v	n/v	-	-	-	-	<1.8	<1.2
NEtFOSE+NEtFOSA+NEtFOSAA+PFOSA+PFOA+PFOS**	ng/L	2	20	-	-	-	-	<0.36	<0.87
Polycyclic Aromatic Hydrocarbons									
Acenaphthene	µg/L	n/v	n/v	-	-	-	-	-	-
Acenaphthylene	µg/L	n/v	n/v	-	-	-	-	-	-
Anthracene	µg/L	600	3,000	-	-	-	-	-	-
Benzo(a)anthracene	µg/L	n/v	n/v	-	-	-	-	-	-
Benzo(a)pyrene	µg/L	0.02	0.2	-	-	-	-	-	-
Benzo(b)fluoranthene	µg/L	0.02	0.2	-	-	-	-	-	-
Benzo(g,h,i)perylene	µg/L	n/v	n/v	-	-	-	-	-	-
Benzo(k)fluoranthene	µg/L	n/v	n/v	-	-	-	-	-	-
Chrysene	µg/L	0.02	0.2	-	-	-	-	-	-
Dibenzo(a,h)anthracene	µg/L	n/v	n/v	-	-	-	-	-	-
Fluoranthene	µg/L	80	400	-	-	-	-	-	-
Fluorene	µg/L	80	400	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	n/v	n/v	-	-	-	-	-	-
Methylnaphthalene, 1-	µg/L	n/v	n/v	-	-	-	-	-	-
Methylnaphthalene, 2-	µg/L	n/v	n/v	-	-	-	-	-	-
Naphthalene	µg/L	10	100	-	-	-	-	-	-
Phenanthrene	µg/L	n/v	n/v	-	-	-	-	-	-
Pyrene	µg/L	50	250	-	-	-	-	-	-
Volatile Organic Compounds									
Benzene	µg/L	0.5	5	<0.15	<0.15	<0.15	<0.15	-	-
Butylbenzene, n-	µg/L	n/v	n/v	<0.39	<0.39	<0.39	<0.39	-	-
Butylbenzene, sec- (2-Phenylbutane)	µg/L	n/v	n/v	<0.40	<0.40	<0.40	<0.40	-	-
Butylbenzene, tert-	µg/L	n/v	n/v	<0.40	<0.40	<0.40	<0.40	-	-
Chloroethane (Ethyl Chloride)	µg/L	80	400	<0.51	<0.51	<0.51	<0.51	-	-
Dichlorodifluoromethane (Freon 12)	µg/L	200	1,000	<0.67	<0.67	<0.67	<0.67	-	-
Dichloroethane, 1,1-	µg/L	85	850	<0.41	<0.41	<0.41	<0.41	-	-
Dichloroethane, 1,2-	µg/L	0.5	5	<0.39	<0.39	<0.39	<0.39	-	-
Dichloroethene, cis-1,2-	µg/L	7	70	<0.41	<0.41	<0.41	<0.41	-	-
Dichloropropane, 1,3-	µg/L	n/v	n/v	<0.36	<0.36	<0.36	<0.36	-	-
Ethylbenzene	µg/L	140	700	<0.18	<0.18	<0.18	<0.18	-	-
Isopropylbenzene	µg/L	n/v	n/v	<0.39	<0.39	<0.39	<0.39	-	-
Isopropyltoluene, p- (Cymene)	µg/L	n/v	n/v	<0.36	<0.36	<0.36	<0.36	-	-
Methylene Chloride (Dichloromethane)	µg/L	0.5	5	**3.9 J B[A]**	<1.6	<1.6	<1.6	-	-
Naphthalene	µg/L	10	100	<0.34	<0.34	<0.34	<0.34	-	-
Propylbenzene, n-	µg/L	n/v	n/v	<0.41	<0.41	<0.41	<0.41	-	-
Tetrachloroethene (PCE)	µg/L	0.5	5	<0.37	<0.37	<0.37	<0.37	-	-
Toluene	µg/L	160	800	<0.15	<0.15	<0.15	<0.15	-	-
Trichlorobenzene, 1,2,3-	µg/L	n/v	n/v	<0.46	<0.46	<0.46	<0.46	-	-
Trichloroethane, 1,1,1-	µg/L	40	200	<0.38	<0.38	<0.38	<0.38	-	-
Trichloroethene (TCE)	µg/L	0.5	5	<0.16	<0.16	<0.16	<0.16	-	-
Trichloropropane, 1,2,3-	µg/L	12	60	<0.41	<0.41	<0.41	<0.41	-	-
Trimethylbenzene, 1,2,4-	µg/L	96 (Combined)	480 (Combined)	<0.36	<0.36	<0.36	<0.36	-	-
Trimethylbenzene, 1,3,5-	µg/L			<0.25	<0.25	<0.25	<0.25	-	-
Xylenes, Total	µg/L	400	2,000	<0.22	<0.22	<0.22	<0.22	-	-

See notes on last page

ATTACHMENTS

ATTACHMENT A
Photographic Documentation

Stantec

Photographic Log

Client:	**CDA of the City of Manitowoc**	**Project:**	**Supplemental Sampling**
Site Name:	**River Point Sites 1 and 2**	**Site Location:**	**Manitowoc, Wisconsin**

Photograph ID: 1

Photo Location:
Manitowoc, WI

Direction:
Facing northwest

Survey Date:
8/30/2021

Comments:
MW-98 appears to be missing due to construction.

Photograph ID: 2

Photo Location:
Manitowoc, WI

Direction:
Facing southeast

Survey Date:
8/30/2021

Comments:
Test pit exploration for the missing MW-98.

Client:	**CDA of the City of Manitowoc**	**Project:**	**Supplemental Sampling**
Site Name:	**River Point Sites 1 and 2**	**Site Location:**	**Manitowoc, Wisconsin**

Photograph ID: 3

Photo Location:
Manitowoc, WI

Direction:
Facing west

Survey Date:
8/30/2021

Comments:
Abandonment of MW-66.

Photograph ID: 4

Photo Location:
Manitowoc, WI

Direction:

Survey Date:
8/30/2021

Comments:
MW-66 is filled with bentonite post-abandonment.

Client:	**CDA of the City of Manitowoc**	**Project:**	**Supplemental Sampling**
Site Name:	**River Point Sites 1 and 2**	**Site Location:**	**Manitowoc, Wisconsin**

Photograph ID: 5

Photo Location:
Manitowoc, WI

Direction:
Facing southwest

Survey Date:
8/30/2021

Comments:
Purging MW-62 to collect a final VOC sample prior to abandonment.

Photograph ID: 6

Photo Location:
Manitowoc, WI

Direction:
Facing west

Survey Date:
8/30/2021

Comments:
Test pit soil sampling at SB-112.

Client:	**CDA of the City of Manitowoc**	**Project:**	**Supplemental Sampling**
Site Name:	**River Point Sites 1 and 2**	**Site Location:**	**Manitowoc, Wisconsin**

Photograph ID: 7 **Photo Location:** Manitowoc, WI **Direction:** **Survey Date:** 8/30/2021 **Comments:** Test pit soil sampling at SB-112.	
Photograph ID: 8 **Photo Location:** Manitowoc, WI **Direction:** **Survey Date:** 8/30/2021 **Comments:** Test pit soil sampling at SB-133.	

Client:	**CDA of the City of Manitowoc**	**Project:**	**Supplemental Sampling**
Site Name:	**River Point Sites 1 and 2**	**Site Location:**	**Manitowoc, Wisconsin**

Photograph ID: 9

Photo Location:
Manitowoc, WI

Direction:
Facing east

Survey Date:
8/30/2021

Comments:
Test pit soil sampling at SB-134.

Photograph ID: 10

Photo Location:
Manitowoc, WI

Direction:

Survey Date:
8/30/2021

Comments:
Test pit soil sampling at SB-134.

ATTACHMENT B
Laboratory Reports

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-204536-1
Client Project/Site: River North - Manitowoc - 193708247

For:
Stantec Consulting Corp.
12075 Corporate Pkwy, Suite 200
Mequon, Wisconsin 53092

Attn: Whitney Cull

Authorized for release by:
9/7/2021 2:13:39 PM

Sandie Fredrick, Project Manager II
(920)261-1660
sandra.fredrick@eurofinset.com

Table of Contents

Case Narrative

Client: Stantec Consulting Corp.
Project/Site: River North - Manitowoc - 193708247

Job ID: 500-204536-1

Job ID: 500-204536-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-204536-1

Comments
No additional comments.

Receipt
The samples were received on 8/31/2021 10:10 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.6º C.

GC/MS VOA
Method 8260B: The laboratory control sample (LCS) for 616798 recovered outside control limits for Dibromochloromethane and 1,2-Dibromo-3-Chloropropane. This is a prepped 5035 LCS. All daily instrument LCSs were acceptable, and the data have been reported.SB-112 4-5 (500-204536-1), SB-133 1-2 (500-204536-2), SB-133 4-5 (500-204536-3), SB-134 3-4 (500-204536-4) and SB-134 5-7 (500-204536-5)

Method 8260B: The laboratory control sample (LCS) for 617195 recovered outside control limits for Bromoform. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.MW-62 (500-204536-6)

Method 8260B: The laboratory control sample (LCS) for 617178 recovered outside control limits for 1,2-Dibromo-3-Chloropropane. This analyte was biased low in the LCS and was not detected in the associated samples. The data have been reported.SB-112 4-5 (500-204536-1), SB-133 1-2 (500-204536-2) and SB-133 4-5 (500-204536-3)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Stantec Consulting Corp.
Project/Site: River North - Manitowoc - 193708247

Job ID: 500-204536-1

Client Sample ID: SB-112 4-5 — Lab Sample ID: 500-204536-1

No Detections.

Client Sample ID: SB-133 1-2 — Lab Sample ID: 500-204536-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	26	J	60	22	ug/Kg	50	☼	8260B	Total/NA
Naphthalene	42	J	60	20	ug/Kg	50	☼	8260B	Total/NA
Toluene	23		15	8.9	ug/Kg	50	☼	8260B	Total/NA
Xylenes, Total	34		30	13	ug/Kg	50	☼	8260B	Total/NA

Client Sample ID: SB-133 4-5 — Lab Sample ID: 500-204536-3

No Detections.

Client Sample ID: SB-134 3-4 — Lab Sample ID: 500-204536-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	37	J	57	19	ug/Kg	50	☼	8260B	Total/NA
Toluene	28		14	8.4	ug/Kg	50	☼	8260B	Total/NA
Xylenes, Total	50		28	13	ug/Kg	50	☼	8260B	Total/NA

Client Sample ID: SB-134 5-7 — Lab Sample ID: 500-204536-5

No Detections.

Client Sample ID: MW-62 — Lab Sample ID: 500-204536-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	77		1.0	0.36	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	31		1.0	0.25	ug/L	1		8260B	Total/NA
Benzene	40		0.50	0.15	ug/L	1		8260B	Total/NA
Ethylbenzene	8.2		0.50	0.18	ug/L	1		8260B	Total/NA
Isopropylbenzene	8.8		1.0	0.39	ug/L	1		8260B	Total/NA
Naphthalene	23		1.0	0.34	ug/L	1		8260B	Total/NA
N-Propylbenzene	7.4		1.0	0.41	ug/L	1		8260B	Total/NA
p-Isopropyltoluene	3.0		1.0	0.36	ug/L	1		8260B	Total/NA
sec-Butylbenzene	1.7		1.0	0.40	ug/L	1		8260B	Total/NA
Toluene	10		0.50	0.15	ug/L	1		8260B	Total/NA
Xylenes, Total	100		1.0	0.22	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Stantec Consulting Corp.
Project/Site: River North - Manitowoc - 193708247

Job ID: 500-204536-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
Moisture	Percent Moisture	EPA	TAL CHI
5030B	Purge and Trap	SW846	TAL CHI
5035	Closed System Purge and Trap	SW846	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: Stantec Consulting Corp.
Project/Site: River North - Manitowoc - 193708247

Job ID: 500-204536-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-204536-1	SB-112 4-5	Solid	08/30/21 11:00	08/31/21 10:10
500-204536-2	SB-133 1-2	Solid	08/30/21 11:30	08/31/21 10:10
500-204536-3	SB-133 4-5	Solid	08/30/21 11:35	08/31/21 10:10
500-204536-4	SB-134 3-4	Solid	08/30/21 11:50	08/31/21 10:10
500-204536-5	SB-134 5-7	Solid	08/30/21 11:55	08/31/21 10:10
500-204536-6	MW-62	Water	08/30/21 13:30	08/31/21 10:10

Client: Stantec Consulting Corp.
Project/Site: River North - Manitowoc - 193708247

Job ID: 500-204536-1

Client Sample ID: SB-112 4-5
Date Collected: 08/30/21 11:00
Date Received: 08/31/21 10:10

Lab Sample ID: 500-204536-1
Matrix: Solid
Percent Solids: 85.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<31		66	31	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
1,1,1-Trichloroethane	<25		66	25	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
1,1,2,2-Tetrachloroethane	<26		66	26	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
1,1,2-Trichloroethane	<23		66	23	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
1,1-Dichloroethane	<27		66	27	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
1,1-Dichloroethene	<26		66	26	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
1,1-Dichloropropene	<20		66	20	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
1,2,3-Trichlorobenzene	<30		66	30	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
1,2,3-Trichloropropane	<27		130	27	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
1,2,4-Trichlorobenzene	<23		66	23	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
1,2,4-Trimethylbenzene	<24		66	24	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
1,2-Dibromo-3-Chloropropane	<130	*-	330	130	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Ethylene Dibromide	<26		66	26	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
1,2-Dichlorobenzene	<22		66	22	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
1,2-Dichloroethane	<26		66	26	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
1,2-Dichloropropane	<28		66	28	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
1,3,5-Trimethylbenzene	<25		66	25	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
1,3-Dichlorobenzene	<26		66	26	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
1,3-Dichloropropane	<24		66	24	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
1,4-Dichlorobenzene	<24		66	24	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
2,2-Dichloropropane	<29		66	29	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
2-Chlorotoluene	<21		66	21	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
4-Chlorotoluene	<23		66	23	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Benzene	<9.6		17	9.6	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Bromobenzene	<24		66	24	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Bromochloromethane	<28		66	28	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Dichlorobromomethane	<25		66	25	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Bromoform	<32		66	32	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Bromomethane	<53		200	53	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Carbon tetrachloride	<25		66	25	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Chlorobenzene	<26		66	26	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Chloroethane	<33		66	33	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Chloroform	<24		130	24	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Chloromethane	<21		66	21	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
cis-1,2-Dichloroethene	<27		66	27	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
cis-1,3-Dichloropropene	<27		66	27	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Dibromochloromethane	<32	*-	66	32	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Dibromomethane	<18		66	18	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Dichlorodifluoromethane	<45		200	45	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Ethylbenzene	<12		17	12	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Hexachlorobutadiene	<29		66	29	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Isopropyl ether	<18		66	18	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Isopropylbenzene	<25		66	25	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Methyl tert-butyl ether	<26		66	26	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Methylene Chloride	<110		330	110	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Naphthalene	<22		66	22	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
n-Butylbenzene	<26		66	26	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
N-Propylbenzene	<27		66	27	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
p-Isopropyltoluene	<24		66	24	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50

Client: Stantec Consulting Corp.
Project/Site: River North - Manitowoc - 193708247

Job ID: 500-204536-1

Client Sample ID: SB-112 4-5
Date Collected: 08/30/21 11:00
Date Received: 08/31/21 10:10

Lab Sample ID: 500-204536-1
Matrix: Solid
Percent Solids: 85.5

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<26		66	26	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Styrene	<26		66	26	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
tert-Butylbenzene	<26		66	26	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Tetrachloroethene	<24		66	24	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Toluene	<9.7		17	9.7	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
trans-1,2-Dichloroethene	<23		66	23	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
trans-1,3-Dichloropropene	<24		66	24	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Trichloroethene	<11		33	11	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Trichlorofluoromethane	<28		66	28	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Vinyl chloride	<17		66	17	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50
Xylenes, Total	<15		33	15	ug/Kg	☼	08/30/21 11:00	09/03/21 17:01	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*82*		*75 - 126*	*08/30/21 11:00*	*09/03/21 17:01*	*50*
4-Bromofluorobenzene (Surr)	*75*		*72 - 124*	*08/30/21 11:00*	*09/03/21 17:01*	*50*
Dibromofluoromethane (Surr)	*87*		*75 - 120*	*08/30/21 11:00*	*09/03/21 17:01*	*50*
Toluene-d8 (Surr)	*92*		*75 - 120*	*08/30/21 11:00*	*09/03/21 17:01*	*50*

Client: Stantec Consulting Corp.
Project/Site: River North - Manitowoc - 193708247

Job ID: 500-204536-1

Client Sample ID: SB-133 1-2
Date Collected: 08/30/21 11:30
Date Received: 08/31/21 10:10

Lab Sample ID: 500-204536-2
Matrix: Solid
Percent Solids: 90.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<28		60	28	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
1,1,1-Trichloroethane	<23		60	23	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
1,1,2,2-Tetrachloroethane	<24		60	24	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
1,1,2-Trichloroethane	<21		60	21	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
1,1-Dichloroethane	<25		60	25	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
1,1-Dichloroethene	<24		60	24	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
1,1-Dichloropropene	<18		60	18	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
1,2,3-Trichlorobenzene	<28		60	28	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
1,2,3-Trichloropropane	<25		120	25	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
1,2,4-Trichlorobenzene	<21		60	21	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
1,2,4-Trimethylbenzene	**26**	**J**	60	22	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
1,2-Dibromo-3-Chloropropane	<120	*-	300	120	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Ethylene Dibromide	<23		60	23	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
1,2-Dichlorobenzene	<20		60	20	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
1,2-Dichloroethane	<24		60	24	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
1,2-Dichloropropane	<26		60	26	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
1,3,5-Trimethylbenzene	<23		60	23	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
1,3-Dichlorobenzene	<24		60	24	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
1,3-Dichloropropane	<22		60	22	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
1,4-Dichlorobenzene	<22		60	22	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
2,2-Dichloropropane	<27		60	27	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
2-Chlorotoluene	<19		60	19	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
4-Chlorotoluene	<21		60	21	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Benzene	<8.8		15	8.8	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Bromobenzene	<21		60	21	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Bromochloromethane	<26		60	26	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Dichlorobromomethane	<22		60	22	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Bromoform	<29		60	29	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Bromomethane	<48		180	48	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Carbon tetrachloride	<23		60	23	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Chlorobenzene	<23		60	23	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Chloroethane	<30		60	30	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Chloroform	<22		120	22	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Chloromethane	<19		60	19	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
cis-1,2-Dichloroethene	<25		60	25	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
cis-1,3-Dichloropropene	<25		60	25	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Dibromochloromethane	<29	*-	60	29	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Dibromomethane	<16		60	16	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Dichlorodifluoromethane	<41		180	41	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Ethylbenzene	<11		15	11	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Hexachlorobutadiene	<27		60	27	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Isopropyl ether	<17		60	17	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Isopropylbenzene	<23		60	23	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Methyl tert-butyl ether	<24		60	24	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Methylene Chloride	<98		300	98	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Naphthalene	**42**	**J**	60	20	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
n-Butylbenzene	<23		60	23	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
N-Propylbenzene	<25		60	25	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
p-Isopropyltoluene	<22		60	22	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50

Client: Stantec Consulting Corp.
Project/Site: River North - Manitowoc - 193708247

Job ID: 500-204536-1

Client Sample ID: SB-133 1-2
Date Collected: 08/30/21 11:30
Date Received: 08/31/21 10:10

Lab Sample ID: 500-204536-2
Matrix: Solid
Percent Solids: 90.5

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<24		60	24	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Styrene	<23		60	23	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
tert-Butylbenzene	<24		60	24	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Tetrachloroethene	<22		60	22	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Toluene	**23**		15	8.9	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
trans-1,2-Dichloroethene	<21		60	21	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
trans-1,3-Dichloropropene	<22		60	22	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Trichloroethene	<9.9		30	9.9	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Trichlorofluoromethane	<26		60	26	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Vinyl chloride	<16		60	16	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50
Xylenes, Total	**34**		30	13	ug/Kg	☼	08/30/21 11:30	09/03/21 17:29	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*82*		*75 - 126*	*08/30/21 11:30*	*09/03/21 17:29*	*50*
4-Bromofluorobenzene (Surr)	*75*		*72 - 124*	*08/30/21 11:30*	*09/03/21 17:29*	*50*
Dibromofluoromethane (Surr)	*86*		*75 - 120*	*08/30/21 11:30*	*09/03/21 17:29*	*50*
Toluene-d8 (Surr)	*92*		*75 - 120*	*08/30/21 11:30*	*09/03/21 17:29*	*50*

Client: Stantec Consulting Corp.
Project/Site: River North - Manitowoc - 193708247

Job ID: 500-204536-1

Client Sample ID: SB-133 4-5
Date Collected: 08/30/21 11:35
Date Received: 08/31/21 10:10

Lab Sample ID: 500-204536-3
Matrix: Solid
Percent Solids: 86.7

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<31		66	31	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
1,1,1-Trichloroethane	<25		66	25	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
1,1,2,2-Tetrachloroethane	<26		66	26	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
1,1,2-Trichloroethane	<23		66	23	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
1,1-Dichloroethane	<27		66	27	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
1,1-Dichloroethene	<26		66	26	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
1,1-Dichloropropene	<20		66	20	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
1,2,3-Trichlorobenzene	<30		66	30	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
1,2,3-Trichloropropane	<27		130	27	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
1,2,4-Trichlorobenzene	<23		66	23	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
1,2,4-Trimethylbenzene	<24		66	24	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
1,2-Dibromo-3-Chloropropane	<130	*-	330	130	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Ethylene Dibromide	<26		66	26	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
1,2-Dichlorobenzene	<22		66	22	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
1,2-Dichloroethane	<26		66	26	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
1,2-Dichloropropane	<28		66	28	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
1,3,5-Trimethylbenzene	<25		66	25	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
1,3-Dichlorobenzene	<26		66	26	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
1,3-Dichloropropane	<24		66	24	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
1,4-Dichlorobenzene	<24		66	24	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
2,2-Dichloropropane	<29		66	29	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
2-Chlorotoluene	<21		66	21	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
4-Chlorotoluene	<23		66	23	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Benzene	<9.7		17	9.7	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Bromobenzene	<24		66	24	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Bromochloromethane	<28		66	28	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Dichlorobromomethane	<25		66	25	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Bromoform	<32		66	32	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Bromomethane	<53		200	53	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Carbon tetrachloride	<25		66	25	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Chlorobenzene	<26		66	26	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Chloroethane	<33		66	33	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Chloroform	<25		130	25	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Chloromethane	<21		66	21	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
cis-1,2-Dichloroethene	<27		66	27	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
cis-1,3-Dichloropropene	<28		66	28	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Dibromochloromethane	<32	*-	66	32	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Dibromomethane	<18		66	18	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Dichlorodifluoromethane	<45		200	45	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Ethylbenzene	<12		17	12	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Hexachlorobutadiene	<30		66	30	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Isopropyl ether	<18		66	18	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Isopropylbenzene	<25		66	25	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Methyl tert-butyl ether	<26		66	26	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Methylene Chloride	<110		330	110	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Naphthalene	<22		66	22	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
n-Butylbenzene	<26		66	26	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
N-Propylbenzene	<27		66	27	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
p-Isopropyltoluene	<24		66	24	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50

Client: Stantec Consulting Corp.
Project/Site: River North - Manitowoc - 193708247

Job ID: 500-204536-1

Client Sample ID: SB-133 4-5
Date Collected: 08/30/21 11:35
Date Received: 08/31/21 10:10

Lab Sample ID: 500-204536-3
Matrix: Solid
Percent Solids: 86.7

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<26		66	26	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Styrene	<26		66	26	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
tert-Butylbenzene	<26		66	26	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Tetrachloroethene	<25		66	25	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Toluene	<9.7		17	9.7	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
trans-1,2-Dichloroethene	<23		66	23	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
trans-1,3-Dichloropropene	<24		66	24	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Trichloroethene	<11		33	11	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Trichlorofluoromethane	<28		66	28	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Vinyl chloride	<17		66	17	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50
Xylenes, Total	<15		33	15	ug/Kg	☼	08/30/21 11:35	09/03/21 17:55	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*82*		*75 - 126*	*08/30/21 11:35*	*09/03/21 17:55*	*50*
4-Bromofluorobenzene (Surr)	*76*		*72 - 124*	*08/30/21 11:35*	*09/03/21 17:55*	*50*
Dibromofluoromethane (Surr)	*87*		*75 - 120*	*08/30/21 11:35*	*09/03/21 17:55*	*50*
Toluene-d8 (Surr)	*93*		*75 - 120*	*08/30/21 11:35*	*09/03/21 17:55*	*50*

Client: Stantec Consulting Corp.
Project/Site: River North - Manitowoc - 193708247

Job ID: 500-204536-1

Client Sample ID: SB-134 3-4
Date Collected: 08/30/21 11:50
Date Received: 08/31/21 10:10

Lab Sample ID: 500-204536-4
Matrix: Solid
Percent Solids: 92.6

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<26		57	26	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
1,1,1-Trichloroethane	<22		57	22	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
1,1,2,2-Tetrachloroethane	<23		57	23	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
1,1,2-Trichloroethane	<20		57	20	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
1,1-Dichloroethane	<23		57	23	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
1,1-Dichloroethene	<22		57	22	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
1,1-Dichloropropene	<17		57	17	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
1,2,3-Trichlorobenzene	<26		57	26	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
1,2,3-Trichloropropane	<24		110	24	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
1,2,4-Trichlorobenzene	<19		57	19	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
1,2,4-Trimethylbenzene	<20		57	20	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
1,2-Dibromo-3-Chloropropane	<110	*-	280	110	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Ethylene Dibromide	<22		57	22	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
1,2-Dichlorobenzene	<19		57	19	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
1,2-Dichloroethane	<22		57	22	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
1,2-Dichloropropane	<24		57	24	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
1,3,5-Trimethylbenzene	<22		57	22	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
1,3-Dichlorobenzene	<23		57	23	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
1,3-Dichloropropane	<21		57	21	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
1,4-Dichlorobenzene	<21		57	21	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
2,2-Dichloropropane	<25		57	25	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
2-Chlorotoluene	<18		57	18	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
4-Chlorotoluene	<20		57	20	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Benzene	<8.3		14	8.3	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Bromobenzene	<20		57	20	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Bromochloromethane	<24		57	24	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Dichlorobromomethane	<21		57	21	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Bromoform	<28		57	28	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Bromomethane	<45		170	45	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Carbon tetrachloride	<22		57	22	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Chlorobenzene	<22		57	22	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Chloroethane	<29		57	29	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Chloroform	<21		110	21	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Chloromethane	<18		57	18	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
cis-1,2-Dichloroethene	<23		57	23	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
cis-1,3-Dichloropropene	<24		57	24	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Dibromochloromethane	<28	*-	57	28	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Dibromomethane	<15		57	15	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Dichlorodifluoromethane	<38		170	38	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Ethylbenzene	<10		14	10	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Hexachlorobutadiene	<25		57	25	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Isopropyl ether	<16		57	16	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Isopropylbenzene	<22		57	22	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Methyl tert-butyl ether	<22		57	22	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Methylene Chloride	<93		280	93	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Naphthalene	**37**	**J**	57	19	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
n-Butylbenzene	<22		57	22	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
N-Propylbenzene	<24		57	24	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
p-Isopropyltoluene	<21		57	21	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50

Client: Stantec Consulting Corp.
Project/Site: River North - Manitowoc - 193708247

Job ID: 500-204536-1

Client Sample ID: SB-134 3-4
Date Collected: 08/30/21 11:50
Date Received: 08/31/21 10:10

Lab Sample ID: 500-204536-4
Matrix: Solid
Percent Solids: 92.6

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<23		57	23	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Styrene	<22		57	22	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
tert-Butylbenzene	<23		57	23	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Tetrachloroethene	<21		57	21	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Toluene	**28**		14	8.4	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
trans-1,2-Dichloroethene	<20		57	20	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
trans-1,3-Dichloropropene	<21		57	21	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Trichloroethene	<9.3		28	9.3	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Trichlorofluoromethane	<24		57	24	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Vinyl chloride	<15		57	15	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50
Xylenes, Total	**50**		28	13	ug/Kg	☼	08/30/21 11:50	09/07/21 11:33	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*75 - 126*	*08/30/21 11:50*	*09/07/21 11:33*	*50*
4-Bromofluorobenzene (Surr)	*90*		*72 - 124*	*08/30/21 11:50*	*09/07/21 11:33*	*50*
Dibromofluoromethane (Surr)	*114*		*75 - 120*	*08/30/21 11:50*	*09/07/21 11:33*	*50*
Toluene-d8 (Surr)	*96*		*75 - 120*	*08/30/21 11:50*	*09/07/21 11:33*	*50*

Client: Stantec Consulting Corp.
Project/Site: River North - Manitowoc - 193708247

Job ID: 500-204536-1

Client Sample ID: SB-134 5-7
Date Collected: 08/30/21 11:55
Date Received: 08/31/21 10:10

Lab Sample ID: 500-204536-5
Matrix: Solid
Percent Solids: 75.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<38		83	38	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
1,1,1-Trichloroethane	<32		83	32	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
1,1,2,2-Tetrachloroethane	<33		83	33	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
1,1,2-Trichloroethane	<29		83	29	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
1,1-Dichloroethane	<34		83	34	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
1,1-Dichloroethene	<32		83	32	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
1,1-Dichloropropene	<25		83	25	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
1,2,3-Trichlorobenzene	<38		83	38	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
1,2,3-Trichloropropane	<34		170	34	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
1,2,4-Trichlorobenzene	<28		83	28	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
1,2,4-Trimethylbenzene	<30		83	30	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
1,2-Dibromo-3-Chloropropane	<170	*-	420	170	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Ethylene Dibromide	<32		83	32	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
1,2-Dichlorobenzene	<28		83	28	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
1,2-Dichloroethane	<33		83	33	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
1,2-Dichloropropane	<36		83	36	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
1,3,5-Trimethylbenzene	<32		83	32	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
1,3-Dichlorobenzene	<33		83	33	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
1,3-Dichloropropane	<30		83	30	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
1,4-Dichlorobenzene	<30		83	30	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
2,2-Dichloropropane	<37		83	37	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
2-Chlorotoluene	<26		83	26	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
4-Chlorotoluene	<29		83	29	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Benzene	<12		21	12	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Bromobenzene	<30		83	30	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Bromochloromethane	<36		83	36	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Dichlorobromomethane	<31		83	31	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Bromoform	<40		83	40	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Bromomethane	<66		250	66	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Carbon tetrachloride	<32		83	32	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Chlorobenzene	<32		83	32	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Chloroethane	<42		83	42	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Chloroform	<31		170	31	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Chloromethane	<27		83	27	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
cis-1,2-Dichloroethene	<34		83	34	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
cis-1,3-Dichloropropene	<35		83	35	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Dibromochloromethane	<41	*-	83	41	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Dibromomethane	<22		83	22	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Dichlorodifluoromethane	<56		250	56	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Ethylbenzene	<15		21	15	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Hexachlorobutadiene	<37		83	37	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Isopropyl ether	<23		83	23	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Isopropylbenzene	<32		83	32	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Methyl tert-butyl ether	<33		83	33	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Methylene Chloride	<140		420	140	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Naphthalene	<28		83	28	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
n-Butylbenzene	<32		83	32	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
N-Propylbenzene	<34		83	34	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
p-Isopropyltoluene	<30		83	30	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50

Client: Stantec Consulting Corp.
Project/Site: River North - Manitowoc - 193708247

Job ID: 500-204536-1

Client Sample ID: SB-134 5-7
Date Collected: 08/30/21 11:55
Date Received: 08/31/21 10:10

Lab Sample ID: 500-204536-5
Matrix: Solid
Percent Solids: 75.0

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<33		83	33	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Styrene	<32		83	32	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
tert-Butylbenzene	<33		83	33	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Tetrachloroethene	<31		83	31	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Toluene	<12		21	12	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
trans-1,2-Dichloroethene	<29		83	29	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
trans-1,3-Dichloropropene	<30		83	30	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Trichloroethene	<14		42	14	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Trichlorofluoromethane	<36		83	36	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Vinyl chloride	<22		83	22	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50
Xylenes, Total	<18		42	18	ug/Kg	☼	08/30/21 11:55	09/07/21 11:59	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*113*		*75 - 126*	*08/30/21 11:55*	*09/07/21 11:59*	*50*
4-Bromofluorobenzene (Surr)	*89*		*72 - 124*	*08/30/21 11:55*	*09/07/21 11:59*	*50*
Dibromofluoromethane (Surr)	*116*		*75 - 120*	*08/30/21 11:55*	*09/07/21 11:59*	*50*
Toluene-d8 (Surr)	*96*		*75 - 120*	*08/30/21 11:55*	*09/07/21 11:59*	*50*

Client: Stantec Consulting Corp.
Project/Site: River North - Manitowoc - 193708247

Job ID: 500-204536-1

Client Sample ID: MW-62
Date Collected: 08/30/21 13:30
Date Received: 08/31/21 10:10

Lab Sample ID: 500-204536-6
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			09/03/21 12:42	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			09/03/21 12:42	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			09/03/21 12:42	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/03/21 12:42	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			09/03/21 12:42	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/03/21 12:42	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			09/03/21 12:42	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			09/03/21 12:42	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			09/03/21 12:42	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			09/03/21 12:42	1
1,2,4-Trimethylbenzene	**77**		1.0	0.36	ug/L			09/03/21 12:42	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			09/03/21 12:42	1
Ethylene Dibromide	<0.39		1.0	0.39	ug/L			09/03/21 12:42	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			09/03/21 12:42	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			09/03/21 12:42	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			09/03/21 12:42	1
1,3,5-Trimethylbenzene	**31**		1.0	0.25	ug/L			09/03/21 12:42	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			09/03/21 12:42	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			09/03/21 12:42	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			09/03/21 12:42	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			09/03/21 12:42	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			09/03/21 12:42	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			09/03/21 12:42	1
Benzene	**40**		0.50	0.15	ug/L			09/03/21 12:42	1
Bromobenzene	<0.36		1.0	0.36	ug/L			09/03/21 12:42	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			09/03/21 12:42	1
Dichlorobromomethane	<0.37		1.0	0.37	ug/L			09/03/21 12:42	1
Bromoform	<0.48	*+	1.0	0.48	ug/L			09/03/21 12:42	1
Bromomethane	<0.80		3.0	0.80	ug/L			09/03/21 12:42	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/03/21 12:42	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			09/03/21 12:42	1
Chloroethane	<0.51		1.0	0.51	ug/L			09/03/21 12:42	1
Chloroform	<0.37		2.0	0.37	ug/L			09/03/21 12:42	1
Chloromethane	<0.32		1.0	0.32	ug/L			09/03/21 12:42	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/03/21 12:42	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			09/03/21 12:42	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			09/03/21 12:42	1
Dibromomethane	<0.27		1.0	0.27	ug/L			09/03/21 12:42	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			09/03/21 12:42	1
Ethylbenzene	**8.2**		0.50	0.18	ug/L			09/03/21 12:42	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			09/03/21 12:42	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			09/03/21 12:42	1
Isopropylbenzene	**8.8**		1.0	0.39	ug/L			09/03/21 12:42	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			09/03/21 12:42	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/03/21 12:42	1
Naphthalene	**23**		1.0	0.34	ug/L			09/03/21 12:42	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			09/03/21 12:42	1
N-Propylbenzene	**7.4**		1.0	0.41	ug/L			09/03/21 12:42	1
p-Isopropyltoluene	**3.0**		1.0	0.36	ug/L			09/03/21 12:42	1

Client: Stantec Consulting Corp.
Project/Site: River North - Manitowoc - 193708247

Job ID: 500-204536-1

Client Sample ID: MW-62
Date Collected: 08/30/21 13:30
Date Received: 08/31/21 10:10

Lab Sample ID: 500-204536-6
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	**1.7**		1.0	0.40	ug/L			09/03/21 12:42	1
Styrene	<0.39		1.0	0.39	ug/L			09/03/21 12:42	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			09/03/21 12:42	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/03/21 12:42	1
Toluene	**10**		0.50	0.15	ug/L			09/03/21 12:42	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			09/03/21 12:42	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			09/03/21 12:42	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/03/21 12:42	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			09/03/21 12:42	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/03/21 12:42	1
Xylenes, Total	**100**		1.0	0.22	ug/L			09/03/21 12:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*113*		*75 - 126*		*09/03/21 12:42*	*1*
4-Bromofluorobenzene (Surr)	*81*		*72 - 124*		*09/03/21 12:42*	*1*
Dibromofluoromethane (Surr)	*112*		*75 - 120*		*09/03/21 12:42*	*1*
Toluene-d8 (Surr)	*98*		*75 - 120*		*09/03/21 12:42*	*1*

Definitions/Glossary

Client: Stantec Consulting Corp.
Project/Site: River North - Manitowoc - 193708247

Job ID: 500-204536-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

Client: Stantec Consulting Corp.
Project/Site: River North - Manitowoc - 193708247

Job ID: 500-204536-1

GC/MS VOA

Prep Batch: 616798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204536-1	SB-112 4-5	Total/NA	Solid	5035	
500-204536-2	SB-133 1-2	Total/NA	Solid	5035	
500-204536-3	SB-133 4-5	Total/NA	Solid	5035	
500-204536-4	SB-134 3-4	Total/NA	Solid	5035	
500-204536-5	SB-134 5-7	Total/NA	Solid	5035	
LB3 500-616798/6-A	Method Blank	Total/NA	Solid	5035	
LCS 500-616798/7-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 617178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204536-1	SB-112 4-5	Total/NA	Solid	8260B	616798
500-204536-2	SB-133 1-2	Total/NA	Solid	8260B	616798
500-204536-3	SB-133 4-5	Total/NA	Solid	8260B	616798
LB3 500-616798/6-A	Method Blank	Total/NA	Solid	8260B	616798
MB 500-617178/6	Method Blank	Total/NA	Solid	8260B	
LCS 500-616798/7-A	Lab Control Sample	Total/NA	Solid	8260B	616798
LCS 500-617178/4	Lab Control Sample	Total/NA	Solid	8260B	

Analysis Batch: 617195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204536-6	MW-62	Total/NA	Water	8260B	
MB 500-617195/6	Method Blank	Total/NA	Water	8260B	
LCS 500-617195/4	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 617403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204536-4	SB-134 3-4	Total/NA	Solid	8260B	616798
500-204536-5	SB-134 5-7	Total/NA	Solid	8260B	616798
MB 500-617403/6	Method Blank	Total/NA	Solid	8260B	
LCS 500-617403/4	Lab Control Sample	Total/NA	Solid	8260B	

General Chemistry

Analysis Batch: 617352

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204536-1	SB-112 4-5	Total/NA	Solid	Moisture	
500-204536-2	SB-133 1-2	Total/NA	Solid	Moisture	
500-204536-3	SB-133 4-5	Total/NA	Solid	Moisture	
500-204536-4	SB-134 3-4	Total/NA	Solid	Moisture	
500-204536-5	SB-134 5-7	Total/NA	Solid	Moisture	

Surrogate Summary

Client: Stantec Consulting Corp.
Project/Site: River North - Manitowoc - 193708247

Job ID: 500-204536-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(75-126)	(72-124)	(75-120)	(75-120)
500-204536-1	SB-112 4-5	82	75	87	92
500-204536-2	SB-133 1-2	82	75	86	92
500-204536-3	SB-133 4-5	82	76	87	93
500-204536-4	SB-134 3-4	112	90	114	96
500-204536-5	SB-134 5-7	113	89	116	96
LB3 500-616798/6-A	Method Blank	82	76	88	92
LCS 500-616798/7-A	Lab Control Sample	82	77	95	93
LCS 500-617178/4	Lab Control Sample	79	77	95	93
LCS 500-617403/4	Lab Control Sample	101	91	104	102
MB 500-617178/6	Method Blank	81	77	94	91
MB 500-617403/6	Method Blank	111	93	109	95

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(75-126)	(72-124)	(75-120)	(75-120)
500-204536-6	MW-62	113	81	112	98
LCS 500-617195/4	Lab Control Sample	111	81	109	98
MB 500-617195/6	Method Blank	112	82	114	97

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: LB3 500-616798/6-A
Matrix: Solid
Analysis Batch: 617178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 616798

Analyte	LB3 Result	LB3 Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<23		50	23	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
1,1,1-Trichloroethane	<19		50	19	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
1,1,2,2-Tetrachloroethane	<20		50	20	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
1,1,2-Trichloroethane	<18		50	18	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
1,1-Dichloroethane	<21		50	21	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
1,1-Dichloroethene	<20		50	20	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
1,1-Dichloropropene	<15		50	15	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
1,2,3-Trichlorobenzene	<23		50	23	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
1,2,3-Trichloropropane	<21		100	21	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
1,2,4-Trichlorobenzene	<17		50	17	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
1,2,4-Trimethylbenzene	<18		50	18	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
1,2-Dibromo-3-Chloropropane	<100		250	100	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Ethylene Dibromide	<19		50	19	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
1,2-Dichlorobenzene	<17		50	17	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
1,2-Dichloroethane	<20		50	20	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
1,2-Dichloropropane	<21		50	21	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
1,3,5-Trimethylbenzene	<19		50	19	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
1,3-Dichlorobenzene	<20		50	20	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
1,3-Dichloropropane	<18		50	18	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
1,4-Dichlorobenzene	<18		50	18	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
2,2-Dichloropropane	<22		50	22	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
2-Chlorotoluene	<16		50	16	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
4-Chlorotoluene	<18		50	18	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Benzene	<7.3		13	7.3	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Bromobenzene	<18		50	18	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Bromochloromethane	<21		50	21	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Dichlorobromomethane	<19		50	19	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Bromoform	<24		50	24	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Bromomethane	<40		150	40	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Carbon tetrachloride	<19		50	19	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Chlorobenzene	<19		50	19	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Chloroethane	<25		50	25	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Chloroform	<19		100	19	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Chloromethane	<16		50	16	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
cis-1,2-Dichloroethene	<20		50	20	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
cis-1,3-Dichloropropene	<21		50	21	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Dibromochloromethane	<24		50	24	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Dibromomethane	<14		50	14	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Dichlorodifluoromethane	<34		150	34	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Ethylbenzene	<9.2		13	9.2	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Hexachlorobutadiene	<22		50	22	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Isopropyl ether	<14		50	14	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Isopropylbenzene	<19		50	19	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Methyl tert-butyl ether	<20		50	20	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Methylene Chloride	<82		250	82	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Naphthalene	<17		50	17	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
n-Butylbenzene	<19		50	19	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
N-Propylbenzene	<21		50	21	ug/Kg		09/01/21 00:50	09/03/21 18:23	50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LB3 500-616798/6-A
Matrix: Solid
Analysis Batch: 617178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 616798

Analyte	LB3 Result	LB3 Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	<18		50	18	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
sec-Butylbenzene	<20		50	20	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Styrene	<19		50	19	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
tert-Butylbenzene	<20		50	20	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Tetrachloroethene	<19		50	19	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Toluene	<7.4		13	7.4	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
trans-1,2-Dichloroethene	<18		50	18	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
trans-1,3-Dichloropropene	<18		50	18	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Trichloroethene	<8.2		25	8.2	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Trichlorofluoromethane	<21		50	21	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Vinyl chloride	<13		50	13	ug/Kg		09/01/21 00:50	09/03/21 18:23	50
Xylenes, Total	<11		25	11	ug/Kg		09/01/21 00:50	09/03/21 18:23	50

Surrogate	*LB3 %Recovery*	*LB3 Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*82*		*75 - 126*	*09/01/21 00:50*	*09/03/21 18:23*	*50*
4-Bromofluorobenzene (Surr)	*76*		*72 - 124*	*09/01/21 00:50*	*09/03/21 18:23*	*50*
Dibromofluoromethane (Surr)	*88*		*75 - 120*	*09/01/21 00:50*	*09/03/21 18:23*	*50*
Toluene-d8 (Surr)	*92*		*75 - 120*	*09/01/21 00:50*	*09/03/21 18:23*	*50*

Lab Sample ID: LCS 500-616798/7-A
Matrix: Solid
Analysis Batch: 617178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 616798

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	2500	2270		ug/Kg		91	70 - 125
1,1,1-Trichloroethane	2500	2270		ug/Kg		91	70 - 125
1,1,2,2-Tetrachloroethane	2500	1600		ug/Kg		64	62 - 140
1,1,2-Trichloroethane	2500	1990		ug/Kg		79	71 - 130
1,1-Dichloroethane	2500	2260		ug/Kg		91	70 - 125
1,1-Dichloroethene	2500	2510		ug/Kg		100	67 - 122
1,1-Dichloropropene	2500	2290		ug/Kg		92	70 - 121
1,2,3-Trichlorobenzene	2500	3000		ug/Kg		120	51 - 145
1,2,3-Trichloropropane	2500	1730		ug/Kg		69	50 - 133
1,2,4-Trichlorobenzene	2500	2790		ug/Kg		112	57 - 137
1,2,4-Trimethylbenzene	2500	2280		ug/Kg		91	70 - 123
1,2-Dibromo-3-Chloropropane	2500	1270	*-	ug/Kg		51	56 - 123
Ethylene Dibromide	2500	1980		ug/Kg		79	70 - 125
1,2-Dichlorobenzene	2500	2310		ug/Kg		92	70 - 125
1,2-Dichloroethane	2500	2030		ug/Kg		81	68 - 127
1,2-Dichloropropane	2500	2310		ug/Kg		92	67 - 130
1,3,5-Trimethylbenzene	2500	2310		ug/Kg		92	70 - 123
1,3-Dichlorobenzene	2500	2280		ug/Kg		91	70 - 125
1,3-Dichloropropane	2500	2000		ug/Kg		80	62 - 136
1,4-Dichlorobenzene	2500	2270		ug/Kg		91	70 - 120
2,2-Dichloropropane	2500	1670		ug/Kg		67	58 - 139
2-Chlorotoluene	2500	2050		ug/Kg		82	70 - 125
4-Chlorotoluene	2500	1970		ug/Kg		79	68 - 124
Benzene	2500	2340		ug/Kg		94	70 - 120

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-616798/7-A
Matrix: Solid
Analysis Batch: 617178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 616798

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromobenzene	2500	2060		ug/Kg		82	70 - 122
Bromochloromethane	2500	2590		ug/Kg		104	65 - 122
Dichlorobromomethane	2500	1730		ug/Kg		69	69 - 120
Bromoform	2500	1500		ug/Kg		60	56 - 132
Bromomethane	2500	2670		ug/Kg		107	40 - 152
Carbon tetrachloride	2500	2230		ug/Kg		89	59 - 133
Chlorobenzene	2500	2350		ug/Kg		94	70 - 120
Chloroethane	2500	2410		ug/Kg		96	48 - 136
Chloroform	2500	2170		ug/Kg		87	70 - 120
Chloromethane	2500	2270		ug/Kg		91	56 - 152
cis-1,2-Dichloroethene	2500	2420		ug/Kg		97	70 - 125
cis-1,3-Dichloropropene	2500	1690		ug/Kg		67	64 - 127
Dibromochloromethane	2500	1600	*-	ug/Kg		64	68 - 125
Dibromomethane	2500	2190		ug/Kg		88	70 - 120
Dichlorodifluoromethane	2500	1560		ug/Kg		62	40 - 159
Ethylbenzene	2500	2430		ug/Kg		97	70 - 123
Hexachlorobutadiene	2500	3550		ug/Kg		142	51 - 150
Isopropylbenzene	2500	2230		ug/Kg		89	70 - 126
Methyl tert-butyl ether	2500	2340		ug/Kg		93	55 - 123
Methylene Chloride	2500	2470		ug/Kg		99	69 - 125
Naphthalene	2500	2640		ug/Kg		106	53 - 144
n-Butylbenzene	2500	2450		ug/Kg		98	68 - 125
N-Propylbenzene	2500	2130		ug/Kg		85	69 - 127
p-Isopropyltoluene	2500	2700		ug/Kg		108	70 - 125
sec-Butylbenzene	2500	2470		ug/Kg		99	70 - 123
Styrene	2500	2280		ug/Kg		91	70 - 120
tert-Butylbenzene	2500	2570		ug/Kg		103	70 - 121
Tetrachloroethene	2500	2550		ug/Kg		102	70 - 128
Toluene	2500	2250		ug/Kg		90	70 - 125
trans-1,2-Dichloroethene	2500	2430		ug/Kg		97	70 - 125
trans-1,3-Dichloropropene	2500	1540		ug/Kg		62	62 - 128
Trichloroethene	2500	2590		ug/Kg		104	70 - 125
Trichlorofluoromethane	2500	2250		ug/Kg		90	55 - 128
Vinyl chloride	2500	2500		ug/Kg		100	64 - 126
Xylenes, Total	5000	4900		ug/Kg		98	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*82*		*75 - 126*
4-Bromofluorobenzene (Surr)	*77*		*72 - 124*
Dibromofluoromethane (Surr)	*95*		*75 - 120*
Toluene-d8 (Surr)	*93*		*75 - 120*

Lab Sample ID: MB 500-617178/6
Matrix: Solid
Analysis Batch: 617178

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/Kg			09/03/21 10:35	1

Client: Stantec Consulting Corp.
Project/Site: River North - Manitowoc - 193708247

Job ID: 500-204536-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-617178/6
Matrix: Solid
Analysis Batch: 617178

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/Kg			09/03/21 10:35	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/Kg			09/03/21 10:35	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/Kg			09/03/21 10:35	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/Kg			09/03/21 10:35	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/Kg			09/03/21 10:35	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/Kg			09/03/21 10:35	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/Kg			09/03/21 10:35	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/Kg			09/03/21 10:35	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/Kg			09/03/21 10:35	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/Kg			09/03/21 10:35	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/Kg			09/03/21 10:35	1
Ethylene Dibromide	<0.39		1.0	0.39	ug/Kg			09/03/21 10:35	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/Kg			09/03/21 10:35	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/Kg			09/03/21 10:35	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/Kg			09/03/21 10:35	1
1,3,5-Trimethylbenzene	<0.38		1.0	0.38	ug/Kg			09/03/21 10:35	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/Kg			09/03/21 10:35	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/Kg			09/03/21 10:35	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/Kg			09/03/21 10:35	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/Kg			09/03/21 10:35	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/Kg			09/03/21 10:35	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/Kg			09/03/21 10:35	1
Benzene	<0.15		0.25	0.15	ug/Kg			09/03/21 10:35	1
Bromobenzene	<0.36		1.0	0.36	ug/Kg			09/03/21 10:35	1
Bromochloromethane	<0.43		1.0	0.43	ug/Kg			09/03/21 10:35	1
Dichlorobromomethane	<0.37		1.0	0.37	ug/Kg			09/03/21 10:35	1
Bromoform	<0.48		1.0	0.48	ug/Kg			09/03/21 10:35	1
Bromomethane	<0.80		3.0	0.80	ug/Kg			09/03/21 10:35	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/Kg			09/03/21 10:35	1
Chlorobenzene	<0.39		1.0	0.39	ug/Kg			09/03/21 10:35	1
Chloroethane	<0.50		1.0	0.50	ug/Kg			09/03/21 10:35	1
Chloroform	<0.37		2.0	0.37	ug/Kg			09/03/21 10:35	1
Chloromethane	<0.32		1.0	0.32	ug/Kg			09/03/21 10:35	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/Kg			09/03/21 10:35	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/Kg			09/03/21 10:35	1
Dibromochloromethane	<0.49		1.0	0.49	ug/Kg			09/03/21 10:35	1
Dibromomethane	<0.27		1.0	0.27	ug/Kg			09/03/21 10:35	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/Kg			09/03/21 10:35	1
Ethylbenzene	<0.18		0.25	0.18	ug/Kg			09/03/21 10:35	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/Kg			09/03/21 10:35	1
Isopropyl ether	<0.28		1.0	0.28	ug/Kg			09/03/21 10:35	1
Isopropylbenzene	<0.38		1.0	0.38	ug/Kg			09/03/21 10:35	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/Kg			09/03/21 10:35	1
Methylene Chloride	<1.6		5.0	1.6	ug/Kg			09/03/21 10:35	1
Naphthalene	<0.33		1.0	0.33	ug/Kg			09/03/21 10:35	1
n-Butylbenzene	<0.39		1.0	0.39	ug/Kg			09/03/21 10:35	1
N-Propylbenzene	<0.41		1.0	0.41	ug/Kg			09/03/21 10:35	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/Kg			09/03/21 10:35	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/Kg			09/03/21 10:35	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-617178/6
Matrix: Solid
Analysis Batch: 617178

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	<0.39		1.0	0.39	ug/Kg			09/03/21 10:35	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/Kg			09/03/21 10:35	1
Tetrachloroethene	<0.37		1.0	0.37	ug/Kg			09/03/21 10:35	1
Toluene	<0.15		0.25	0.15	ug/Kg			09/03/21 10:35	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/Kg			09/03/21 10:35	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/Kg			09/03/21 10:35	1
Trichloroethene	<0.16		0.50	0.16	ug/Kg			09/03/21 10:35	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/Kg			09/03/21 10:35	1
Vinyl chloride	<0.26		1.0	0.26	ug/Kg			09/03/21 10:35	1
Xylenes, Total	<0.22		0.50	0.22	ug/Kg			09/03/21 10:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*81*		*75 - 126*		*09/03/21 10:35*	*1*
4-Bromofluorobenzene (Surr)	*77*		*72 - 124*		*09/03/21 10:35*	*1*
Dibromofluoromethane (Surr)	*94*		*75 - 120*		*09/03/21 10:35*	*1*
Toluene-d8 (Surr)	*91*		*75 - 120*		*09/03/21 10:35*	*1*

Lab Sample ID: LCS 500-617178/4
Matrix: Solid
Analysis Batch: 617178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	46.9		ug/Kg		94	70 - 125
1,1,1-Trichloroethane	50.0	46.6		ug/Kg		93	70 - 125
1,1,2,2-Tetrachloroethane	50.0	32.4		ug/Kg		65	62 - 140
1,1,2-Trichloroethane	50.0	38.2		ug/Kg		76	71 - 130
1,1-Dichloroethane	50.0	45.4		ug/Kg		91	70 - 125
1,1-Dichloroethene	50.0	53.0		ug/Kg		106	67 - 122
1,1-Dichloropropene	50.0	47.4		ug/Kg		95	70 - 121
1,2,3-Trichlorobenzene	50.0	57.8		ug/Kg		116	51 - 145
1,2,3-Trichloropropane	50.0	33.2		ug/Kg		66	50 - 133
1,2,4-Trichlorobenzene	50.0	56.1		ug/Kg		112	57 - 137
1,2,4-Trimethylbenzene	50.0	45.6		ug/Kg		91	70 - 123
1,2-Dibromo-3-Chloropropane	50.0	26.1	*-	ug/Kg		52	56 - 123
Ethylene Dibromide	50.0	38.1		ug/Kg		76	70 - 125
1,2-Dichlorobenzene	50.0	45.0		ug/Kg		90	70 - 125
1,2-Dichloroethane	50.0	38.9		ug/Kg		78	68 - 127
1,2-Dichloropropane	50.0	43.7		ug/Kg		87	67 - 130
1,3,5-Trimethylbenzene	50.0	46.5		ug/Kg		93	70 - 123
1,3-Dichlorobenzene	50.0	45.6		ug/Kg		91	70 - 125
1,3-Dichloropropane	50.0	37.5		ug/Kg		75	62 - 136
1,4-Dichlorobenzene	50.0	45.0		ug/Kg		90	70 - 120
2,2-Dichloropropane	50.0	34.9		ug/Kg		70	58 - 139
2-Chlorotoluene	50.0	41.7		ug/Kg		83	70 - 125
4-Chlorotoluene	50.0	39.3		ug/Kg		79	68 - 124
Benzene	50.0	46.5		ug/Kg		93	70 - 120
Bromobenzene	50.0	40.4		ug/Kg		81	70 - 122
Bromochloromethane	50.0	50.8		ug/Kg		102	65 - 122

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-617178/4
Matrix: Solid
Analysis Batch: 617178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorobromomethane	50.0	35.7		ug/Kg		71	69 - 120
Bromoform	50.0	33.2		ug/Kg		66	56 - 132
Bromomethane	50.0	58.6		ug/Kg		117	40 - 152
Carbon tetrachloride	50.0	47.0		ug/Kg		94	59 - 133
Chlorobenzene	50.0	46.2		ug/Kg		92	70 - 120
Chloroethane	50.0	61.2		ug/Kg		122	48 - 136
Chloroform	50.0	43.2		ug/Kg		86	70 - 120
Chloromethane	50.0	46.7		ug/Kg		93	56 - 152
cis-1,2-Dichloroethene	50.0	48.0		ug/Kg		96	70 - 125
cis-1,3-Dichloropropene	50.0	34.7		ug/Kg		69	64 - 127
Dibromochloromethane	50.0	34.3		ug/Kg		69	68 - 125
Dibromomethane	50.0	42.2		ug/Kg		84	70 - 120
Dichlorodifluoromethane	50.0	42.4		ug/Kg		85	40 - 159
Ethylbenzene	50.0	48.6		ug/Kg		97	70 - 123
Hexachlorobutadiene	50.0	69.6		ug/Kg		139	51 - 150
Isopropylbenzene	50.0	45.5		ug/Kg		91	70 - 126
Methyl tert-butyl ether	50.0	39.7		ug/Kg		79	55 - 123
Methylene Chloride	50.0	46.0		ug/Kg		92	69 - 125
Naphthalene	50.0	49.6		ug/Kg		99	53 - 144
n-Butylbenzene	50.0	50.3		ug/Kg		101	68 - 125
N-Propylbenzene	50.0	43.1		ug/Kg		86	69 - 127
p-Isopropyltoluene	50.0	54.5		ug/Kg		109	70 - 125
sec-Butylbenzene	50.0	50.1		ug/Kg		100	70 - 123
Styrene	50.0	44.9		ug/Kg		90	70 - 120
tert-Butylbenzene	50.0	51.4		ug/Kg		103	70 - 121
Tetrachloroethene	50.0	52.5		ug/Kg		105	70 - 128
Toluene	50.0	44.8		ug/Kg		90	70 - 125
trans-1,2-Dichloroethene	50.0	49.3		ug/Kg		99	70 - 125
trans-1,3-Dichloropropene	50.0	30.9		ug/Kg		62	62 - 128
Trichloroethene	50.0	51.8		ug/Kg		104	70 - 125
Trichlorofluoromethane	50.0	45.0		ug/Kg		90	55 - 128
Vinyl chloride	50.0	51.3		ug/Kg		103	64 - 126
Xylenes, Total	100	97.1		ug/Kg		97	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*79*		*75 - 126*
4-Bromofluorobenzene (Surr)	*77*		*72 - 124*
Dibromofluoromethane (Surr)	*95*		*75 - 120*
Toluene-d8 (Surr)	*93*		*75 - 120*

Lab Sample ID: MB 500-617195/6
Matrix: Water
Analysis Batch: 617195

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			09/03/21 10:23	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			09/03/21 10:23	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			09/03/21 10:23	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-617195/6
Matrix: Water
Analysis Batch: 617195

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/03/21 10:23	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			09/03/21 10:23	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/03/21 10:23	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			09/03/21 10:23	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			09/03/21 10:23	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			09/03/21 10:23	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			09/03/21 10:23	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			09/03/21 10:23	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			09/03/21 10:23	1
Ethylene Dibromide	<0.39		1.0	0.39	ug/L			09/03/21 10:23	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			09/03/21 10:23	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			09/03/21 10:23	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			09/03/21 10:23	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			09/03/21 10:23	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			09/03/21 10:23	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			09/03/21 10:23	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			09/03/21 10:23	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			09/03/21 10:23	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			09/03/21 10:23	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			09/03/21 10:23	1
Benzene	<0.15		0.50	0.15	ug/L			09/03/21 10:23	1
Bromobenzene	<0.36		1.0	0.36	ug/L			09/03/21 10:23	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			09/03/21 10:23	1
Dichlorobromomethane	<0.37		1.0	0.37	ug/L			09/03/21 10:23	1
Bromoform	<0.48		1.0	0.48	ug/L			09/03/21 10:23	1
Bromomethane	<0.80		3.0	0.80	ug/L			09/03/21 10:23	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/03/21 10:23	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			09/03/21 10:23	1
Chloroethane	<0.51		1.0	0.51	ug/L			09/03/21 10:23	1
Chloroform	<0.37		2.0	0.37	ug/L			09/03/21 10:23	1
Chloromethane	<0.32		1.0	0.32	ug/L			09/03/21 10:23	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/03/21 10:23	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			09/03/21 10:23	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			09/03/21 10:23	1
Dibromomethane	<0.27		1.0	0.27	ug/L			09/03/21 10:23	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			09/03/21 10:23	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/03/21 10:23	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			09/03/21 10:23	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			09/03/21 10:23	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			09/03/21 10:23	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			09/03/21 10:23	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/03/21 10:23	1
Naphthalene	<0.34		1.0	0.34	ug/L			09/03/21 10:23	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			09/03/21 10:23	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			09/03/21 10:23	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			09/03/21 10:23	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			09/03/21 10:23	1
Styrene	<0.39		1.0	0.39	ug/L			09/03/21 10:23	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			09/03/21 10:23	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-617195/6
Matrix: Water
Analysis Batch: 617195

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/03/21 10:23	1
Toluene	<0.15		0.50	0.15	ug/L			09/03/21 10:23	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			09/03/21 10:23	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			09/03/21 10:23	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/03/21 10:23	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			09/03/21 10:23	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/03/21 10:23	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/03/21 10:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*75 - 126*		*09/03/21 10:23*	*1*
4-Bromofluorobenzene (Surr)	*82*		*72 - 124*		*09/03/21 10:23*	*1*
Dibromofluoromethane (Surr)	*114*		*75 - 120*		*09/03/21 10:23*	*1*
Toluene-d8 (Surr)	*97*		*75 - 120*		*09/03/21 10:23*	*1*

Lab Sample ID: LCS 500-617195/4
Matrix: Water
Analysis Batch: 617195

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	55.8		ug/L		112	70 - 125
1,1,1-Trichloroethane	50.0	55.7		ug/L		111	70 - 125
1,1,2,2-Tetrachloroethane	50.0	43.6		ug/L		87	62 - 140
1,1,2-Trichloroethane	50.0	51.2		ug/L		102	71 - 130
1,1-Dichloroethane	50.0	44.4		ug/L		89	70 - 125
1,1-Dichloroethene	50.0	49.7		ug/L		99	67 - 122
1,1-Dichloropropene	50.0	51.2		ug/L		102	70 - 121
1,2,3-Trichlorobenzene	50.0	44.8		ug/L		90	51 - 145
1,2,3-Trichloropropane	50.0	49.0		ug/L		98	50 - 133
1,2,4-Trichlorobenzene	50.0	45.6		ug/L		91	57 - 137
1,2,4-Trimethylbenzene	50.0	44.3		ug/L		89	70 - 123
1,2-Dibromo-3-Chloropropane	50.0	48.9		ug/L		98	56 - 123
Ethylene Dibromide	50.0	54.0		ug/L		108	70 - 125
1,2-Dichlorobenzene	50.0	48.1		ug/L		96	70 - 125
1,2-Dichloroethane	50.0	52.8		ug/L		106	68 - 127
1,2-Dichloropropane	50.0	44.9		ug/L		90	67 - 130
1,3,5-Trimethylbenzene	50.0	43.2		ug/L		86	70 - 123
1,3-Dichlorobenzene	50.0	48.3		ug/L		97	70 - 125
1,3-Dichloropropane	50.0	50.8		ug/L		102	62 - 136
1,4-Dichlorobenzene	50.0	48.6		ug/L		97	70 - 120
2,2-Dichloropropane	50.0	49.1		ug/L		98	58 - 139
2-Chlorotoluene	50.0	41.6		ug/L		83	70 - 125
4-Chlorotoluene	50.0	42.5		ug/L		85	68 - 124
Benzene	50.0	48.3		ug/L		97	70 - 120
Bromobenzene	50.0	47.2		ug/L		94	70 - 122
Bromochloromethane	50.0	56.4		ug/L		113	65 - 122
Dichlorobromomethane	50.0	53.8		ug/L		108	69 - 120
Bromoform	50.0	66.5	*+	ug/L		133	56 - 132

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-617195/4
Matrix: Water
Analysis Batch: 617195

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromomethane	50.0	72.8		ug/L		146	40 - 152
Carbon tetrachloride	50.0	58.1		ug/L		116	59 - 133
Chlorobenzene	50.0	50.6		ug/L		101	70 - 120
Chloroethane	50.0	44.4		ug/L		89	48 - 136
Chloroform	50.0	50.6		ug/L		101	70 - 120
Chloromethane	50.0	40.0		ug/L		80	56 - 152
cis-1,2-Dichloroethene	50.0	49.5		ug/L		99	70 - 125
cis-1,3-Dichloropropene	50.0	48.4		ug/L		97	64 - 127
Dibromochloromethane	50.0	57.2		ug/L		114	68 - 125
Dibromomethane	50.0	56.1		ug/L		112	70 - 120
Dichlorodifluoromethane	50.0	48.6		ug/L		97	40 - 159
Ethylbenzene	50.0	49.0		ug/L		98	70 - 123
Hexachlorobutadiene	50.0	52.8		ug/L		106	51 - 150
Isopropylbenzene	50.0	43.1		ug/L		86	70 - 126
Methyl tert-butyl ether	50.0	47.9		ug/L		96	55 - 123
Methylene Chloride	50.0	47.6		ug/L		95	69 - 125
Naphthalene	50.0	40.8		ug/L		82	53 - 144
n-Butylbenzene	50.0	43.4		ug/L		87	68 - 125
N-Propylbenzene	50.0	41.8		ug/L		84	69 - 127
p-Isopropyltoluene	50.0	45.3		ug/L		91	70 - 125
sec-Butylbenzene	50.0	42.7		ug/L		85	70 - 123
Styrene	50.0	51.7		ug/L		103	70 - 120
tert-Butylbenzene	50.0	43.4		ug/L		87	70 - 121
Tetrachloroethene	50.0	58.4		ug/L		117	70 - 128
Toluene	50.0	48.4		ug/L		97	70 - 125
trans-1,2-Dichloroethene	50.0	50.0		ug/L		100	70 - 125
trans-1,3-Dichloropropene	50.0	51.4		ug/L		103	62 - 128
Trichloroethene	50.0	55.4		ug/L		111	70 - 125
Trichlorofluoromethane	50.0	56.3		ug/L		113	55 - 128
Vinyl chloride	50.0	42.6		ug/L		85	64 - 126
Xylenes, Total	100	97.3		ug/L		97	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*111*		*75 - 126*
4-Bromofluorobenzene (Surr)	*81*		*72 - 124*
Dibromofluoromethane (Surr)	*109*		*75 - 120*
Toluene-d8 (Surr)	*98*		*75 - 120*

Lab Sample ID: MB 500-617403/6
Matrix: Solid
Analysis Batch: 617403

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/Kg			09/07/21 10:40	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/Kg			09/07/21 10:40	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/Kg			09/07/21 10:40	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/Kg			09/07/21 10:40	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/Kg			09/07/21 10:40	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-617403/6
Matrix: Solid
Analysis Batch: 617403

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	<0.39		1.0	0.39	ug/Kg			09/07/21 10:40	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/Kg			09/07/21 10:40	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/Kg			09/07/21 10:40	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/Kg			09/07/21 10:40	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/Kg			09/07/21 10:40	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/Kg			09/07/21 10:40	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/Kg			09/07/21 10:40	1
Ethylene Dibromide	<0.39		1.0	0.39	ug/Kg			09/07/21 10:40	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/Kg			09/07/21 10:40	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/Kg			09/07/21 10:40	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/Kg			09/07/21 10:40	1
1,3,5-Trimethylbenzene	<0.38		1.0	0.38	ug/Kg			09/07/21 10:40	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/Kg			09/07/21 10:40	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/Kg			09/07/21 10:40	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/Kg			09/07/21 10:40	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/Kg			09/07/21 10:40	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/Kg			09/07/21 10:40	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/Kg			09/07/21 10:40	1
Benzene	<0.15		0.25	0.15	ug/Kg			09/07/21 10:40	1
Bromobenzene	<0.36		1.0	0.36	ug/Kg			09/07/21 10:40	1
Bromochloromethane	<0.43		1.0	0.43	ug/Kg			09/07/21 10:40	1
Dichlorobromomethane	<0.37		1.0	0.37	ug/Kg			09/07/21 10:40	1
Bromoform	<0.48		1.0	0.48	ug/Kg			09/07/21 10:40	1
Bromomethane	<0.80		3.0	0.80	ug/Kg			09/07/21 10:40	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/Kg			09/07/21 10:40	1
Chlorobenzene	<0.39		1.0	0.39	ug/Kg			09/07/21 10:40	1
Chloroethane	<0.50		1.0	0.50	ug/Kg			09/07/21 10:40	1
Chloroform	<0.37		2.0	0.37	ug/Kg			09/07/21 10:40	1
Chloromethane	<0.32		1.0	0.32	ug/Kg			09/07/21 10:40	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/Kg			09/07/21 10:40	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/Kg			09/07/21 10:40	1
Dibromochloromethane	<0.49		1.0	0.49	ug/Kg			09/07/21 10:40	1
Dibromomethane	<0.27		1.0	0.27	ug/Kg			09/07/21 10:40	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/Kg			09/07/21 10:40	1
Ethylbenzene	<0.18		0.25	0.18	ug/Kg			09/07/21 10:40	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/Kg			09/07/21 10:40	1
Isopropyl ether	<0.28		1.0	0.28	ug/Kg			09/07/21 10:40	1
Isopropylbenzene	<0.38		1.0	0.38	ug/Kg			09/07/21 10:40	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/Kg			09/07/21 10:40	1
Methylene Chloride	<1.6		5.0	1.6	ug/Kg			09/07/21 10:40	1
Naphthalene	<0.33		1.0	0.33	ug/Kg			09/07/21 10:40	1
n-Butylbenzene	<0.39		1.0	0.39	ug/Kg			09/07/21 10:40	1
N-Propylbenzene	<0.41		1.0	0.41	ug/Kg			09/07/21 10:40	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/Kg			09/07/21 10:40	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/Kg			09/07/21 10:40	1
Styrene	<0.39		1.0	0.39	ug/Kg			09/07/21 10:40	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/Kg			09/07/21 10:40	1
Tetrachloroethene	<0.37		1.0	0.37	ug/Kg			09/07/21 10:40	1
Toluene	<0.15		0.25	0.15	ug/Kg			09/07/21 10:40	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-617403/6
Matrix: Solid
Analysis Batch: 617403

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/Kg			09/07/21 10:40	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/Kg			09/07/21 10:40	1
Trichloroethene	<0.16		0.50	0.16	ug/Kg			09/07/21 10:40	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/Kg			09/07/21 10:40	1
Vinyl chloride	<0.26		1.0	0.26	ug/Kg			09/07/21 10:40	1
Xylenes, Total	<0.22		0.50	0.22	ug/Kg			09/07/21 10:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*75 - 126*		*09/07/21 10:40*	*1*
4-Bromofluorobenzene (Surr)	*93*		*72 - 124*		*09/07/21 10:40*	*1*
Dibromofluoromethane (Surr)	*109*		*75 - 120*		*09/07/21 10:40*	*1*
Toluene-d8 (Surr)	*95*		*75 - 120*		*09/07/21 10:40*	*1*

Lab Sample ID: LCS 500-617403/4
Matrix: Solid
Analysis Batch: 617403

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	55.1		ug/Kg		110	70 - 125
1,1,1-Trichloroethane	50.0	48.4		ug/Kg		97	70 - 125
1,1,2,2-Tetrachloroethane	50.0	48.4		ug/Kg		97	62 - 140
1,1,2-Trichloroethane	50.0	52.6		ug/Kg		105	71 - 130
1,1-Dichloroethane	50.0	54.7		ug/Kg		109	70 - 125
1,1-Dichloroethene	50.0	52.6		ug/Kg		105	67 - 122
1,1-Dichloropropene	50.0	47.1		ug/Kg		94	70 - 121
1,2,3-Trichlorobenzene	50.0	55.5		ug/Kg		111	51 - 145
1,2,3-Trichloropropane	50.0	49.1		ug/Kg		98	50 - 133
1,2,4-Trichlorobenzene	50.0	52.2		ug/Kg		104	57 - 137
1,2,4-Trimethylbenzene	50.0	48.7		ug/Kg		97	70 - 123
1,2-Dibromo-3-Chloropropane	50.0	47.7		ug/Kg		95	56 - 123
Ethylene Dibromide	50.0	50.5		ug/Kg		101	70 - 125
1,2-Dichlorobenzene	50.0	51.5		ug/Kg		103	70 - 125
1,2-Dichloroethane	50.0	51.6		ug/Kg		103	68 - 127
1,2-Dichloropropane	50.0	53.1		ug/Kg		106	67 - 130
1,3,5-Trimethylbenzene	50.0	49.0		ug/Kg		98	70 - 123
1,3-Dichlorobenzene	50.0	50.0		ug/Kg		100	70 - 125
1,3-Dichloropropane	50.0	51.2		ug/Kg		102	62 - 136
1,4-Dichlorobenzene	50.0	49.9		ug/Kg		100	70 - 120
2,2-Dichloropropane	50.0	49.1		ug/Kg		98	58 - 139
2-Chlorotoluene	50.0	48.0		ug/Kg		96	70 - 125
4-Chlorotoluene	50.0	47.1		ug/Kg		94	68 - 124
Benzene	50.0	50.7		ug/Kg		101	70 - 120
Bromobenzene	50.0	49.5		ug/Kg		99	70 - 122
Bromochloromethane	50.0	56.0		ug/Kg		112	65 - 122
Dichlorobromomethane	50.0	47.1		ug/Kg		94	69 - 120
Bromoform	50.0	51.2		ug/Kg		102	56 - 132
Bromomethane	50.0	43.1		ug/Kg		86	40 - 152
Carbon tetrachloride	50.0	48.6		ug/Kg		97	59 - 133

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-617403/4
Matrix: Solid
Analysis Batch: 617403

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorobenzene	50.0	52.4		ug/Kg		105	70 - 120
Chloroethane	50.0	43.4		ug/Kg		87	48 - 136
Chloroform	50.0	50.0		ug/Kg		100	70 - 120
Chloromethane	50.0	54.1		ug/Kg		108	56 - 152
cis-1,2-Dichloroethene	50.0	50.8		ug/Kg		102	70 - 125
cis-1,3-Dichloropropene	50.0	48.6		ug/Kg		97	64 - 127
Dibromochloromethane	50.0	51.4		ug/Kg		103	68 - 125
Dibromomethane	50.0	48.8		ug/Kg		98	70 - 120
Dichlorodifluoromethane	50.0	40.7		ug/Kg		81	40 - 159
Ethylbenzene	50.0	47.8		ug/Kg		96	70 - 123
Hexachlorobutadiene	50.0	58.8		ug/Kg		118	51 - 150
Isopropylbenzene	50.0	47.3		ug/Kg		95	70 - 126
Methyl tert-butyl ether	50.0	48.5		ug/Kg		97	55 - 123
Methylene Chloride	50.0	54.5		ug/Kg		109	69 - 125
Naphthalene	50.0	49.7		ug/Kg		99	53 - 144
n-Butylbenzene	50.0	46.5		ug/Kg		93	68 - 125
N-Propylbenzene	50.0	46.8		ug/Kg		94	69 - 127
p-Isopropyltoluene	50.0	49.0		ug/Kg		98	70 - 125
sec-Butylbenzene	50.0	48.5		ug/Kg		97	70 - 123
Styrene	50.0	49.8		ug/Kg		100	70 - 120
tert-Butylbenzene	50.0	47.0		ug/Kg		94	70 - 121
Tetrachloroethene	50.0	55.0		ug/Kg		110	70 - 128
Toluene	50.0	51.2		ug/Kg		102	70 - 125
trans-1,2-Dichloroethene	50.0	52.1		ug/Kg		104	70 - 125
trans-1,3-Dichloropropene	50.0	44.8		ug/Kg		90	62 - 128
Trichloroethene	50.0	50.6		ug/Kg		101	70 - 125
Trichlorofluoromethane	50.0	51.1		ug/Kg		102	55 - 128
Vinyl chloride	50.0	59.1		ug/Kg		118	64 - 126
Xylenes, Total	100	94.6		ug/Kg		95	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 126*
4-Bromofluorobenzene (Surr)	*91*		*72 - 124*
Dibromofluoromethane (Surr)	*104*		*75 - 120*
Toluene-d8 (Surr)	*102*		*75 - 120*

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: River North - Manitowoc - 193708247

Job ID: 500-204536-1

Client Sample ID: SB-112 4-5
Date Collected: 08/30/21 11:00
Date Received: 08/31/21 10:10

Lab Sample ID: 500-204536-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	617352	09/04/21 09:20	PFK	TAL CHI

Client Sample ID: SB-112 4-5
Date Collected: 08/30/21 11:00
Date Received: 08/31/21 10:10

Lab Sample ID: 500-204536-1
Matrix: Solid
Percent Solids: 85.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616798	08/30/21 11:00	WRE	TAL CHI
Total/NA	Analysis	8260B		50	617178	09/03/21 17:01	PMF	TAL CHI

Client Sample ID: SB-133 1-2
Date Collected: 08/30/21 11:30
Date Received: 08/31/21 10:10

Lab Sample ID: 500-204536-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	617352	09/04/21 09:20	PFK	TAL CHI

Client Sample ID: SB-133 1-2
Date Collected: 08/30/21 11:30
Date Received: 08/31/21 10:10

Lab Sample ID: 500-204536-2
Matrix: Solid
Percent Solids: 90.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616798	08/30/21 11:30	WRE	TAL CHI
Total/NA	Analysis	8260B		50	617178	09/03/21 17:29	PMF	TAL CHI

Client Sample ID: SB-133 4-5
Date Collected: 08/30/21 11:35
Date Received: 08/31/21 10:10

Lab Sample ID: 500-204536-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	617352	09/04/21 09:20	PFK	TAL CHI

Client Sample ID: SB-133 4-5
Date Collected: 08/30/21 11:35
Date Received: 08/31/21 10:10

Lab Sample ID: 500-204536-3
Matrix: Solid
Percent Solids: 86.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616798	08/30/21 11:35	WRE	TAL CHI
Total/NA	Analysis	8260B		50	617178	09/03/21 17:55	PMF	TAL CHI

Client Sample ID: SB-134 3-4
Date Collected: 08/30/21 11:50
Date Received: 08/31/21 10:10

Lab Sample ID: 500-204536-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	617352	09/04/21 09:20	PFK	TAL CHI

Lab Chronicle

Client: Stantec Consulting Corp.
Project/Site: River North - Manitowoc - 193708247

Job ID: 500-204536-1

Client Sample ID: SB-134 3-4

Lab Sample ID: 500-204536-4
Date Collected: 08/30/21 11:50
Matrix: Solid
Date Received: 08/31/21 10:10
Percent Solids: 92.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616798	08/30/21 11:50	WRE	TAL CHI
Total/NA	Analysis	8260B		50	617403	09/07/21 11:33	JDD	TAL CHI

Client Sample ID: SB-134 5-7

Lab Sample ID: 500-204536-5
Date Collected: 08/30/21 11:55
Matrix: Solid
Date Received: 08/31/21 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	617352	09/04/21 09:20	PFK	TAL CHI

Client Sample ID: SB-134 5-7

Lab Sample ID: 500-204536-5
Date Collected: 08/30/21 11:55
Matrix: Solid
Date Received: 08/31/21 10:10
Percent Solids: 75.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616798	08/30/21 11:55	WRE	TAL CHI
Total/NA	Analysis	8260B		50	617403	09/07/21 11:59	JDD	TAL CHI

Client Sample ID: MW-62

Lab Sample ID: 500-204536-6
Date Collected: 08/30/21 13:30
Matrix: Water
Date Received: 08/31/21 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	617195	09/03/21 12:42	JDD	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: Stantec Consulting Corp. Job ID: 500-204536-1
Project/Site: River North - Manitowoc - 193708247

Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-22

Eurofins TestAmerica, Chicago
2417 Pond Street
University Park IL 60484
Phone 708-534-5200 Fax 708-534-5211

Chain of Custody Record

eurofins

Client Information

Client Contact: Whitney Cull	Sampler: WHITNEY CULL	Lab PM: Fredrick Sandie	Carrier Tracking No(s):	COC No: 500-89205-39898.3
Company: Stantec Consulting Corp.	Phone: (262) 219-4740	E-Mail: sandra.fredrick@eurofinset.com	State of Origin: WI	Page: Page 1 of 1
Address: 12075 Corporate Pkwy Suite 200	PWSID:			Job #: 500-204536
City: Mequon	Due Date Requested:			
State, Zip: WI 53092	TAT Requested (days): 5 DAY			
Phone:	Compliance Project: Δ Yes Δ No			
Email: whitney.cull@stantec.com	PO #: [redacted] 193708247			
Project Name: [redacted] RIVER NORTH	WO #:			
Site: MANITOWOC, WI	Project #: 50006565			
	SSOW#:			

Analysis Requested

500-204536 COC

Preservation Codes: A HCl; B NaOH; C Zn Acetate; D Nitric Acid; E NaHSO4; F MeOH; G Amchlor; H Ascorbic Acid; I Ice; J DI Water; K EDTA; L EDA; M Hexane; N None; O AsNaO2; P Na2O4S; Q Na2SO3; R Na2S2O3; S H2SO4; T TSP Dodecahydrate; U Acetone; V MCAA; W pH 4-5; Z other (specify)

Other:

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B_VOC	6010B_7470A_Cr6	Total Number of containers	Special Instructions/Note
				Preservation Code				N	N		
1	SB-112 4-5	8/30/2021	1100	G	Solid	N	N	X		2	
2	SB-133 1-2		1130		Solid			X		2	
3	SB-133 4-5		1135		Solid			X		2	
4	SB-134 3-4		1150		Solid			X		2	
5	SB-134 5-7		1155		Solid			X		2	
6	MW-62		1330		~~Solid~~ WATER			X		3	
					Solid						
					Solid						
					Solid						
					Solid						
					Solid						

Possible Hazard Identification
Non-Hazard; Flammable; Skin Irritant; Poison B; Unknown; Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Return To Client; X Disposal By Lab; Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: [signature]	Date/Time: 8/30/2021, 1600	Company: STANTEC	Received by: Stephanie Hernandez
Date/Time: 8/31/21 1010	Company: ETA-CHI		
Relinquished by:	Date/Time:	Company:	Received by:
Date/Time:	Company:		

Custody Seals Intact: Yes Δ No | Custody Seal No:

Cooler Temperature(s) °C and Other Remarks: 1.6→0.6

Login Sample Receipt Checklist

Client: Stantec Consulting Corp. Job Number: 500-204536-1

Login Number: 204536 **List Source: Eurofins TestAmerica, Chicago**
List Number: 1
Creator: Hernandez, Stephanie

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ATTACHMENT C
Monitoring Well Abandonment Forms

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
MANITOWOC	MW-62	

Latitude / Longitude (see instructions): _____ N _____ W
Format Code: ☒ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range
NE	NE	30	19 N	☒ E ☐ W

or Gov't Lot #

Well Street Address: N 10TH ST & N 11TH ST

Well City, Village or Town	Well ZIP Code
MANITOWOC	54220

Subdivision Name	Lot #
RIVER POINT DISTRICT	—

Reason for Removal from Service	WI Unique Well # of Replacement Well
PROPERTY DEVELOPMENT	—

3. Filled & Sealed Well / Drillhole / Borehole Information

☒ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy):

If a Well Construction Report is available, please attach.

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (specify): _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
15	2.25

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
4.25	15

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
—	5.3

2. Facility / Owner Information

Facility Name: RIVER POINT DISTRICT

Facility ID (FID or PWS): BRRTS # 02-36-585491

License/Permit/Monitoring #: —

Original Well Owner: —

Present Well Owner: MANITOWOC COMMUNITY DEV. AUTH.

Mailing Address of Present Owner: 900 QUAY STREET

City of Present Owner	State	ZIP Code
MANITOWOC	WI	54220

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☒ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☐ N/A
Was casing cut off below surface?	☒ Yes	☐ No	☐ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain): _____

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
BENTONITE CHIPS	Surface	15	1/2 SACK	—

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
STANTEC		8/30/2021

Street or Route	Telephone Number
12075 CORPORATE PKWY, STE. 200	(262) 241-4466

City	State	ZIP Code
MEQUON	WI	53092

Signature of Person Doing Work: [signature]

Date Signed: 9/9/2021

DNR Use Only

Date Received	Noted By

Comments:

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: RIVER POINT DISTRICT	Local Grid Location of Well: 232668.750 ft. ☒N ☐S, 301476.694 ft. ☐E ☐W	Well Name: MW-62
Facility License, Permit or Monitoring No.: BRRTS # 02-36-585491	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ___ ° ___ ' ___ " Long. ___ ° ___ ' ___ " or	Wis. Unique Well No.: ___ DNR Well ID No.: ___
Facility ID: ___	St. Plane ___ ft. N, ___ ft. E. S/C/N	Date Well Installed: 1/1/ (m m d d y y y y)
Type of Well: Well Code 11 / MW	Section Location of Waste/Source: NE 1/4 of NE 1/4 of Sec. 30, T. 19 N, R. 24 ☒E ☐W	Well Installed By: Name (first, last) and Firm: ADAM SWEET, HORIZON CONST. & EXP.
Distance from Waste/Source: ___ ft.	Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known
		Gov. Lot Number: ___

A. Protective pipe, top elevation N/A ft. MSL
B. Well casing, top elevation 591.455 ft. MSL
C. Land surface elevation 589.472 ft. MSL
D. Surface seal, bottom 589.472 ft. MSL or ___ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☒ SP ☒
SM ☐ SC ☒ ML ☒ MH ☐ CL ☒ CH ☒
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

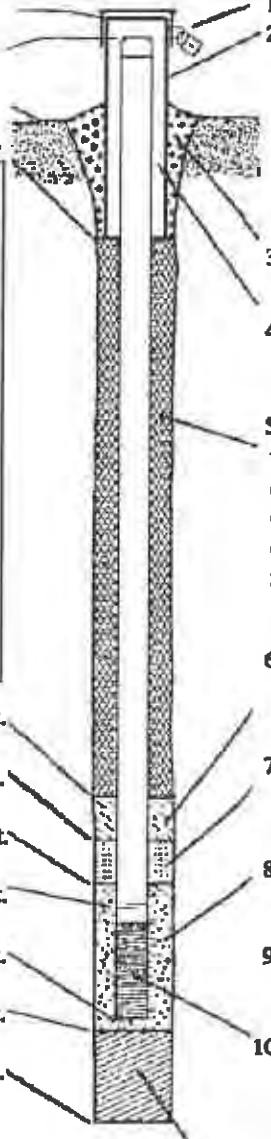
14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐

15. Drilling fluid used: Water ☐ 02 Air ☐ 01 Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe N/A

17. Source of water (attach analysis, if required):
N/A

E. Bentonite seal, top ___ ft. MSL or 0 ft.
F. Fine sand, top ___ ft. MSL or 2.5 ft.
G. Filter pack, top ___ ft. MSL or 3 ft.
H. Screen joint, top ___ ft. MSL or 8 ft.
I. Well bottom ___ ft. MSL or 13 ft.
J. Filter pack, bottom ___ ft. MSL or 15 ft.
K. Borehole, bottom ___ ft. MSL or ___ ft.
L. Borehole, diameter 4.25 in.
M. O.D. well casing 2.25 in.
N. I.D. well casing 2.0 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: N/A in.
b. Length: ___ ft.
c. Material: Steel ☐ 04; Other ☐
d. Additional protection? ☐ Yes ☐ No
If yes, describe: ___
3. Surface seal: Bentonite ☒ 30; Concrete ☐ 01; Other ☐
4. Material between well casing and protective pipe: N/A; Bentonite ☐ 30; Other ☐
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ___ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ___ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ___ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ___ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☒3/8 in. ☐1/2 in. Bentonite chips ☒ 32
c. ___ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. RED FLINT
b. Volume added — ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. RED FLINT
b. Volume added — ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐
b. Manufacturer —
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☒ 14; Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: WSGall Firm: STANTEC

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other:

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
MANITOWOC	MW-65R	

Latitude / Longitude (see instructions): ____ N ____ W — Format Code: ☒ DD ☐ DDM — Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range	or Gov't Lot #
NE	NE	30	19 N	☒ E ☐ W	

Well Street Address: N 10TH ST & N 11TH ST

Well City, Village or Town	Well ZIP Code
MANITOWOC	54220

Subdivision Name	Lot #
RIVER POINT DISTRICT	—

Reason for Removal from Service	WI Unique Well # of Replacement Well
PROPERTY DEVELOPMENT	—

3. Filled & Sealed Well / Drillhole / Borehole Information

☒ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy):

If a Well Construction Report is available, please attach.

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (specify):

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
15	2.25

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
4.25	15

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
—	7.8

2. Facility / Owner Information

Facility Name: RIVER POINT DISTRICT

Facility ID (FID or PWS): BRRTS # 02-36-585491

License/Permit/Monitoring #: —

Original Well Owner: —

Present Well Owner: MANITOWOC COMMUNITY DEV. AUTH.

Mailing Address of Present Owner: 900 QUAY STREET

City of Present Owner	State	ZIP Code
MANITOWOC	WI	54220

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☒ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☐ N/A
Was casing cut off below surface?	☒ Yes	☐ No	☐ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain):

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
BENTONITE CHIPS	Surface	15	1/2 SACK	—

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
STANTEC		8/30/2021

Street or Route	Telephone Number
12075 CORPORATE PKWY, STE. 200	(262) 241-4466

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
MEQUON	WI	53092	[signature]	9/9/2021

DNR Use Only

Date Received	Noted By

Comments:

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: River Point District	Local Grid Location of Well: 232867.257 ft. ☐N ☐S 301472.762 ft. ☐E ☐W	Well Name: MW-65R
Facility License, Permit or Monitoring No.: BRRTS # 02-36-585491	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ___ ° ___ ' ___ " Long. ___ ° ___ ' ___ " or	Wis. Unique Well No.: — / DNR Well ID No.: —
Facility ID: —	St. Plane ___ ft. N, ___ ft. E. S/C/N	Date Well Installed: 1/1/ (m m d d y y y y)
Type of Well: Well Code 11 / MW	Section Location of Waste/Source: NE 1/4 of NE 1/4 of Sec. 30, T. 19 N, R. 24 ☒E ☐W	Well Installed By: Name (first, last) and Firm: Adam Sweet / Horizon Const. & Exp.
Distance from Waste/Source ___ ft.	Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known
		Gov. Lot Number: —

A. Protective pipe, top elevation N/A ft. MSL
B. Well casing, top elevation 592.717 ft. MSL
C. Land surface elevation 590.688 ft. MSL
D. Surface seal, bottom 590.688 ft. MSL or ___ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☒ SP ☒
SM ☐ SC ☒ ML ☒ MH ☐ CL ☒ CH ☒
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50 / Hollow Stem Auger ☒ 41 / Other ☐

15. Drilling fluid used: Water ☐ 02 / Air ☐ 01 / Drilling Mud ☐ 03 / None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe N/A

17. Source of water (attach analysis, if required):
N/A

E. Bentonite seal, top — ft. MSL or 0 ft.
F. Fine sand, top — ft. MSL or 2.5 ft.
G. Filter pack, top — ft. MSL or 3 ft.
H. Screen joint, top — ft. MSL or 8 ft.
I. Well bottom — ft. MSL or 13 ft.
J. Filter pack, bottom — ft. MSL or 15 ft.
K. Borehole, bottom — ft. MSL or — ft.
L. Borehole, diameter 4.25 in.
M. O.D. well casing 2.25 in.
N. I.D. well casing 2.0 in.

1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: N/A ___ in.
b. Length: ___ ft.
c. Material: Steel ☐ 04 / Other ☐
d. Additional protection? ☐ Yes ☐ No
If yes, describe: ___
3. Surface seal: Bentonite ☒ 30 / Concrete ☐ 01 / Other ☐
4. Material between well casing and protective pipe: N/A Bentonite ☐ 30 / Other ☐
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ___ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ___ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ___ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ___ ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☒3/8 in. ☐1/2 in. Bentonite chips ☒ 32
c. ___ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. RED FLINT
b. Volume added — ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. RED FLINT
b. Volume added — ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 / Flush threaded PVC schedule 80 ☐ 24 / Other ☐
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11 / Continuous slot ☐ 01 / Other ☐
b. Manufacturer —
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☒ 14 / Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [signature] Firm: STANTEC

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other:

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
MANITOWOC	MW-606	

Latitude / Longitude (see instructions): ____ N ____ W
Format Code: ☒ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range
NE	NE	30	19 N	24 ☒ E ☐ W

or Gov't Lot #

Well Street Address: N 10TH ST & 3 N 11TH ST

Well City, Village or Town	Well ZIP Code
MANITOWOC	54220

Subdivision Name	Lot #
RIVER POINT DISTRICT	—

Reason for Removal from Service	WI Unique Well # of Replacement Well
PROPERTY DEVELOPMENT	—

2. Facility / Owner Information

Facility Name: RIVER POINT DISTRICT
Facility ID (FID or PWS): BRRTS # 02-36-585491
License/Permit/Monitoring #: —
Original Well Owner: —
Present Well Owner: MANITOWOC COMMUNITY DEV. AUTH.
Mailing Address of Present Owner: 900 QUAY STREET

City of Present Owner	State	ZIP Code
MANITOWOC	WI	54220

3. Filled & Sealed Well / Drillhole / Borehole Information

☒ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy):
If a Well Construction Report is available, please attach.

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug ☐ Other (specify):

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
15	2.25

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
4.25	15

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
—	4.3

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☒ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☐ N/A
Was casing cut off below surface?	☒ Yes	☐ No	☐ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain):

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
BENTONITE CHIPS	Surface	15	1 SACK	—

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
STANTEC		8/30/2021

Street or Route	Telephone Number
12075 CORPORATE PKWY, STE. 200	(262) 241-4466

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
MEQUON	WI	53092	[signature]	9/9/2021

DNR Use Only

Date Received	Noted By

Comments:

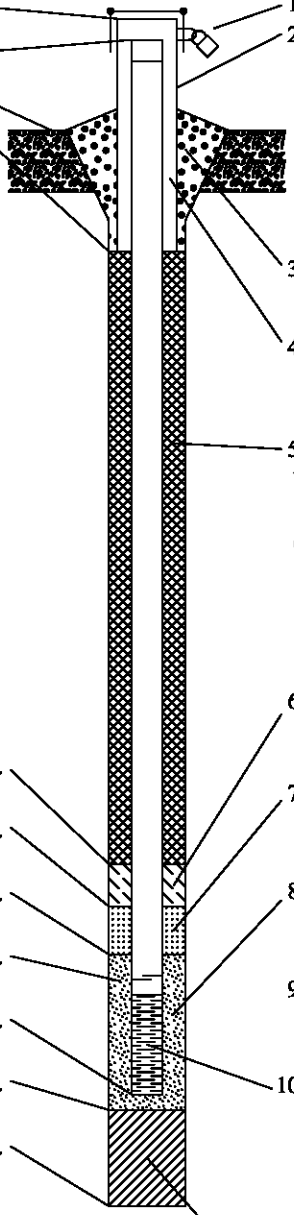
State of Wisconsin
Department of Natural Resources

Route To: Watershed/Wastewater ☐ Waste Management ☐ Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: CN Manitowoc, 200 N. 10th Street	Local Grid Location of Well: ☐ N. ☐ S. ____ ft. ☐ E. ☐ W. ____ ft.	Well Name: MW-66, FKA 1 MW-17
Facility License, Permit or Monitoring No.: 60615404	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒	Wis. Unique Well No. / DNR Well Number
Facility ID	Lat. ° ' " Long. ° ' " or St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 03/03/2020
Type of Well	Section Location of Waste/Source: ____ 1/4 of ____ 1/4 of Sec. ____, T. ____ N, R. ____ ☐ E ☐ W	Well Installed By: (Person's Name and Firm): Tony Kapugi / Onsite Environmental
Distance from Waste/Source ____ ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number



A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation ____ ft. MSL

D. Surface seal, bottom ____ ft. MSL or ____ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☒ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger ☒ 41
____ Other ☐ ____

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe ____

17. Source of water (attach analysis, if required):
____

E. Bentonite seal, top ____ ft. MSL or 0.20 ft.

F. Fine sand, top ____ ft. MSL or ____ ft.

G. Filter pack, top ____ ft. MSL or 2.50 ft.

H. Screen joint, top ____ ft. MSL or 3.00 ft.

I. Well bottom ____ ft. MSL or 13.50 ft.

J. Filter pack, bottom ____ ft. MSL or 13.50 ft.

K. Borehole, bottom ____ ft. MSL or 13.50 ft.

L. Borehole, diameter 4.50 in.

M. O.D. well casing ____ in.

N. I.D. well casing 2.00 in.

1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 5.0 ft.
c. Material: Steel ☒ 04
____ Other ☐ ____
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ____

3. Surface seal: Bentonite ☐ 30
Concrete ☐ 01
____ Other ☐ ____

4. Material between well casing and protective pipe:
Bentonite ☒ 30
Sand Other ☐ ____

5. Annular space seal: a. Granular/Chipped Bentonite ☐ 33
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐ 31
d. ____ % Bentonite . . . Bentonite-cement grout ☐ 50
e. ____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01
Tremie pumped ☐ 02
Gravity ☐ 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 32
c. Halliburton Hole Plug 0.5 ft^3 Other ☐ ____

7. Fine sand material: Manufacturer, product name & mesh size
a. ____
b. Volume added ____ ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. Red FlintSand and Gravel
b. Volume added 2.5 ft^3

9. Well casing: Flush threaded PVC schedule 40 ☐ 23
Flush threaded PVC schedule 80 ☐ 24
____ Other ☐ ____

10. Screen material: PVC Screen
a. Screen Type: Factory cut ☒ 11
Continuous slot ☐ 01
____ Other ☐ ____
b. Manufacturer ____
c. Slot size: ____ in.
d. Slotted length: ____ ft.

11. Backfill material (below filter pack): None ☐ 14
____ Other ☒ ____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Jacob Dean Firm: AECOM Tel: Fax:

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other:

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
MANITOWOC	TW-99	

Latitude / Longitude (see instructions): ____ N ____ W
Format Code: ☒ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range
NE	NE	30	19 N	24 ☒ E ☐ W

or Gov't Lot #

Well Street Address: N 10TH ST & N 11TH ST

Well City, Village or Town	Well ZIP Code
MANITOWOC	54220

Subdivision Name	Lot #
RIVER POINT DISTRICT	—

Reason for Removal from Service	WI Unique Well # of Replacement Well
PROPERTY DEVELOPMENT	—

2. Facility / Owner Information

Facility Name: RIVER POINT DISTRICT
Facility ID (FID or PWS): BRRTS # 02-36-585491
License/Permit/Monitoring #: —
Original Well Owner: —
Present Well Owner: MANITOWOC COMMUNITY DEV. AUTH.
Mailing Address of Present Owner: 900 QUAY STREET

City of Present Owner	State	ZIP Code
MANITOWOC	WI	54220

3. Filled & Sealed Well / Drillhole / Borehole Information

☒ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy):
If a Well Construction Report is available, please attach.

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug ☐ Other (specify):

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
15	2.25

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
4.25	15

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
—	3.8

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☒ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☐ N/A
Was casing cut off below surface?	☒ Yes	☐ No	☐ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain):

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Surface	15	1/5 SACK	—

BENTONITE CHIPS

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
STANTEC		8/30/2021

Street or Route	Telephone Number
12075 CORPORATE PKWY, STE. 200	(262) 241-4466

City	State	ZIP Code
MEQUON	WI	53092

Signature of Person Doing Work: [signature]
Date Signed: 9/9/2021

DNR Use Only

Date Received	Noted By

Comments:

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: River Point District
Facility License, Permit or Monitoring No.: BRRTS # 02-36-585491
Facility ID: —
Type of Well — Well Code: 11 / MW
Distance from Waste/Source: — ft. **Enf. Stds. Apply** ☐

Local Grid Location of Well: 232748.412 ft. ☒ N. ☐ S. 301427.984 ft. ☒ E. ☐ W.
Local Grid Origin ☐ (estimated: ☐) or **Well Location** ☐
Lat. ___ ° ___ ' ___ " Long. ___ ° ___ ' ___ " or
St. Plane _____ ft. N, _____ ft. E. S/C/N
Section Location of Waste/Source: NE 1/4 of NE 1/4 of Sec. 30, T. 19 N, R. 24 ☒ E. ☐ W.
Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known
Gov. Lot Number: —

Well Name: MW-99
Wis. Unique Well No.: —
DNR Well ID No.: —
Date Well Installed: 1 / 1 (m m d d y y y y)
Well Installed By: Name (first, last) and Firm: ADAM SWEET — HORIZON CONST. & EXP.

A. Protective pipe, top elevation N/A ft. MSL
B. Well casing, top elevation 589.537 ft. MSL
C. Land surface elevation 586.906 ft. MSL
D. Surface seal, bottom 586.906 ft. MSL or ____ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☒ SP ☒
SM ☐ SC ☒ ML ☒ MH ☐ CL ☒ CH ☒
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

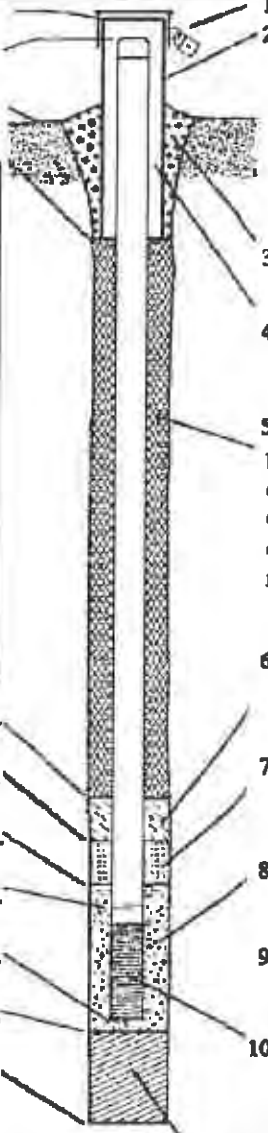
14. Drilling method used: Rotary ☐ 50 | Hollow Stem Auger ☒ 41 | Other ☐

15. Drilling fluid used: Water ☐ 02 | Air ☐ 01 | Drilling Mud ☐ 03 | None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe N/A

17. Source of water (attach analysis, if required):
N/A

E. Bentonite seal, top ____ ft. MSL or 0 ft.
F. Fine sand, top ____ ft. MSL or 2.5 ft.
G. Filter pack, top ____ ft. MSL or 3 ft.
H. Screen joint, top ____ ft. MSL or 8 ft.
I. Well bottom ____ ft. MSL or 13 ft.
J. Filter pack, bottom ____ ft. MSL or 15 ft.
K. Borehole, bottom — ft. MSL or — ft.
L. Borehole, diameter 4.25 in.
M. O.D. well casing 2.25 in.
N. I.D. well casing 2.0 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: ___ in.
b. Length: N/A ___ ft.
c. Material: Steel ☐ 04 | Other ☐
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30 | Concrete ☐ 01 | Other ☐
4. Material between well casing and protective pipe: N/A — Bentonite ☐ 30 | Other ☐
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ____ Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01 | Tremie pumped ☐ 02 | Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 32
c. _____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. RED FLINT
b. Volume added — ft³
8. Filter pack material: Manufacturer, product name & mesh size
a. RED FLINT
b. Volume added — ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 | Flush threaded PVC schedule 80 ☐ 24 | Other ☐
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11 | Continuous slot ☐ 01 | Other ☐
b. Manufacturer —
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☒ 14 | Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [signature] Firm: STANTEC

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other:

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
MANITOWOC	MW - 100	

Latitude / Longitude (see instructions): ____ N ____ W
Format Code: ☒ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range	or Gov't Lot #
NE	NE	30	19 N	24 ☒ E ☐ W	

Well Street Address: N 10TH ST & N 11TH ST

Well City, Village or Town	Well ZIP Code
MANITOWOC	54220

Subdivision Name	Lot #
RIVER POINT DISTRICT	—

Reason for Removal from Service	WI Unique Well # of Replacement Well
PROPERTY DEVELOPMENT	—

2. Facility / Owner Information

Facility Name: RIVER POINT DISTRICT
Facility ID (FID or PWS): BRRTS # 02-36-585491
License/Permit/Monitoring #: —
Original Well Owner: —
Present Well Owner: MANITOWOC COMMUNITY DEV. AUTH.
Mailing Address of Present Owner: 900 QUAY STREET

City of Present Owner	State	ZIP Code
MANITOWOC	WI	54220

3. Filled & Sealed Well / Drillhole / Borehole Information

☒ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy):
If a Well Construction Report is available, please attach.

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug ☐ Other (specify):

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
15	2.25

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
4.25	15

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
—	5.9

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☒ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☐ N/A
Was casing cut off below surface?	☒ Yes	☐ No	☐ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain):

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
BENTONITE CHIPS	Surface	15	1/2 SACK	—

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
STANTEC		8/30/2021

Street or Route	Telephone Number
12075 CORPORATE PKWY, STE. 200	(262) 241-4466

City	State	ZIP Code
MEQUON	WI	53092

Signature of Person Doing Work: [signature]
Date Signed: 9/9/2021

DNR Use Only

Date Received	Noted By

Comments:

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: RIVER POINT DISTRICT	Local Grid Location of Well: 232860.706 ft. ☒ N. ☐ S. 301413.058 ft. ☒ E. ☐ W.	Well Name: MW-100
Facility License, Permit or Monitoring No.: BRRTS # 02-36-585491	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ___ ° ___ ' ___ " Long. ___ ° ___ ' ___ " or	Wis. Unique Well No.: — / DNR Well ID No.: —
Facility ID: —	St. Plane _____ ft. N, _____ ft. E. S/C/N	Date Well Installed: ___/___/_____ (m m d d y y y y)
Type of Well: Well Code 11 / MW	Section Location of Waste/Source: NE 1/4 of NE 1/4 of Sec. 30, T. 19 N, R. 24 ☒ E ☐ W	Well Installed By: Name (first, last) and Firm: ADAM SWEET / HORIZON CONST. & EXP.
Distance from Waste/Source: — ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: —

A. Protective pipe, top elevation N/A ft. MSL
B. Well casing, top elevation 590.719 ft. MSL
C. Land surface elevation 589.073 ft. MSL
D. Surface seal, bottom 589.073 ft. MSL or _____ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☒ SP ☒
SM ☐ SC ☒ ML ☒ MH ☐ CL ☒ CH ☒
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50 / Hollow Stem Auger ☒ 41 / Other ☐ ____

15. Drilling fluid used: Water ☐ 02 / Air ☐ 01 / Drilling Mud ☐ 03 / None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe N/A

17. Source of water (attach analysis, if required):
N/A

E. Bentonite seal, top — ft. MSL or 0 ft.
F. Fine sand, top — ft. MSL or 2.5 ft.
G. Filter pack, top — ft. MSL or 3 ft.
H. Screen joint, top — ft. MSL or 8 ft.
I. Well bottom — ft. MSL or 13 ft.
J. Filter pack, bottom — ft. MSL or 15 ft.
K. Borehole, bottom — ft. MSL or — ft.
L. Borehole, diameter 4.25 in.
M. O.D. well casing 2.25 in.
N. I.D. well casing 2.0 in.

1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: — in.
b. Length: N/A ft.
c. Material: Steel ☐ 04 / Other ☐ ____
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30 / Concrete ☐ 01 / Other ☐ ____
4. Material between well casing and protective pipe: N/A — Bentonite ☐ 30 / Other ☐ ____
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ____ ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☒3/8 in. ☐1/2 in. Bentonite chips ☒ 32
c. _____ Other ☐ ____
7. Fine sand material: Manufacturer, product name & mesh size
a. RED FLINT
b. Volume added — ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. RED FLINT
b. Volume added — ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 / Flush threaded PVC schedule 80 ☐ 24 / Other ☐ ____
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11 / Continuous slot ☐ 01 / Other ☐ ____
b. Manufacturer —
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☒ 14 / Other ☐ ____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: W Hall | Firm: STANTEC

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
MANITOWOC	MW-101	

Latitude / Longitude (see instructions) _____ N _____ W — Format Code: ☒ DD ☐ DDM — Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range	or Gov't Lot #
NE	NE	30	19 N	24 ☒ E ☐ W	

Well Street Address: N 10TH ST & N 11TH ST

Well City, Village or Town	Well ZIP Code
MANITOWOC	54220

Subdivision Name	Lot #
RIVER POINT DISTRICT	—

Reason for Removal from Service	WI Unique Well # of Replacement Well
PROPERTY DEVELOPMENT	—

3. Filled & Sealed Well / Drillhole / Borehole Information

☒ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy):

If a Well Construction Report is available, please attach.

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (specify): _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
15	2.25

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
4.25	15

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
—	5.4

2. Facility / Owner Information

Facility Name: RIVER POINT DISTRICT

Facility ID (FID or PWS): BRRTS # 02-36-585491

License/Permit/Monitoring #: —

Original Well Owner: —

Present Well Owner: MANITOWOC COMMUNITY DEV. AUTH.

Mailing Address of Present Owner: 900 QUAY STREET

City of Present Owner	State	ZIP Code
MANITOWOC	WI	54220

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☒ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☐ N/A
Was casing cut off below surface?	☒ Yes	☐ No	☐ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain): _____

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
BENTONITE CHIPS	Surface	15	1/2 SACK	—

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
STANTEC		8/30/2021

Street or Route	Telephone Number
12075 CORPORATE PKWY, STE. 200	(262) 241-4466

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
MEQUON	WI	53092	[signature]	9/9/2021

DNR Use Only

Date Received	Noted By

Comments:

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: RIVER POINT DISTRICT
Facility License, Permit or Monitoring No.: BRTS # 02-36-585491
Facility ID: —
Type of Well — Well Code: 11 / MW
Distance from Waste/Source: — ft. | Enf. Stds. Apply ☐

Local Grid Location of Well: 232630.718 ft. ☒ N. ☐ S. 321453.335 ft. ☒ E. ☐ W.
Local Grid Origin ☐ (estimated: ☐) or Well Location ☐
Lat. ° ' " Long. ° ' " or
St. Plane ft. N, ft. E. S/C/N
Section Location of Waste/Source: NE 1/4 of NE 1/4 of Sec. 30, T. 19 N, R. 24 ☒ E ☐ W
Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known
Gov. Lot Number: —

Well Name: MW-101
Wis. Unique Well No.: — | DNR Well ID No.: —
Date Well Installed: — / — / — (m m d d y y y y)
Well Installed By: Name (first, last) and Firm: ADAM SWEET, HORIZON CONST. & EXP.

A. Protective pipe, top elevation: N/A ft. MSL
B. Well casing, top elevation: 589.908 ft. MSL
C. Land surface elevation: 587.474 ft. MSL
D. Surface seal, bottom: 587.474 ft. MSL or — ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☒ SP ☒
SM ☐ SC ☒ ML ☒ MH ☐ CL ☒ CH ☒
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐

15. Drilling fluid used: Water ☐ 02 Air ☐ 01; Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe: N/A

17. Source of water (attach analysis, if required): N/A

E. Bentonite seal, top: — ft. MSL or 0 ft.
F. Fine sand, top: — ft. MSL or 2.5 ft.
G. Filter pack, top: — ft. MSL or 3 ft.
H. Screen joint, top: — ft. MSL or 8 ft.
I. Well bottom: — ft. MSL or 13 ft.
J. Filter pack, bottom: — ft. MSL or 15 ft.
K. Borehole, bottom: — ft. MSL or — ft.
L. Boreholes, diameter: 4.25 in.
M. O.D. well casing: 2.25 in.
N. I.D. well casing: 2.0 in.

1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: — in.
b. Length: N/A — ft.
c. Material: Steel ☐ 04; Other ☐
d. Additional protection? ☐ Yes ☐ No
If yes, describe:
3. Surface seal: Bentonite ☒ 30; Concrete ☐ 01; Other ☐
4. Material between well casing and protective pipe: N/A — Bentonite ☐ 30; Other ☐
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight ..... Bentonite slurry ☐ 31
d. ____ % Bentonite ..... Bentonite-cement grout ☐ 50
e. ____ ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 32
c. ____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. RED FLINT
b. Volume added — ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. RED FLINT
b. Volume added — ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐
b. Manufacturer —
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☒ 14; Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: WSHull | Firm: STANTEC

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
MANITOWOC	MW-121	

Latitude / Longitude (see instructions): _____ N _____ W
Format Code: ☒ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range
NE	NE	30	19 N	24 ☒ E ☐ W

or Gov't Lot #

Well Street Address: N 10TH ST & N 11TH ST

Well City, Village or Town	Well ZIP Code
MANITOWOC	54220

Subdivision Name	Lot #
RIVER POINT DISTRICT	—

Reason for Removal from Service	WI Unique Well # of Replacement Well
PROPERTY DEVELOPMENT	—

3. Filled & Sealed Well / Drillhole / Borehole Information

☒ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy):

If a Well Construction Report is available, please attach.

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (specify): _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
15	2.25

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
4.25	15

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
—	9.7

2. Facility / Owner Information

Facility Name: RIVER POINT DISTRICT

Facility ID (FID or PWS): BRRTS # 02-36-585491

License/Permit/Monitoring #: —

Original Well Owner: —

Present Well Owner: MANITOWOC COMMUNITY DEV. AUTH.

Mailing Address of Present Owner: 900 QUAY STREET

City of Present Owner	State	ZIP Code
MANITOWOC	WI	54220

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☒ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☐ N/A
Was casing cut off below surface?	☒ Yes	☐ No	☐ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain): _____

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
BENTONITE CHIPS	Surface	15	1/2 SACK	—

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
STANTEC		8/30/2021

Street or Route	Telephone Number
12075 CORPORATE PKWY, STE. 200	(262) 241-4466

City	State	ZIP Code
MEQUON	WI	53092

Signature of Person Doing Work: [signature]

Date Signed: 9/9/2021

DNR Use Only

Date Received	Noted By

Comments:

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: RIVER POINT DISTRICT	Local Grid Location of Well: 232906.052 ft. ☒ N. ☐ S. 3014776.098 ft. ☒ E. ☐ W.	Well Name: MW-121
Facility License, Permit or Monitoring No.: BRRTS # 02-36-585491	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ___ ° ___ ' ___ " Long. ___ ° ___ ' ___ " or	Wis. Unique Well No.: — / DNR Well ID No.: —
Facility ID: —	St. Plane ___ ft. N, ___ ft. E. S/C/N	Date Well Installed: 1 / 1 (m m d d y y y y)
Type of Well: Well Code 11 / MW	Section Location of Waste/Source: NE 1/4 of NE 1/4 of Sec. 30, T. 19 N, R. 24 ☒ E ☐ W	Well Installed By: Name (first, last) and Firm: ADAM SWEET, HORIZON CONST. & EXP.
Distance from Waste/Source: — ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: —

A. Protective pipe, top elevation: N/A ft. MSL
B. Well casing, top elevation: 594.282 ft. MSL
C. Land surface elevation: 592.21 ft. MSL
D. Surface seal, bottom: 592.21 ft. MSL or ___ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☒ SP ☒
SM ☐ SC ☒ ML ☒ MH ☐ CL ☒ CH ☒
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50 / Hollow Stem Auger ☒ 41 / Other ☐

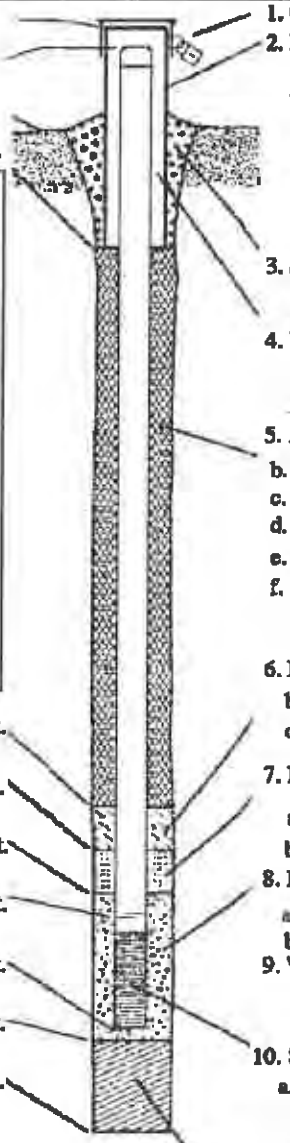
15. Drilling fluid used: Water ☐ 02 / Air ☐ 01 / Drilling Mud ☐ 03 / None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe: N/A

17. Source of water (attach analysis, if required): N/A

E. Bentonite seal, top: — ft. MSL or 0 ft.
F. Fine sand, top: — ft. MSL or 2.5 ft.
G. Filter pack, top: — ft. MSL or 3 ft.
H. Screen joint, top: — ft. MSL or 8 ft.
I. Well bottom: — ft. MSL or 13 ft.
J. Filter pack, bottom: — ft. MSL or 15 ft.
K. Borehole, bottom: — ft. MSL or — ft.
L. Borehole, diameter: 4.25 in.
M. O.D. well casing: 2.25 in.
N. I.D. well casing: 2.0 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: ___ in.
b. Length: N/A ___ ft.
c. Material: Steel ☐ 04 / Other ☐
d. Additional protection? ☐ Yes ☐ No
If yes, describe: ___
3. Surface seal: Bentonite ☒ 30 / Concrete ☐ 01 / Other ☐
4. Material between well casing and protective pipe: N/A — Bentonite ☐ 30 / Other ☐
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ___ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 35
c. ___ Lbs/gal mud weight ..... Bentonite slurry ☐ 31
d. ___ % Bentonite ..... Bentonite-cement grout ☐ 50
e. ___ ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☒3/8 in. ☐1/2 in. Bentonite chips ☒ 32
c. ___ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. RED FLINT
b. Volume added — ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. RED FLINT
b. Volume added — ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 / Flush threaded PVC schedule 80 ☐ 24 / Other ☐
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11 / Continuous slot ☐ 01 / Other ☐
b. Manufacturer —
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☒ 14 / Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
W Stull	STANTEC

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
MANITOWOC	TW-37	

Latitude / Longitude (see instructions): _____ N _____ W
Format Code: ☒ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range
NE	NE	30	19 N	☒ E ☐ W

or Gov't Lot #

Well Street Address: N 10TH ST & N 11TH ST

Well City, Village or Town: MANITOWOC
Well ZIP Code: 54220

Subdivision Name: RIVER POINT DISTRICT
Lot #: —

Reason for Removal from Service: PROPERTY DEVELOPMENT
WI Unique Well # of Replacement Well: —

2. Facility / Owner Information

Facility Name: RIVER POINT DISTRICT
Facility ID (FID or PWS): BRRTS # 02-36-585491
License/Permit/Monitoring #: —
Original Well Owner: —
Present Well Owner: MANITOWOC COMMUNITY DEV. AUTH.
Mailing Address of Present Owner: 900 QUAY STREET

City of Present Owner	State	ZIP Code
MANITOWOC	WI	54220

3. Filled & Sealed Well / Drillhole / Borehole Information

☒ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 11/16/2018

If a Well Construction Report is available, please attach.

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug ☐ Other (specify): _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
15	2.25
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
4.25	15

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
—	5.5

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☒ Yes	☐ No	☐ N/A
Casing left in place?	☐ Yes	☒ No	☐ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☒ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain): _____

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
BENTONITE CHIPS	Surface	15	1/5 SACK	—

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
STANTEC		8/30/2021

Street or Route	Telephone Number
12075 CORPORATE PKWY, STE. 200	(262) 241-4466

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
MEQUON	WI	53092	[signature]	9/9/2021

DNR Use Only

Date Received	Noted By

Comments:

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: RIVER POINT DISTRICT	Local Grid Location of Well: _____ ft. ☐N. ☐S. _____ ft. ☐E. ☐W.	Well Name: TW-37 (FKA, TW-8, S1/2)
Facility License, Permit or Monitoring No.: BRRTS # 02-36-585491	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No.: — / DNR Well ID No.: —
Facility ID: —	St. Plane _____ ft. N, _____ ft. E. S/C/N	Date Well Installed: 11/16/2018 (m m d d y y y y)
Type of Well: Well Code 11 / MW	Section Location of Waste/Source: NE 1/4 of NE 1/4 of Sec. 30, T. 19 N, R. 24 ☒E ☐W	Well Installed By: Name (first, last) and Firm: DAN BENDORF / PROBE TECHNOLOGIES, INC.
Distance from Waste/Source: — ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: —

A. Protective pipe, top elevation N/A ft. MSL
B. Well casing, top elevation 590.73 ft. MSL
C. Land surface elevation 589.38 ft. MSL
D. Surface seal, bottom 589.38 ft. MSL or _____ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☒ SP ☒
SM ☒ SC ☒ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

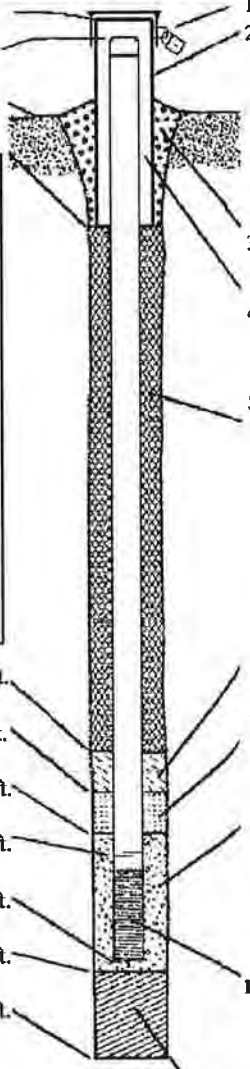
14. Drilling method used: Rotary ☐ 50 / Hollow Stem Auger ☐ 41 / Other ☒ GEOPROBE

15. Drilling fluid used: Water ☐ 02 / Air ☐ 01 / Drilling Mud ☐ 03 / None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe N/A

17. Source of water (attach analysis, if required): N/A

E. Bentonite seal, top — ft. MSL or 0 ft.
F. Fine sand, top — ft. MSL or 2 ft.
G. Filter pack, top — ft. MSL or 2.5 ft.
H. Screen joint, top — ft. MSL or 3 ft.
I. Well bottom — ft. MSL or 13 ft.
J. Filter pack, bottom — ft. MSL or 13 ft.
K. Borehole, bottom — ft. MSL or 13 ft.
L. Borehole, diameter 2 in.
M. O.D. well casing 1.25 in.
N. I.D. well casing 1.0 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: N/A — in.
b. Length: — ft.
c. Material: Steel ☐ 04 / Other ☐
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30 / Concrete ☐ 01 / Other ☐
4. Material between well casing and protective pipe: N/A — Bentonite ☐ 30 / Other ☐
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☒3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. RED FLINT
b. Volume added — ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. RED FLINT
b. Volume added — ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 / Flush threaded PVC schedule 80 ☐ 24 / Other ☐
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11 / Continuous slot ☐ 01 / Other ☐ —
b. Manufacturer —
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☒ 14 / Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [signature] | Firm: STANTEC

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.